Knowledge alignment on sustainability within IKEA the Netherlands

Master's Thesis

Master Sustainable Business and Innovation

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List of Abbreviations

ANOVA	-	Analysis of variance
Com&In	-	Communication & Interior Design
ERI	-	Energy & Resource Independence
HR	-	Human Resources
MSL or MSLH	-	More Sustainable Life at Home
MT	-	Management Team
PPL Com	-	People & Communities
RBV	-	Resource Based View
S.O.	-	Service Office
VOICE	-	Employee monitoring survey

Executive Summary

Businesses need to become more sustainable given the many sustainability challenges that lie ahead. To succeed in this mission and gain or sustain a competitive advantage, a clear vision on sustainability needs to be implemented. According to the resource based view theory, a competitive advantage is gained or sustained by the unique resources of a company. Knowledge is such a unique resource of a company. In order to improve the firm performance in gaining or sustaining competitive advantage, knowledge needs to be aligned between the employees and the organization. Therefore, knowledge needs to be transferred within the company. This study looks at three factors that could influence such alignment on sustainability knowledge. Transfer of knowledge in the company occurs between individuals, groups and the company as a whole. Different types of groups include formal (i.e. members of the group are predetermined) and informal (i.e. members that share the same characteristics) groups, which are two main factors that are examined in this study. The third factor examined in this study is successful knowledge transfer. Successful knowledge transfer includes the communication of sustainability knowledge within the company. To create an overview of this alignment within a company, and thereby creating the ability to study the three factors, a survey was conducted among the employees working at IKEA in the Netherlands. Twelve stores and two offices participated in this study, 310 participants completed the survey, thereby representing 5.6% of IKEA in the Netherlands. The results showed significant differences in alignment in several subgroups of the three factors examined. In the formal group, higher functional level corresponded with more alignment. Similarly, training in the informal groups proved to make a strong difference on alignment. Those familiar with training scored significantly higher on alignment than those without. This stresses the importance of training with regards to alignment on sustainability knowledge. Lastly, the more successful the knowledge transfer (i.e. people read and find information about the sustainability knowledge), the better the alignment on sustainability knowledge. This supports the value of knowledge transfer in an organization. It can be concluded that alignment on sustainability knowledge is strongest influenced by function level, familiarity with training and successful knowledge transfer.

1 Introduction

Corporations are committed to become more sustainable because of the many sustainability challenges that lie ahead (see e.g. Hart, 1997). The commitment to address the sustainability challenges (such as resource depletion, climate change and poverty) is not only expected from corporations by stakeholders (Berns et al., 2009), but also a necessary act for corporate survival (Werbach, 2009).

A competitive advantage is necessary for survival of the company. According to the resource based view, a competitive advantage is gained or sustained by a firm's unique resources (Barney, 1991). Such an advantage becomes more durable when sustainability is taken into account (Berns et al., 2009). Corporate sustainability means for businesses to not only take financial value creation into account, but also social and ecological value of sustainability (Dunphy, Griffiths, & Benn, 2007). For long term survival, businesses should shift from an unconsciously reactive to an unconsciously proactive strategy of sustainability as this can eventually lead to greener innovation (Lueneburger, C. Goleman, 2010).

In order to achieve this, knowledge can be a key resource. In the innovation literature knowledge has been described as an increasingly important resource that can drive the company to gain or sustain a competitive advantage (Fontaine & Lesser, 2002; Hislop, 2009, p. 21; Lee & Yang, 2000; Nahapiet & Ghoshal, 1998; Zheng, Yang, & McLean, 2010). More specifically, knowledge on sustainability is needed in the organization to address the sustainability challenges (Cornell et al., 2013; Mauser et al., 2013) and secure a competitive advantage in the long run. Therefore, knowledge on sustainability is a valuable resource to align in the organization as it can lead to gain or sustain a competitive advantage.

To gain knowledge on sustainability, changing the mindset towards sustainability is necessary. For change to happen, companies need to feel the urge to become more sustainable. When enough people in the company are able to drive this change, a vision needs to be formulated (Kotter, 1995). Alignment of this vision within the organization is the next step of Kotter's framework to transform an organization. Alignment (or misalignment) can be defined as the resemblance of the organizational knowledge and the employees' individual knowledge. This means that the knowledge on sustainability in the organization and the individual knowledge of the employees should be aligned. As alignment can lead to gaining or sustaining a competitive advantage (Gottschalg & Zollo, 2007; Powell, 1992), it is assumed that when a company is more aligned with its knowledge on sustainability, it is more likely that a company gains or sustains a competitive advantage.

To align knowledge on sustainability in a company, the company needs to manage its knowledge on sustainability. This concerns how knowledge is created or transferred in an organization (to gain or sustain a competitive advantage). Looking into how knowledge is aligned in an organization has been studied extensively (e.g. Argote & Ingram, 2000; Henderson & Venkatraman, 1999; Horner Reich & Benbasat, 2000; Kathuria, Joshi, & Porth, 2007). Argote & Ingram (2000) studied the transfer of knowledge from one reservoir (repositories where knowledge is embedded in organizations) to another reservoir. Other studies have focused on the IT support for alignment in different forms of strategy (Henderson & Venkatraman, 1999) or the degree of mutual understanding of current objectives (short-term alignment) and the congruence of IT vision (Horner Reich

& Benbasat, 2000). Kathuria et al. (2007) studied the vertical and horizontal organizational alignment of the firm theoretically and empirically. They found that more research has been performed in vertical alignment than on horizontal alignment.

While alignment in general has been researched for many years, the connection with alignment on sustainability in an organization is a topic that more recently gained attention (e.g. Doppelt, 2010; Lozano, 2007; Rahbek Pedersen & Neergaard, 2009). Further exploration of the differences in alignment of sustainability in the company is needed. Therefore this research studies how aligned a company and its employees are on implementing a vision on sustainability and how this is different in the company. Furthermore, it is interesting to know whether this differs within the company, i.e. where alignment is different as then the company can take proper actions in the places where this is needed. Alignment within a company is achieved through transferring (organizational) knowledge. A company develops methods for transferring its knowledge of which some methods might work better than others. What works best can differ per company and also differs within the different groups in the company. The group types studied can be distinguished in formal (i.e. members of the group are predetermined) and informal groups (i.e. members that share the same characteristics). Knowledge can be transferred by physically moving the technology that holds the knowledge, moving the members of knowledge, or by communication and training (Argote & Ingram, 2000). This research will focus on the transfer by communication and training.

This leads to the following research question:

How is the alignment of employees on sustainability knowledge in an organization influenced by groups and knowledge transfer?

A case study is carried out at IKEA B.V. the Netherlands. The purpose of this research is to get an overview of the current situation to get an indication on how effective the knowledge transfer on alignment on sustainability vision is in the company. The focus lies on communication and training, as this differs throughout IKEA in the Netherlands, which makes it an interesting case to compare and derive a best practice. Of particular interest is to see whether the alignment on sustainability knowledge is higher in the Zwolle store where special training has been given to all the employees before the opening of the store in February 2015 in comparison to other stores where training has been given throughout the years (if at all).

This research is further outlined as follows. The theory section starts by setting out the relation between the Resource Based View of the firm and knowledge as a unique resource. Thereafter, the chapter extends this to knowledge on sustainability. It is argued that the knowledge on sustainability needs alignment in the firm as this can lead to a competitive advantage. Alignment can be achieved through the transfer of knowledge. The chapter closes with the different type of groups that exists in a company along with the hypotheses. The following chapter elaborates on the methods used, i.e. a case study and survey. The survey is based on the organizational knowledge on sustainability and measures the differences in alignment. In the fourth chapter, the results are presented which begin with an overview of the formal groups regarding the alignment on sustainability followed by the informal groups. This chapter ends with the influence on alignment of the transfer of knowledge. The final section consists of a discussion and a conclusion to provide an answer to the research question.

2 Theory

This chapter starts with the relation between the Resource Based View of the firm and knowledge as a unique resource. This is extended to knowledge on sustainability. The importance of alignment in the firm as a competitive advantage is explained. This is followed by how alignment can be achieved with the transfer of knowledge. Finally, the different types of groups that influence the alignment end the chapter along with hypotheses.

2.1 Resource based view of the firm

For long-term survival, companies seek to gain or sustain a competitive advantage. In relation to the resource based view (RBV), such a competitive advantage can be achieved by playing to the firm's strengths which are its unique resources. Resources are defined by Wernerfelt (1984) as anything which could be thought of as a strength or weakness of a given firm. This means that resources are not limited to physical assets or assets that can be exchanged through monetary transactions. The RBV states that resources are heterogeneously distributed. They are thought of as being unique when they are valuable, rare, in-imitable and non-substitutable (Barney, 1991). These characteristics are further outlined below.

Valuable

Creating or sustaining a competitive advantage can only occur when the resources are valuable. According to Barney (1991), resources are valuable when they enable a firm to conceive of or implement strategies that improve its efficiency and effectiveness. The author relates this to the 'strengths, weaknesses, opportunities and threats model' by stating that firm performance can be improved when strategies seek to exploit opportunities and neutralize threats. In order to exploit opportunities and neutralize threats a firm needs resources that are valuable.

Rare

When resources are abundant, firms can apply the same strategy by which no competitive advantage can be created. Therefore, resources should be rare. How rare they should be is difficult although Barney (1991) stated that the number of firms that possess a particular valuable resource (or bundle of valuable resources) should be less than the number of firms needed to generate perfect competition dynamics in an industry. Such resources would create enough potential for a competitive advantage.

In-imitable

Valuable and rare resources can generate a competitive advantage. However to sustain a competitive advantage, the resources should also be in-imitable (Barney, 1991). In other words the resources should be difficult (if not impossible) to copy by others. Three reasons why resources are imperfectly imitable have been described by Barney (1991). The first is because of '*Unique historical conditions*'. A certain moment in space and time can provide a firm the opportunity to acquire a resource. After this moment has past, it becomes (almost) impossible to obtain that resource. The second reason mentioned is '*causal ambiguity*'. This exists when the link between the resources controlled by a firm and a firm's sustained competitive advantage is not understood or understood only very imperfectly. When this is the case, it is not possible to imitate. The third reason mentioned by the author is social complexity. The firm's resources are a very socially complex phenomena that are beyond the ability of firms to systematically manage and influence.

Non-substitutable

A resource is unique when it is valuable, rare, in-imitable but also non-substitutable. Two valuable or two bundles of valuable resources are substitutable when they each can be exploited separately to implement the same strategies (Barney, 1991). As long as this is not the case, the resource is unique.

2.2 Knowledge as a unique resource

According to the definition of Wernerfelt (1984), knowledge can be seen as such a unique resource with the above mentioned characteristics. It is a resource on which a company can flourish and gain or sustain a competitive advantage. Knowledge can be defined as the capacity (potential or actual) to take effective action under varied and uncertain situations. It includes the ability to associate patterns in a manner that leads to insight, understanding and anticipation of correct action (A. Bennet & Bennet, 2006). It is important to note that knowledge is not the same as information. Lee & Yang (2000) made a clear distinction and connection between information and knowledge. The authors state that information is data organized into meaningful pattern and is transformed into knowledge when a person reads, understands, interprets, and applies the information to a specific work function (Lee & Yang, 2000). Knowledge is being described by Polanyi (1966) as explicit form i.e. knowledge that can be written down and tacit form i.e. it cannot be written down (know-how). Both these forms of knowledge are essential for an organization to innovate (Leonard & Sensiper, 1998).

Knowledge exists in many forms. The importance of superior knowledge in a company is being stressed by Zack (1999). With superior knowledge, companies enable themselves to coordinate and combine traditional resources and capabilities into new and distinctive ways, thereby providing more value for their customers than their competitors (Penrose, 1959). Because of superior knowledge, a company will be better at understanding how to exploit and develop their traditional resources than competitors, even if some of those traditional resources are not unique. This makes knowledge the most important strategic resource, and the ability to acquire, integrate, store, share and apply it the most important capability for building and sustaining competitive advantage (Grant, 1996).

More specifically needed is the knowledge on sustainability as a unique resource. To cope with the sustainability challenges that a business faces (see e.g. Hart, 1997), knowledge on sustainability in all its dimensions will help to survive in the long run. Coping with sustainability challenges requires proactive management of financial, human, environmental and social capital, and a shift from the shareholder to the stakeholder perspective (Robinson, Anumba, Carrillo, & Al-Ghassani, 2006). Robinson et al. (2006) argue that the sustainability principles that are addressed by a company should relate to what it produces, how it is produced, by whom and its implications for stakeholders. Having knowledge strategically in the right place in an organization can unlock and leverage the different types of knowledge, to identify competencies required to become a forward thinking and learning organization with the ability to put sustainability principles into practice (Robinson et al., 2006).

Knowledge in a company exists on several levels; surface, shallow, and deep level (D. Bennet & Bennet, 2008; de Jong & Ferguson-Hessler, 1996). The deeper the knowledge of the employees, the better the solutions of the problems (D. Bennet & Bennet, 2008) and the added value to the firm. Therefore companies are interested in the level of knowledge of its employees. When only surface level exists this may not provide optimal solutions necessary to gain or sustain a competitive advantage.

The **surface level** of knowledge is a level that requires minimum understanding. Bennet & Bennet (2008) describe it as a more awareness type of knowledge. People memorize and are aware but not much more than that. With regards to sustainability in a firm, surface level implies that employees know what sustainability means in a basic form.

Shallow level of knowledge is the combination of information plus understanding, meaning and sense-making (Bennet & Bennet, 2008). In order to be able to make sense, situational knowledge will also be needed i.e. there is a need for context. With regards to sustainability shallow level of knowledge implies knowing what sustainability means in a specific situation in the company.

The **deep level** of knowledge involves comprehension and abstraction, requiring critical judgment and evaluation (de Jong & Ferguson-Hessler, 1996). Knowledge needs integration and one should be able to shift one's frame of reference as the context and situations shifts (Bennet & Bennet, 2008). It builds on a person's creativity, intuition and experience as information is being interpreted. Deep knowledge is usually the best solution to a problem (Bennet & Bennet, 2008). For sustainability this means knowing what sustainability means to the firm in different situations and being able to adjust to different situations. It also requires the employee to handle knowledge on sustainability creatively and critically reflect the current knowledge on sustainability in the whole company.

The deeper the knowledge on sustainability, the more one can expect to generate new knowledge on sustainability, which helps to gain or sustain a competitive advantage for the company.

2.3 Vision & Alignment

In order for knowledge on sustainability to become fruitful, the company needs to be aligned. The change that an organization needs to go through (to become more sustainable) is one that takes time as it is not an event but a process (Kotter, 1995). For change to happen Kotter mentions eight steps that need to be taken. After feeling the urge as a company, creating a vision is one of next steps. This vision should be very clear and mirrors the company's DNA. It needs to go further than a five-year plan and set the direction a company needs to move. The author explicitly highlights to have a sound vision that can be communicated in five minutes to anyone. Only then the vision can be fully embedded in the company and lead towards aligned and more sustainable action by employees.

Collins & Porras (1996) continue on this by emphasizing the relevance of alignment in relation to the vision:

"*Building a visionary company requires 1% vision and 99% alignment. When you have superb alignment, a visitor could drop in from outer space and infer your vision from the operations and activities of the company without ever reading it on paper or meeting a single senior executive.*" (p. 77)

Saint-Onge (1996) also stressed the importance of alignment. The author points out that for effective communication and for the exchange of tacit knowledge within an organizational culture there needs to be a minimal level of congruence in tacit knowledge. A diversity of individual mindsets is valuable in providing varying perspectives on the business. However, in order to facilitate knowledge exchange and

the most effective strategy development and implementation, there is a need for a level of congruence that allows these individual perspectives to understand one another and to work together toward common goals (Saint-Onge, 1996).

Alignment in the organization can lead to competitive advantage as outlined by Powell (1992). Powell found evidence that the internal structural fit leads to supernormal profits. This also counts for formal planning in the firm, which seems related to the size and age of the firm. This suggest that alignment (or internal structural fit and formal planning) can lead to a competitive advantage as it leads to supernormal profits.

More specific is the work on alignment of Gottschalg & Zollo (2007). The authors define organizational interest alignment as the degree to which the members of the organization are motivated to behave in line with organizational goals. They also argue that organizational interest alignment can lead to certain rents and found that organizations can at least capture part of rents from increased interest alignment. Ultimately Gottschalg & Zollo (2007) reason that this can contribute to sustaining a competitive advantage.

Related to sustainability, alignment is defined in this research as the resemblance of the organizational knowledge on sustainability and the employee's knowledge on sustainability. Alignment on sustainability knowledge leads to more successful execution of the strategy on sustainability and with increasing rents, gaining or sustaining a competitive advantage.

Linking literature on knowledge levels and alignment, it can thus be assumed that a success at the execution of the sustainability vision is highest when employees are highly aligned and when this alignment is based on deep knowledge.

The opposite is true when there is less alignment or even misalignment, i.e. the organizational and employees' knowledge on sustainability differ. This may not lead to supernormal profits as suggested by Powel (1992) when there is alignment, assuming all other factor remain the same. Thus misalignment on sustainability ideas, vision, and the strategy is unlikely to gain or sustain a competitive advantage. Therefore, the higher the alignment on sustainability knowledge, the better a company performance. Ideally, the whole firm is aligned with regards to the vision on sustainability.

2.4 Transfer of knowledge

Argote & Ingram (2000) deem the transfer of knowledge as a basis for competitive advantage in a firm. Knowledge transfer is seen as beneficial to organizations as it enables them to learn from its or each other's' experiences (Argote, 2013). This can be both internal transfer and external transfer (Argote, 2013).

Knowledge transfer occurs internally when experience in one unit of an organization affects another unit. Knowledge transfer can occur explicitly when, for example, a unit communicates with another unit about a practice that it has found to improve performance. Knowledge transfer can also occur implicitly without the recipient unit being able to articulate the knowledge it has acquired (Argote & Ingram, 2000).

External knowledge transfer can be intentionally and unintentionally. These knowledge spillovers are defined in Carlino (2001) as the exchange of ideas among individuals. Sammarra & Biggiero (2008) refer to the formal and informal interactions of individuals, groups and the organizations that influence the types of knowledge that are exchanged.

Knowledge transfer can be facilitated in several ways according to Argote & Ingram (2000). Firstly, knowledge can be transferred by physically moving the members of knowledge. Secondly, by moving the technology that holds the knowledge. Thirdly, knowledge can be transferred by communication and training of members in the organization. That means informing and teaching the members certain skills or behavior. However, not all knowledge can readily be transferred from one unit to another but rather needs adaption before it can be transferred. This makes it complex and challenging to transfer knowledge.

The focus in this research will lie on the transfer of knowledge through communication and training. In Hitt et al. (2001) the value of training has been noted in the fact that professionals who provide services are often required to have extensive education and training prior to entering their fields. As part of training, knowledge can also be gained through 'learning by doing' (Pisano, 1994). It is argued that when people are kept informed and trained, they are more likely to align with the organization and develop their skills.

When transfer of knowledge is successful, a company can benefit from its experiences (Argote, 2013). The successfulness of knowledge transfer is related to the communication of knowledge. That means that people read and find information about the sustainability knowledge. Kotter mentions communication as crucial step when implementing change (Kotter, 1995). A company can become more efficient and effective in its operations when communication is utilized enough, which results in more alignment in the organization as the knowledge spreads through the company (Argote, 2013). This general thought about knowledge transfer is assumed to also apply to knowledge on sustainability. It implies that when employees are informed and taught about sustainability this results in more awareness of what happens inside the company regarding sustainability, therefore creating alignment. This can be strengthened when employees know where to find the knowledge on sustainability and are also regularly updated about it. As employees can be informed through many channels, it is relevant to know which channel(s) work the best. Some commonly known ways that are being practiced by companies to transfer knowledge (but not limited by) are training sessions, the company's intranet and (digital) newsletters. Therefore the transfer in relation to the alignment on sustainability is subject of this research.

2.5 Company structure

Alignment needs to be achieved in all areas of the company. Firms can be analyzed on three levels: (1) individual, (2) group and (3) organizational (Hall & Tolbert, 2009, p. 16). According to Hall & Tolbert (2009), research at the individual level examines variations in personality, motives, needs, and other qualities that define individuals and seeks to link these to organizational characteristics and outcomes. The focus on small groups, or sets of individuals who engage in direct interaction with one another, is to link these to organizational characteristics and outcomes. The third level involves focusing on properties that characterize the organization as a whole and relating these to other organization characteristic and outcomes.

Porter & Millar (1985) illustrate the organization as shown in Figure 1. The authors make a distinction between the primary activities of the firm and the supporting activities of the firm. The primary activities are those involved in the physical creation of the product, its marketing and delivery to buyers, and its support and servicing after sale. The

supporting activities provide the inputs and infrastructure that allow the primary activities to take place (Porter & Millar, 1985).

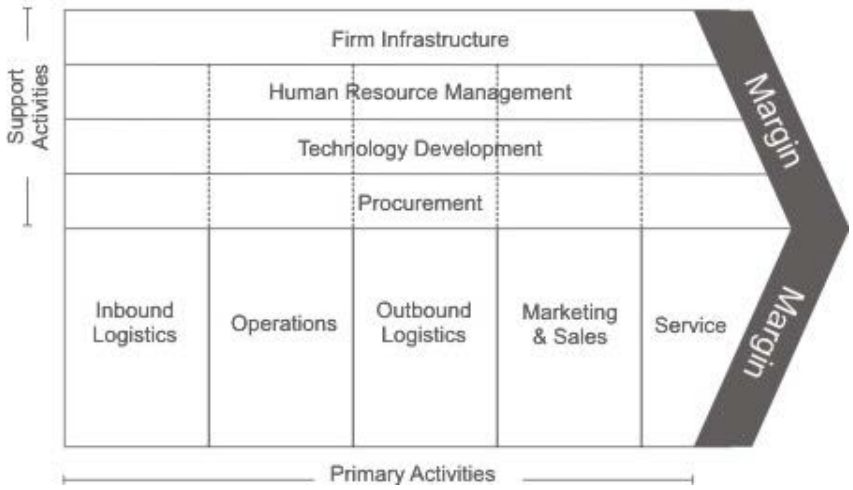

Figure 1 Porter's Generic Value Chain (Porter & Millar, 1985)

All these activities of the nine categories add value to the company's product. Porter & Millar (1985) state that in order to gain a competitive advantage over competitors, a company must either perform these primary and supporting activities at a lower cost or perform them in a way that leads to differentiation and a premium price. These categories in the firm are interlinked. When more effort (i.e. money) goes to the design of the product, less efforts might be needed at the after-sales department due to poor quality design (Porter & Millar, 1985). This inter-linkage needs to be optimized in the company in order to create a competitive advantage.

These categories or groups can be distinguished to certain types which are informal and formal groups. While in formal groups important objectives and roles performed by members are predetermined, informal groups develop in a spontaneous fashion and the objectives and roles found in this type of group arise from the current interactions of members (McKenna, 2000). Rogers and Bhowmik (1970) describe the formation of informal groups similarly. The authors argue that informal groups occur through homophily, i.e. the degree to which pairs of individuals who interact are similar with respect to certain attributes. In this research the formal groups are considered as those that are formed by the organization while the informal groups share the same characteristics that fit them into a group. These two group types are two factors for testing on knowledge alignment on sustainability.

Formal groups can for instance be the hierarchical structure of the firm. Firms, as mentioned before, generally consist of a strategic, tactic and operational level. The more strategically orientated an employee is in the company, the more this person is expected to be knowledgeable about a company's vision and strategy. The more operational skilled people in the company can be expected to be aware of sustainability, but rather in the practical sense of their jobs and not in the abstract sense.

Tallon & Kraemer (2003) studied the strategic alignment and IT business value on firm level (i.e. between different departments). IT business value is seen as a measure of business performance. Their study on strategic alignment in 63 American and Irish & Dutch firms indicated that difference on alignment can be expected in companies. The

results showed a higher strategic alignment in production & operations and customer support while sales and marketing showed low levels of strategic alignment. Additionally they suggest that strategic alignment have IT payoffs up to a certain point beyond, which further increases in strategic alignment appear to lead to lower IT payoffs. When sustainability is part of the strategy of the business, it could be expected that similar results would show in this research although this is a single case study, which could differ from the results found by Tallon & Kraemer. It can be expected that departments deal differently with sustainability. The sales department could think about the selling arguments of sustainable products such as cost savings for the customer, while the HR department could pay attention to the personal development of the employees regarding knowledge on sustainability. This means different kinds of knowledge will be necessary in the departments.

2.6 Hypotheses

Coupling the theory to the research question, the alignment is studied in relation to the formal groups, informal groups and the successfulness of transfer of knowledge.

This has led to the following hypothesis in relation to the formal groups:

H0: Formal groups have the same knowledge alignment on sustainability.

H1: Formal groups have a different knowledge alignment on sustainability.

Informal groups can, for example, be the level of interest of the employee or training. It is expected that employees with higher interest on sustainability will also be more aligned with the vision on sustainability. This is due to the fact that people with interest in sustainability are more likely to acquire knowledge on sustainability.

As training is more effective when people can implement it at their job directly (Salas & Cannon-bowers, 2001) alignment is expected to be higher on those who had training more recently.

For the informal groups the following hypothesis has been formulated.

H0: Informal groups have the same knowledge alignment on sustainability.

H1: Informal groups have a different knowledge alignment on sustainability.

Besides the study on formal and informal groups and alignment of sustainability knowledge, the way the knowledge is transferred is the third factor that is part of the research. A company can facilitate certain channels to transfer the knowledge but this success also depends on the quality of the communication. Some known problems of communications are omission, distortion and overload of communication (Hall & Tolbert, 2009). When communication on sustainability is more successful (i.e. reading and finding information on sustainability knowledge) it can be expected that there will also be more alignment on sustainability. That means these people indicate that they are reading regularly about sustainability, know where to find sustainability related information and have knowledge about initiatives of other sustainable activities elsewhere in the company.

Related to knowledge transfer the following hypothesis has been formulated.

H0: More successful knowledge transfer of sustainability has no effect on the knowledge alignment on sustainability

H1: More successful knowledge transfer of sustainability has effect on the knowledge alignment on sustainability

3 Method

The purpose of this study is to give the overview of the alignment on sustainability in a company in consistent way. The best way to perform such research is to use a quantitative research strategy within a case study. For measuring large groups of people consistently, the survey is the best option as it enables one to assess a large group widely across the company (Denscombe, 2010) within a relatively short period of time.

The research has been conducted at a company in the furniture industry. This industry influences the way people live at home. The industry value chain connects with many aspects on sustainability making it an interesting topic of research. The company being researched is the Swedish furniture company IKEA. IKEA is a company with influence at the beginning and end of the value chain. In 2014, the company provided jobs for as many as 147,000 people worldwide in 42 countries. They had 716 million visitors in the stores and 1,5 billion visitors online, which makes it possible to inspire many people around the world (IKEA, 2014a).

This research focuses on the Retail & Expansion part of the IKEA group in the Netherlands. In the Netherlands around 5,500 people are employed at IKEA of which the majority works in the store. IKEA has 13 stores in the Netherlands of which 12 belong to IKEA Nederland B.V. and one (Delft) is part of Inter IKEA systems. The research has been restricted to IKEA Nederland B.V. of which all stores (12) and offices (2) were included.

Alignment in this research is defined as the organizational knowledge on sustainability and what the employees currently know on sustainability, which should be the same. This means that the organizational knowledge on sustainability has been used as input for the survey in order to assess the employee's knowledge on sustainability.

3.1 Input of knowledge on sustainability

The organizational knowledge on sustainability has been taken as input for the survey questions. This meant going through the explicit knowledge available on sustainability on the website, intranet and training material, thereby looking for key topics of sustainability. It is important to note that with a view on the theoretical assumptions made in this thesis, these topics have been treated as an extension of the company's vision, *"Creating a better everyday life for the many people"*. This ranges from PowerPoints to guidelines to videos about IKEAs practices on the operationalization of its vision with regards to sustainability. Many of these practices are related to the People & Planet Positive strategy of IKEA (IKEA, 2014b). This strategy connects to the three dimensions of sustainability with More Sustainable Life at Home being connected to the economical dimension, Energy & Resource Independence to the environmental dimension and People & Communities to the social dimension. This desktop research entailed the many facets of sustainability at IKEA and how it has been addressed to the employees.

Besides documents as input, higher management (at the Service Office) has been questioned for their vision on sustainability in the stores and what they expect from employees in the stores. Also informal conversations with the management related to the sustainability have been used as input. During many sessions it has been possible to discuss sustainability with different departments at the Service Office as well as during a fieldtrip to a supplier and some of the stores to attend training sessions.

3.1.1 Assessing employee's knowledge on sustainability

The knowledge on sustainability of the employees has been assessed by conducting a survey, which has been set up with the input mentioned above. The survey consisted of questions about knowledge on sustainability at IKEA and transfer of knowledge inside the company as well as attributional questions for the distinction between the various groups.

The questions about knowledge on sustainability were determined by the input of the desktop research. Three domains were established in the research which are based on the sustainability strategy of IKEA, People and Planet positive (IKEA, 2014b). As IKEA wants to inspire its customers to live a More Sustainable Life at Home (MSLH), this is the first domain on which the employees can be aligned. Next, IKEA strives to become Energy and Resource Independent (ERI) in its operations. This affects the employees in their routines; therefore this is the second domain on which employees can be aligned. Third, IKEA wants to take the lead in creating a better life for the People and Communities (PPL Com) impacted by her business, which is the third domain.

For each domain, questions have been developed to test the knowledge of the employee of each domain. As the purpose is to get an overview of the knowledge on sustainability in the company, more focus was given to the ERI and PPL Com domain as they are more related to the employees than the MSLH domain, which is more about inspiring the customer. Therefore, 5 questions (and 6 points) are related to the MSLH domain, 5 questions (and 8 points) to the ERI domain and 10 questions (and 13 points) to the PPL Com domain. See Table 1 which questions of the survey relates to which domain.

The differences in points that can be earned are because of the different types of questions asked. Questions related to surface knowledge level were awarded with one point as they involve alignment on sustainability on a basic level. Shallow knowledge level questions could be awarded with one, two or three points when aligned on sustainability as these were more challenging questions for the employees. When they picked one right answer, one point is granted. When they picked three right answers, they receive one additional point (i.e. two points) as it implies stronger alignment on sustainability with the organization. More than three correct answers is suggesting an even stronger alignment on sustainability, therefore awarded with one additional point (i.e. three points). Answering three or more correct answers by chance is unlikely, therefore this scoring system has been adopted. When employees choose a wrong option, no points are awarded, as there is a wrong association and therefore misalignment.

Table 1 Questions of survey per domain

Domain	Questions
MSLH	7,9,10,11,12
ERI	7,8,13,14,15
PPL Com	5,6,7,16,17,18,19,20,21,22

Questions were deemed to be surface knowledge level when they were directed to test the awareness of the employee on sustainability. These are questions with no follow-up question and relatively simple. Shallow knowledge questions require more thinking of the employee. With these questions the employee had a follow-up question in which it can be checked whether they really know why the previous question was right.

Due to the research design, deep knowledge questions were not part of the survey as they increase the length of the survey, thereby losing both interest of the employee and support from the company to set out the survey as this would take up too much time of the employee. Additionally, the purpose is to get an overview of the knowledge alignment in the company in which this survey is a first attempt to quantify. Deep knowledge is also better assessed with in-depth interviews which requires many interviews. However, that approach is deemed unsuitable for getting a first overview of a company and is out of the scope of this research.

The level of alignment on sustainability is presented in percentages by counting all the points of a specific domain of each individual and are divided by the total possible points of that domain that can be scored times 100%. This means the results are to be examined in scores ranging from 0% to 100%. The higher the score, the stronger is the alignment on sustainability.

The second part of the thesis research question involves investigating the three factors that can influence the alignment on sustainability. These factor are the group types discussed in the theory chapter as well as successful knowledge transfer. Knowledge transfer is measured through reading and finding information on sustainability knowledge. The group types consist of formal and informal groups. Formal groups are related to people's function (from Management Team to Co-worker), different departments (e.g. HR or Sales) and location of the stores (e.g. Zwolle or Amsterdam). The informal groups are related to the level of interest (e.g. not interested or very interested), familiarity with training[1] (familiar or not, and if so, how long ago they had training), age (younger than 24 or between 25 and 34 etc.), educational background (such as university), and working hours per week (this is based on what the company uses in their surveys: 1 - 12, 13 - 24, 25 - 31, 32 - 35 and more than 35 hours). To clarify, training on sustainability at IKEA involves the sustainability strategy (People and Planet Positive) and practical implications on functional level. In this way IKEA strives to engage its employees to become more sustainable in their work. An example of the survey can be found in the Appendix IV.

3.2 Data collection

The survey was conducted through an online marketing tool (Enalyser) that IKEA uses normally to do market research among its customers. This time it was used to do this survey among its own employees. The tool is responsive to the web browser, which makes it possible to use it on any device, including tablets and smartphones. This created the opportunity to spread the survey in different ways. Both a QR code as well as a short URL was generated to make the access to the survey as easy as possible. The short URL however was only developed halfway the conduction period. The length of the survey was 8 – 10 minutes and was conducted during the month August in 2015. The survey could not be distributed through email to all employees, as the company did not allow this. However, an email could be send to the store managers, which has been done twice by the sustainability retail manager of the Netherlands. This was performed first at the start of the survey and second halfway through the data collection.

It was possible to spread the message through the intranet of the company called IKEA Inside. This was posted on national level but did not receive much attention due to the many items that are posted. In the second week, the message was posted on local

[1] i.e. are employees aware training on sustainability exist.

(store) level, which immediately showed its effect by doubling the responses in one weeks' time. Furthermore, each IKEA store in the Netherlands has 'Social Ambassadors' who are responsible for sustainability related activities in the store. They were encouraged to promote the survey of which some placed a news item in their local newspaper or emailed the employees in the store. They were also provided with a poster and table talker (communication in staff restaurant on the tables) thereby creating even more response. Lastly, in Amersfoort and Utrecht there was an active flyer campaign by the researcher to promote the survey among the employees in the store at that time. This has been a one-time event at both stores that also showed increased response of those stores. An example of both the poster and flyer can be found in Appendix II and Appendix III.

3.3 Data analysis

The null hypotheses outlined in the theory section state no difference between groups on knowledge alignment in the company. These hypotheses are tested by comparing the scores of the groups in the different domains and test for significant differences with an analysis of variance (ANOVA) test. Additionally a multiple linear regression is performed to support the results of the ANOVA test.

3.3.1 ANOVA

An ANOVA test can be done under the conditions that the data is (1) continuous, (2) randomly sampled, (3) independent of each other (4) approximately normality distributed (5) there exist homogeneity in variance (Pallant, 2010).

The first condition (continuous data) is met with the scoring system mentioned above thereby ranging from 0 to 100. The second condition is met through the design of the research as the data have been randomly selected among employees of the stores to fulfill. The third condition is met as only one group could be selected when filling in the survey so employees cannot be in two groups. The forth condition is met by testing on kurtoses, skewness and a Q-Q plot which give insight in the normality of the data. Finally, to comply to the fifth condition, the data has been tested with a Levene statistic test for its homogeneity in variance (Berenson, Levine, Szabat, & Krehbiel, 2009, p. 485).

When the above conditions are fulfilled, a one-way ANOVA can be performed to test on difference between groups (p-value lower than .05 is significant difference in groups) followed by a TukeyHSD post hoc test to measure which groups are significantly different (Berenson et al., 2009, p. 482).

When the conditions were not met because they are not approximately normally distributed the data was normalized by using a Two-Step approach of Templeton (2011). In the first step, the variable is transformed into a percentile rank, which will result in uniformly distributed probabilities. The second step, applies the inverse-normal transformation to the results of the first step to form a variable consisting of normally distributed z-score.

When the conditions are not met because there is no homogeneity in variance, a Welch ANOVA test is performed instead of a one-way ANOVA as it is less sensitive to heterogeneity of variance (Keselman et al., 1998) and a Games-Howell post hoc test instead of a TukeyHSD (Wilcox, 1987).

If the data cannot be approximately normalized, a non-parametric Kruskal-Walis test is performed instead of a one-way ANOVA (Berenson et al., 2009). To compare for difference between groups, a Mann-Whitney U test is performed between two groups. When there are more groups, this is repeated with each group of interest. However, the ANOVA test is not very sensitive to normality of the data when dealing with larger response groups (above 20) (Pituch, Whittaker, & Stevens, 2013).

See Table 2 for the decision matrix. These tests were performed with a statistical analysis software tool IBM SPSS statistics.

Table 2 Decision Matrix

	Data is normally distributed	**Data is not normally distributed**
Variance Homogeneity	One-way ANOVA & TukeyHSD	Kruskal-Walis & Mann-Whitney U
Variance Heterogeneity	Welch ANOVA & Games-Howell/Dunnett's C	Kruskal-Walis & Mann-Whitney U

As the effect size can say something about the magnitude of the difference between the groups, this is also being calculated through '*Eta squared*' method. This is done by the following formula:

$$Eta\ Squared = \frac{\text{Sum of swuares between groups}}{Total\ sum\ of\ squares}$$

Cohen classifies .01 as a small effect, .06 as a medium effect and .14 as a large effect (Pallant, 2010).

3.3.2 Multiple linear Regression

A multiple linear regression analysis explores the relationship between one continuous dependent variable and number of independent variables. In this research it explains the alignment on sustainability of one of the three domains (i.e. More Sustainable Life at Home, Energy & Resource Independence and People and Communities) with the groups as independent variables (e.g. stores or age).

In the literature, three methods (standard, hierarchical and stepwise) are described (Pallant, 2010). The standard multiple regression method was chosen, as there is no expected typical order, which is required for the other two methods.

Just as the ANOVA tests, a multiple linear regression has assumptions about the data. The data needs to have a linear relationship, should have multivariate normality, no or little multicollinearity, and be homoscedastic (Pallant, 2010). A linear relationship can be tested by plotting a scatterplot, which should be displaying a straight-line relationship. Normality is tested with a normal Probability Plot (P-P) of the regression standardized residual as well as a scatterplot. The data should lie in a straight diagonal line from the bottom left to top right in de P-P. The scatterplot should not show a systematic pattern. Multicollinearity can be tested through a correlation matrix. There needs to be at least some correlation between the independent and dependent variable (Pallant, 2010, p. 156). However, the correlation between every independent variable may not be too high (i.e. above .7). In the coefficient table, the tolerance value should be above 0.1 to indicate that there is no multicollinearity. A Durbin-Watson test can check for

autocorrelation, i.e. when an independent variable is not independent from another independent variable. It should be between 1.5 and 2.5 as a rule of thumb. Finally, the Goldfeld-Quandt Test can test for heteroscedasticity. Alternatively, the scatterplot should indicate a cigar shape.

The R Squared value that results from the regression analysis explains how much of the score of alignment on sustainability can be explained by the group divisions (i.e. company and attributional groups) and the successful transfer of knowledge on sustainability.

3.3.3 Errors

With the abovementioned tests it is still possible to get false results. This happens when the null hypothesis is rejected while in fact it is true (type 1). It can also occur that the null hypothesis is not rejected while in fact it is false (type 2). This especially happens when the group size is small (e.g. n = 20). It is suggested to then adjust the alpha from .05 to a higher level to correct for this (Pallant, 2010, p. 207). To minimize errors, groups below 5 were aggregated when possible, otherwise omitted. The results of the small groups are further analyzed with care regarding the implementations of the results.

4 Results

In this chapter the alignment of knowledge on sustainability in the company and where this differed is presented. The next sections describe an overview of the three factors that are tested for their alignment which are the formal groups, informal groups and transfer of knowledge.

4.1 An overview of formal groups within IKEA

Different types of groups can be distinguished, namely stores, departments and functions. The survey composition is compared to the company composition as shown in Table 3 in order to show to what extend the research sample represents the company.

IKEA has 12 stores and two offices in the Netherlands. Most employees work in the Amsterdam store, followed by Heerlen, and Eindhoven. We can see that a third of the responses came from Heerlen (12.8%) closely followed by Hengelo (11.9%) and Zwolle (10.3%). The lowest responses came from the Service Office (2.9%), Groningen (3.5%), Breda (4.2%) and Amsterdam (4.2%). However, the Service Office is a relatively small office compared to the composition of the stores. Mainly Amsterdam, Breda, Eindhoven, Groningen and Utrecht seem underrepresented. Customer Service Center (CSC), Heerlen, Hengelo and Zwolle seem overrepresented. These differences can be partially explained by the willingness of the store to participate. Other reason could be due to timing which was during holiday season. This can lower the response as less people are able to fill in the survey or are otherwise too busy as their colleagues are on holiday.

Within IKEA, about a third of the employees work within the sales department. This is followed by Customer Relations and Logistics. The smallest group is Human Resources (HR). In the survey, the most of the responses came from the sales department (37.8%). The least response came from IKEA Food and Communication & Interior design (Com&In) (both 7.4%). There seems to be an underrepresentation of Customer relations, IKEA Food and Logistics, while Sales seems slightly overrepresented as well as Com&In, HR, Business Navigation and others.

Table 3 Company and sample distributions of the stores and departments

Store			**Department**		
	Percentage Company	**Percentage Sample**		**Percentage Company**	**Percentage Sample**
Amersfoort	6.7%	5.8%	**Sales**	31.8%	37.8%
Amsterdam	9.2%	4.2%	**Customer relations**	19.8%	12.5%
Barendrecht	7.9%	9.0%	**IKEA Food**	18.4%	7.4%
Breda	7.1%	4.2%	**Logistics**	17.8%	8.3%
CSC	3.9%	7.7%	**Com&In**	4.3%	7.4%
Duiven	8.0%	8.0%	**HR**	2%	8.3%
Eindhoven	8.9%	4.5%	**Business Navigation**	3.0%	8.7%
Groningen	7.7%	3.5%	**Others**	2.9%	9.6%
Haarlem	7.8%	9.3%			
Heerlen	9.0%	12.8%			
Hengelo	7.0%	11.9%			
Service Office	4.2%	2.9%			
Utrecht	7.1%	6.1%			
Zwolle	5.4%	10.3%			

Regarding the function level groups, the data can be described per function level. Although no accurate figures were available, based on old figures about 15% consists of team managers and MT. Of the other 85%, the majority are co-workers and the rest are specialists. The sample size represents for 6.7% MT, 9,3% team managers, 16.7% specialists and 67.3% co-workers which seems a fair representation.

4.2 An overview of informal groups within IKEA

For the informal groups, no comparative figures as in the formal groups exists. As highlighted by McKenna (2000) these groups form spontaneously. Still, descriptions remain relevant. Different types of informal groups are distinguished, namely age, working hours, education, level of interest, and familiarity with training.

With regards to age, Table 4 shows the biggest group to be between 25 and 34 years old (112). As the group of over 65 years old is only represented by one respondent, this has been aggregated with the 55 to 64 years old group in further analysis. Related to the hours people work per week, most responses came from people that work more than 35 hours per week (101) followed by people who work 13-24 hours per week (82). The distribution of the education group show most response from the HBO group (college) with MBO (vocational education) being close behind. As shown, the people with 'Basisschool' (elementary school) background is fairly small so this has been omitted for further analysis as it cannot be aggregated with another group.

Table 4 Statistics of informal groups.

Age	**Resp.**		**Working hours**	**Resp.**		**Education**	**Resp.**	
<24 years	49	15.8%	**1 – 12 hours per week**	38	12.3%	**Basisschool**	4	1.3%
25 - 34 years	112	36.1%	**13 - 24 hours per week**	82	26.4%	**VMBO / Mavo**	13	4.2%
35 - 44 years	75	24.2%	**25 - 31 hours per week**	38	12.3%	**Havo**	22	7.1%
45 - 54 years	53	17.1%	**32 - 35 hours per week**	51	16.4%	**VWO**	15	4.8%
55 - 64 years	20	6.5%	**More than 35 hours per week**	101	32.6%	**MBO**	96	31%
>65 years	1	0.3%				**HBO**	111	35.8%
						WO	49	15.8%

As can be seen in Table 5 the most employees indicated they have interest in sustainability (147). Very few indicated that they are totally not interested (2) and not interested (2). Aggregating with other groups is not realistic, therefore these groups are omitted in further analysis as they are not a representative group on their own.

Table 5 Distribution on interest level

Type of interest	**Respondents**	
I'm totally not interested in sustainability	2	0.6%
I'm not interested in sustainability	2	0.6%
I'm somewhat interested in sustainability	68	21.9%
I'm interested in sustainability	147	47.5%
I'm very interested in sustainability	91	29.4%

The distribution of people familiar with training on sustainability is presented in Table 6 which indicates that half is not familiar with training (154) and of those who are familiar (156), a third never had a training (48).

Table 6 Distribution on Familiarity with training

Familiarity with training	Respondents	
No	154	49.7%
Yes	156	50.3%
Never had one	48	15.5%
0 – 6 months ago	40	12.9%
6 – 12 months ago	40	12.9%
12 – 18 months ago	12	3.9%
Longer than 18 months ago	16	5.1%

4.3 Adaptions

As indicated some adaptions were made after a first analysis of the results due to low responses in certain groups. This overview is presented in Table 7 below.

Table 7 Adaptions regarding further analysis

	Age	Education	Level of interest
Omitted		The 'Basisschool' group has been omitted due to no aggregation possibility.	The totally not interested and not interested group were omitted due to no aggregation possibility.
Aggregated	65 and older is aggregated with 55 to 64 due to low response in the 65 and older group.		

4.4 Assumptions test

The data, which can be tested for several assumptions that were mentioned in the Method section, should be an approximately normal distribution and homogenate in variance for an ANOVA test to be performed. The normality of the sample data is described in the next subsection. The groups have been tested for homogeneity of variances with a Levene's Statistic test and are described at each resulting paragraph.

Table 8 shows the statistics of the three domains More Sustainable Life at Home (MSLH), Energy & Resource Independence (ERI) and People & Communities (PPL Com) on which employees can be aligned regarding sustainability. The skewness and kurtosis explain the normality of the data, which should be between -1 and 1. This is apparent for the More Sustainable Life at Home and People & Communities domain. The Energy & Resource Independence domain does not seem to be normally distributed (-1.363 and 1.861), which is needed in order to perform an analysis of variance (ANOVA) test for differences. An extra check is done through the histogram and normal Q-Q Plot shown in Appendix I. Again the More Sustainable Life at Home and People & Communities data show normal distribution of the data. The Energy & Resource Independence domain shows again not to be normality distributed.

With the two-step approach of Templeton (2011) as described in the method section, the data is tried to be normalized so that the ANOVA test can still be used which is preferred above the non-parametric test. As also is shown in Table 8, the skewness and kurtosis have been reduced to -.391 and -.513, which indicates a normal distribution. The histogram of the normalized Energy & Resource Independence domain in Appendix I shows also improvement and the Q-Q plot displays a normal distribution.

Table 8 Normal statistics of the domains

Domain	Type of measure	Result
MSLH	Skewness	-.165
	Kurtosis	-.777
ERI	Skewness	-1.363
	Kurtosis	1.861
PPL Com	Skewness	.121
	Kurtosis	-.384
ERI Normalized	Skewness	-.391
	Kurtosis	-.513

Now that the data is tested for normality, all the data can now be further tested with the ANOVA tests to test between differences of groups.

4.5 Formal groups

This is a summary of the results, more detailed results about the formal groups regarding differences in variances follows in the resulting subsections.

A between–groups analysis of variance (ANOVA) was conducted to explore the impact of formal groups on levels of alignment on sustainability in three different domains; More Sustainable Life at Home, Energy & Resource Independence and People & Communities. The formal groups examined are Function, Department and Store location. Some moderate effects were found when testing on the different formal groups and the alignment on sustainability knowledge.

Testing for differences between the different functions and in the three different domains, there was significant evidence in differences between the groups. This was most strongly suggested in the People and Communities domain where the post-hoc test showed that co-workers scored with 44% significantly ($p < .01$)[2] lower than specialists (55.3%), team managers (61.4%) and the MT (70.8%).

Differences between the various departments on the firm level and the three domains was not strong in the results. Very weak results ($p < .1$) showed in one domain (People & Communities) in the post-hoc results between Sales (46.0%) and HR (58.9%). Overall it thus seems that there is no difference between departments regarding sustainability knowledge on alignment.

The stores showed some differences among each other although limited. In the Energy & Resource Independence domain there was a statistical difference between three stores and an office of which Heerlen and Duiven scored higher with a score of 88.0% and 89.5% respectively than the Customer Service Center ($p < .05$) and Hengelo ($p < .1$) with a score of 71.4% and 75.3% respectively. Generally, it seems that the stores score very similar on alignment on sustainability knowledge as no further statistical evidence was found to prove the contrary.

Testing these groups with a multiple linear regression analysis also shows limited effects of these groups. While the More Sustainable Life at Home domain was not significant at all, the R-Squared for the Energy & Resource Independence domain was 0.035 and for the People & Communities domain 0.158 indicating no strong effects. In the Energy & Resource Independence domain there was statistical evidence ($p < .05$) that the function level influences the alignment on sustainability knowledge. This also showed even stronger in the People & Communities domain and ($p < .01$). Additionally the different departments were close to significant ($p = .056$) in the Energy & Resource Independence domain, indicating they affect the alignment on sustainability knowledge. Detailed results of the regression analysis on formal groups can be found in paragraph 8.5.1 in the Appendix.

[2] $P < .01$ means that there is a 99% chance that the value is true, or 1% chance it is not true.
$P < .05$ means that there is a 95% chance that the value is true, or 5% chance it is not true.
$P < .1$ means that there is a 90% chance that the value is true, or 10% chance it is not true

4.5.1 Formal group – Function type

This section sets-out the more detailed results of the function levels of the formal groups. The data was, according to the Levene's test, homogenate for the More Sustainable Life at Home (p = .601), Energy & Resource Independence (p = .563) and People and Communities domain (p = .265). This means that for each domain a one way ANOVA test needs to be performed to test on differences between groups. The scores of the different function are shown per domain in Table 9.

Table 9 Scores of alignment on sustainability per function per domain

Function \ Domain	MSL	ERI	PPL Com
MT	66.0%	82.7%	70.8%
Teammanager	64.8%	86.8%	61.4%
Specialist	61.3%	82.3%	55.3%
Co-Worker	59.6%	77.8%	44.0%

The one way ANOVA test showed no statistically significant difference (p < .05) in alignment on sustainability for More Sustainable Life at Home score for the four function groups. The effect size of this result, using eta squared, was 0.006 which is a small effect. This results means that the function level of the employee has no influence in this domain on differences in the alignment of sustainability knowledge in the company.

The one way ANOVA test showed statistically significant difference (p < .05) in alignment on sustainability for the Energy & Resource Independence score for the four function groups. The effect of this outcome, using eta squared, was 0.03 which is a small to moderate effect. Post-hoc comparisons using the Tukey HSD test indicated that the score for team managers as shown in Table 9 was significantly higher on alignment on sustainability (p < .1) of the co-workers group (p = .062). Other groups showed no significant difference between each other. This means that the function level has slight influence in this domain on the alignment of sustainability knowledge in the company although the evidence is not very strong given the result of the post-hoc test.

The one way ANOVA test showed statistically significant difference (p < .01) in alignment on sustainability for the People and Communities score for the four function groups. The effect size, using eta squared, was 0.16 which is a large effect. Post-hoc comparisons using the Tukey HSD test indicated that the score on alignment on sustainability for co-workers was significantly lower than specialists (p = .001), team managers (p = .000) and MT (p = .000). The score on alignment on sustainability for specialist was not significantly different from team mangers (p = .535) but was significantly lower compared to the MT (p = .012). The score on alignment on sustainability for team managers was not significantly different from MT (p = .339). This implies that the function level has influence in this domain on the alignment of sustainability knowledge in the company.

Table 10 One way ANOVA between Function types per domain

Domain	Df1	Df2	F	P
MSLH	3	306	0.6	.586
ERI	3	306	2.8	.040
PPL Com	3	306	19.1	.000

4.5.2 Formal group – Department

This section sets-out the more detailed results of the various departments of the formal groups. The data was, according to the Levene's test, homogenate for the More Sustainable Life at Home (p = .108), Energy & Resource Independence (p = .456) and People & Communities domain (p = .330). This means that for each domain a one way ANOVA test needs to be performed to test on differences between groups. The scores of the different departments are presented per domain in Table 11.

Table 11 Scores of alignment on sustainability per department per domain

Department\Domain	MSL	ERI	PPL Com
Sales	60.4%	79.0%	46.0%
HR	66.3%	75.5%	58.9%
Food	67.7%	77.8%	54.5%
Customer Service	57.9%	75.4%	46.1%
Logistics	63.7%	87.3%	49.2%
Business Navigation	50.0%	84.2%	50.5%
Com&In	63.4%	83.8%	50.7%
Other	66.7%	85.2%	60.6%

The one way ANOVA test showed no statistically significant difference (p < .05) in alignment on sustainability for the More Sustainable Life at Home score for the department groups. The effect size, using eta squared, was 0.03 which is a small to moderate effect. The different departments prove not to be of influence on the alignment on sustainability knowledge in this domain.

The one way ANOVA test showed no statistically significant difference (p < .05) in alignment on sustainability Energy & Resource Independence score for the department groups. The effect size, using eta squared, was 0.04 which is a small to moderate effect. The different departments prove not to be of influence on the alignment on sustainability knowledge in this domain.

The one way ANOVA test showed statistically significant difference (p < .05) in alignment on sustainability PPL Com score for the department groups. The effect size, using eta squared, was 0.05 which is a moderate effect. Post-hoc comparisons using the Tukey HSD test indicated that the score on alignment on sustainability for Sales with a score of 46.0% is significantly lower (p < .1) than for the HR department which has a score of 58.9% (p = .091). Other departments groups showed no significant difference between each other. This implies that the different departments have a slight influence in this domain on the alignment of sustainability knowledge in the company although the evidence is not strong given the results of the post-hoc test.

Table 12 One way ANOVA between departments per domain

Domain	Df1	Df2	F	P
MSLH	7	302	1.3	.232
ERI	7	302	2.0	.056
PPL Com	7	302	2.1	.04

4.5.4 Formal group – Stores

This section sets-out the more detailed results of the different stores of the formal groups. The data was, according to the Levene's test, homogenate for the More Sustainable Life at Home (p = .364), Energy & Resource Independence (p = .055) and People & Communities domain (p = .585). This means that for each domain a one way ANOVA test needs to be performed to test on differences between groups. The scores of the different Stores are presented per domain in Table 13.

Table 13 Scores of alignment on sustainability per store per domain

Store \ Domain	MSL	ERI	PPL Com
Amersfoort	57.9%	77.9%	52.6%
Amsterdam	57.1%	75.0%	45.6%
Barendrecht	62.4%	80.5%	50.1%
Breda	51.6%	71.9%	41.0%
Customer Service Center	57.1%	71.4%	45.6%
Duiven	62.9%	89.5%	57.6%
Eindhoven	61.2%	85.6%	51.9%
Groningen	53.2%	76.6%	39.4%
Haarlem	49.8%	75.2%	42.1%
Heerlen	64.6%	88.0%	52.3%
Hengelo	64.5%	75.3%	48.6%
Service Office	68.3%	71.7%	50.4%
Utrecht	59.4%	84.3%	56.8%
Zwolle	69.2%	80.6%	48.5%

The one way ANOVA test showed no statistically significant difference (p < .05) in alignment on sustainability for the More Sustainable Life at Home score for the store groups. The effect size, using eta squared, was 0.05 which is a moderate effect. The different stores proof not to be of influence on the alignment on sustainability knowledge in this domain.

The one way ANOVA test showed statistically significant difference (p < .01) in alignment on sustainability Energy & Resource Independence score for the store groups. The effect size, using eta squared, was 0.11 which is a moderate to large effect. Post-hoc comparisons using the Tukey HSD test indicated that the score on alignment on sustainability for Customer Service Center which is 71.4%, is significantly lower than Duiven (p = .023) and Heerlen (p = .019) which have a score of 89.5% and 88.0% respectively. The score on alignment on sustainability for Hengelo is 75.3% which is lower (p < .1) than Duiven (p = .096) and Heerlen (p = .084). This implies that the different stores have a slight influence in this domain on the alignment of sustainability knowledge in the company.

The one way ANOVA test showed no statistically significant difference (p < .05) level in alignment on sustainability for People & Communities score for the store groups. The effect size, using eta squared, was 0.06 which is a moderate effect.

Table 14 One way ANOVA between stores per domain

Domain	Df1	Df2	F	P
MSLH	13	296	1.1	.340
ERI	13	296	2.7	.001
PPL Com	13	296	1.3	.200

Generally, the formal groups have shown limited influence on the alignment of sustainability scores in the three domains. First, the function type seems to have some influence on alignment. Second, departments seem to have minor impact on the influence of alignment. Third, the stores also indicated no strong evidence on influencing the alignment on sustainability knowledge in the company.

4.6 Informal groups

This is a summary of the results, more detailed results about the informal groups regarding differences in variances follows in the resulting subsections.

A one-way (and Welch) between–groups ANOVA was conducted to explore the impact of informal groups on levels of alignment on sustainability in three different domains; More Sustainable Life at Home, Energy & Resource Independence, People and Communities. The informal groups examined are age, working hours per week, education, level of interest, and training. Overall, the informal groups have shown influence on the alignment of sustainability knowledge.

The differences between various ages and alignment on sustainability knowledge was significant in all three domains ($p < .05$). The post-hoc test showed that the age group below 25 score lower on alignment than others. This groups seems to be more difficult to align regarding knowledge on sustainability in all three domains.

Working hours per week shows some influence on alignment. Differences were found in the Energy & Resource Independence and People & Communities domains. The results suggest that the more hours people work the better the alignment with strong significances ($p < .01$) although also the contrary was true in one occasion ($p < .1$). This happened in the Energy & Resource Independence domain between people that work 13 to 24 hours (80.0%) and people that work 25 to 31 hours (71.1%).

Differences in alignment on educational background shows barely to be of influence on alignment. Only in the People & Communities domain there was significant difference between the groups ($p < .05$). Some weak evidence showed between ‘WO’ (56.2%, $p < .1$) and ‘VWO’ (37.8%) as well as between ‘WO’ and ‘MBO’ (46.2%, $p < .1$).

The level of interest seems to influence the alignment on sustainability knowledge in the Energy & Resource Independence and People & Communities domain. In the post-hoc test, evidence with varying significance (from $p < .1$ to $p < .01$) was found for the higher the interest, the better the alignment on sustainability knowledge.

Testing for differences related to familiarity of training showed significant evidence ($p < .05$) for differences in all three domains on alignment on sustainability knowledge. Familiarity with training shows significantly better alignment than no familiarity with training ($p < .01$). Also, the more recent the training, the better the alignment on sustainability.

Testing these groups with the multiple regression analysis indicated that in the informal groups contribute to the alignment on sustainability knowledge in all three domains. Most strong were the Energy & Resource Independence and People & Communities domains with R-Squared values of .138 and .296 respectively. Training and level of interest were strong ($p < .01$) contributors in two of the three domains. Age, type of education and hours that people work contribute also significantly ($p < .05$ and $p < .01$) in one of the three domains. These results support the abovementioned results of the ANOVA tests. Additional results of the regression analysis on informal groups can be found in paragraph 8.5.2 of the Appendix.

4.6.1 Informal group – Age

This section sets-out the more detailed results of the different ages of the informal groups. The data was, according to the Levene's test, homogenate for the More Sustainable Life at Home ($p = .145$) and People & Communities domain ($p = .568$). The data was heterogenetic for the Energy & Resource Independence ($p = .027$) domain. This means that for the More Sustainable Life at Home and People & Communities domain a one way ANOVA test and for the Energy & Resource Independence Domain a Welch ANOVA test needs to be performed to test on differences between groups. The scores of the different ages are shown per domain in Table 15.

Table 15 Scores of alignment on sustainability per age per domain.

Age \ Domain	MSL	ERI	PPL Com
< 24	50.0%	73.1%	38.5%
25 -34	61.9%	78.1%	47.4%
35 -44	64.8%	82.3%	54.4%
45 - 54	63.9%	85.3%	53.6%
55 >	57.1%	80.3%	54.3%

The one way ANOVA test showed statistically significant difference ($p < .05$) in alignment on sustainability for the More Sustainable Life at Home score for the age groups. The effect size, using eta squared, was 0.037 which is a small to moderate effect. Post-hoc comparisons using the Tukey HSD test indicated that the score of 50.0% on alignment on sustainability for age below 24 scored significantly lower ($p < .1$) than people with the age of 25 to 34 (61.9%, $p = .063$), people with the age of 35 to 44 (64.8%, $p = .017$) and people with the age of 45 to 54 (63.9%, $p = .057$). Other group comparisons showed no significant difference between each other.

The Welch ANOVA test showed statistically significant difference ($p < .05$) in alignment on sustainability for the Energy & Resource Independence score for the age groups. The effect size, using eta squared, was 0.034 which is a small to moderate effect. Post-hoc comparisons using the Games-Howell test indicated that the score of 73.1% on alignment on sustainability for age below 24 scored significantly lower ($p < .05$) than people with the age of 35 to 44 (82.3%, $p = .023$) and people with the age of 45 to 54 (85.3%, $p = .007$). Other group comparisons showed no significant difference between each other.

The one way ANOVA test showed statistically significant difference ($p < .05$) in alignment on sustainability People & Communities score for the age groups. The effect size, using eta squared, was 0.069 which is a moderate effect. Post-hoc comparisons using the Tukey HSD test indicated that the score on alignment on sustainability for age below 24 of 38.5% scored significantly lower ($p < .1$) than people with the age of 25 to 34 (47.4%, $p = .083$), people with the age of 35 to 44 (54.4%, $p = .000$), people with the age of 45 to 54 (53.6%, $p = .002$) and people with the age of 55 or older (54.3%, $p = .027$). Other group comparisons showed no significant difference between each other.

Table 16 ANOVA between Age groups per domain

Domain	Df1	Df2	F	p
MSLH	4	305	2.90	.022
ERI	4	94.11	3.747	.007
PPL Com	4	305	5.70	.000

4.6.2 Informal group – Working hours

This section sets-out the more detailed results of the different working hours of the employees of the informal groups. The data was, according to the Levene's test, homogenate for the More Sustainable Life at Home (p = .435), Energy & Resource Independence (p = .480) and People & Communities domain (p = .241). This means that for each domain a one way ANOVA test needs to be performed to test on differences between groups. The scores of the different working hours per week are shown per domain in Table 17.

Table 17 Scores of alignment on sustainability per hours working in a week per domain.

Hours working \ Domain	MSL	ERI	PPL Com
1 - 12 h	56.8%	76.6%	38.4%
13 - 24 h	57.0%	80.0%	45.1%
25 - 31 h	62.8%	71.1%	42.1%
32 - 35 h	65.0%	80.5%	50.8%
> 35 h	62.5%	83.5%	58.6%

The one way ANOVA test showed no statistically significant difference (p < .05) in alignment on sustainability More Sustainable Life at Home score for the working hours groups. The effect size, using eta squared, was .02 which is a small effect.

The one way ANOVA test showed statistically significant difference (p < .05) in alignment on sustainability Energy & Resource Independence score for the working hours groups. The effect size, using eta squared, was .05 which is a small to moderate effect. Post-hoc comparisons using the Tukey HSD test indicated that the score on alignment on sustainability of 80.0% for people working 13 to 24 hours was higher (p <.1) than people working 25 to 31 hours (71.1%, p = .08). People working 25 to 31 hours and a score of 71.1% was significantly lower on alignment on sustainability score (p <.001) than people working more than 35 hours (83.5%, p = .003). Other group comparisons showed no significant difference between each other although it is noteworthy that people that work 25 to 31 hours seem to score lower on alignment on sustainability than people that work 32 to 35 hours (80.5%, p = .102) and people that work more than 35 hours seem to score higher (83.5%) on alignment on sustainability than people that work 1 to 12 hours (76.6%, p = .242).

The one way ANOVA test showed statistically significant difference (p < .05) in alignment on sustainability People & Communities score for the working hours groups. The effect size, using eta squared, was .12 which is a moderate to large effect. Post-hoc comparisons using the Tukey HSD test indicated that the score of 58.6% on alignment on sustainability for people working more than 35 hours score significantly higher than people that work 1 to 12 hours (38.4%, p = .000), people that work 13 to 24 hours (45.1%, p = .000), people that work 25 to 31 hours (42.1%, p = .000). People that work 32 to 35 hours score significantly higher on alignment on sustainability with a score of 50.8% than people that work 1 to 12 hours (38.4%, p = .030). Other group comparisons showed no significant difference between each other although it is noteworthy that people that work 32 to 35 seem to score higher on alignment on sustainability with 50.8% than people that work 25 to 31 hours (42.1%, p = .240) and seem to score lower on alignment on sustainability than people that work more than 35 hours (58.6%, p = .154).

Table 18 One way ANOVA between different working hours per domain

Domain	Df1	Df2	F	p
MSLH	4	305	1.16	.331
ERI	4	305	3.72	.006
PPL Com	4	305	10.69	.000

4.6.3 Informal group – Education

This section sets-out the more detailed results of the different educational backgrounds of the informal groups. The data was, according to the Levene's test, homogenate for the More Sustainable Life at Home (p = .440), Energy & Resource Independence (p = .052) and People & Communities domain (p = .632). This means that for each domain a one way ANOVA test needs to be performed to test on differences between groups. The scores of the different educational backgrounds are shown per domain in Table 19.

Table 19 Scores of alignment on sustainability per educational background per domain.

Education \ Domain	MSL	ERI	PPL Com
VMBO / Mavo	51.6%	81.4%	47.7%
Havo	72.1%	86.9%	49.4%
VWO	56.2%	80.5%	37.8%
MBO	59.8%	78.9%	46.2%
HBO	60.2%	79.2%	51.4%
WO	63.6%	79.0%	56.2%

The one way ANOVA test showed no statistically significant difference (p < .05) in alignment on sustainability for the More Sustainable Life at Home score for the education groups. The effect size, using eta squared, was .023 which is a small effect.

The one way ANOVA test showed no statistically significant difference (p < .05) in alignment on sustainability for the Energy & Resource Independence score for the education groups. The effect size, using eta squared, was .014 which is a small effect.

The one way ANOVA test showed statistically significant difference (p < .05) in alignment on sustainability People & Communities score for the education groups. The effect size, using eta squared, was .04 which is a small to moderate effect. Post-hoc comparisons using the Tukey HSD test indicated that the score on alignment on sustainability of 56.2% for 'WO' background scored significantly higher (p < .1) than people with 'VWO' background (37.8%, p = .032). Other group comparisons showed no significant difference between each other although it is noteworthy that people with 'HBO' background seem to score higher on alignment on sustainability (51.4%) than and 'VWO' background (37.8%, p = .157) and people with 'MBO' background seem to score lower (46.2%) than people with 'WO' background (56.2%, p = .066).

Table 20 One way ANOVA between Education groups per domain

Domain	Df1	Df2	F	p
MSLH	5	300	1.4	.218
ERI	5	300	.828	.531
PPL Com	5	300	2.7	.020

4.6.4 Informal group – Level of interest

This section sets-out the more detailed results of the different levels of interest of the informal groups. The data was, according to the Levene's test, homogenate for the More Sustainable Life at Home (p = .708), Energy & Resource Independence (p = .924) and People & Communities domain (p = .814). This means that for each domain a one way ANOVA test needs to be performed to test on differences between groups. The scores of the different levels of interest are shown per domain in Table 21.

Table 21 Scores of alignment on sustainability per level of interest per domain

Level of Interest\Domain	MSL	ERI	PPL Com
Somewhat interested	56.9%	71.8%	42.5%
Interested	60.4%	81.2%	48.3%
Very interested	66.2%	84.4%	57.4%

The one way ANOVA test showed no statistically significant difference (p < .05) in alignment on sustainability for the More Sustainable Life at Home score for the interest groups. The effect size, using eta squared, was 0.02 which is a small effect. The different levels of interest proof not to be of influence in the alignment on sustainability knowledge in this domain.

The one way ANOVA test showed statistically significant difference (p < .05) in alignment on sustainability for the Energy & Resource Independence score for the interest groups. The effect size, using eta squared, was 0.07 which is a moderate effect. Post-hoc comparisons using the Tukey HSD test indicated that the score on alignment on sustainability for the somewhat interested group (71.8%) is significantly lower than the interested (p = .001) and very interested (p = .000) group (81.2% and 84.4% respectively). The interested group is not significantly different from the very interested group (p = .341). The different levels of interest seem to be of influence on the alignment on sustainability knowledge in this domain.

The one way ANOVA test showed statistically significant difference (p < .05) in alignment on sustainability for the People & Communities score for the interest groups. The effect size, using eta squared, was 0.07 which is a moderate effect. Post-hoc comparisons using the Tukey HSD test indicated that the score on alignment on sustainability for the somewhat interested group of 42.5% is significantly lower than the very interested (p = .000) group of 57.4% but not significantly different from the interested group of 48.3% (p = .116). The interested group is significantly lower on alignment on sustainability score than the very interested group (p = .002). The different levels of interest seem to be of influence on the alignment on sustainability knowledge in this domain.

Table 22 One way ANOVA between level of interest per domain

Domain	Df1	Df2	F	p
MSLH	2	303	2.8	.064
ERI	2	303	11.3	.000
PPL Com	2	303	11.5	.000

4.6.5 Informal group – Training

This section sets-out the more detailed results of the familiarity with training of the informal groups. The data was, according to the Levene's test, homogenate for the Energy & Resource Independence (p = .573) and People & Communities domain (p = .099). The data was heterogenetic for the More Sustainable Life at Home (p = .008) domain. This means that for the Energy & Resource Independence and People & Communities domain a one way ANOVA test and for the More Sustainable Life at Home Domain a Welch ANOVA test needs to be performed to test on differences between groups. The scores of the different familiarities of training are shown per domain in Table 23.

Table 23 Scores of alignment on sustainability per familiarity with training per domain.

Training\Domain	MSL	ERI	PPL Com
Not Familiar	55.2%	72.9%	39.8%
Familiar - Never had training	65.8%	86.4%	52.4%
Familiar - 0 - 6 Months ago	67.1%	86.3%	59.3%
Familiar - 6 - 12 Months ago	68.2%	90.7%	65.0%
Familiar - 12 - 18 Months ago	66.7%	78.2%	63.9%
Familiar - More than 18 Months ago	60.7%	83.0%	55.4%

The Welch ANOVA test showed statistically significant difference (p < .05) in alignment on sustainability for the More Sustainable Life at Home score for the training groups. The effect size, using eta squared, was 0.032 which is a small to moderate effect. Post-hoc comparisons using the Games-Howell test indicated that the score on alignment on sustainability for the not familiar with training group of 55.2% was significantly lower than people who are familiar and had training 0 to 6 months ago with a score of 67.1% (p = .047) and people who are familiar and had training 6 to 12 months ago with a mean of 68.2 (p = .037). Other group comparisons showed no significant difference between each other. It seems that the different training groups seem to influence the alignment on sustainability in this domain.

The one way ANOVA test showed statistically significant difference (p < .05) in alignment on sustainability for the Energy & Resource Independence score for the training groups. The effect size, using eta squared, was 0.16 which is a large effect. Post-hoc comparisons using the Tukey HSD test indicated that the score on alignment on sustainability for not familiar with training group with a score of 72.9% was significantly lower than people who are familiar and never had training and a score of 86.4% (p = .000), people who are familiar and had training 0 to 6 months ago and a score of 86.3% (p = .000) and people who are familiar and had training 6 to 12 months ago and a score of 90.7% (p = .000). Other group comparisons showed no significant difference between each other. It seems that the different training groups seem to influence the alignment on sustainability in this domain.

The one way ANOVA test showed statistically significant difference (p < .05) in alignment on sustainability for the People & Communities score for the training groups. The effect size, using eta squared, was 0.23 which is a large effect. Post-hoc comparisons using the Tukey HSD test indicated that the score on alignment on sustainability for not familiar with training group with a score of 39.8% was significantly lower than people who are familiar and never had training and a score of 52.4% (p = .001), people who are familiar and had training 0 to 6 months ago and a score of 59.3% (p = .000), people who are familiar and had training 6 to 12 months ago and a score of 65.0% (p = .000), people who are familiar and had training 12 to 18 months ago and a

score of 63.9% (p = .000) and people who are familiar and had training more than 18 months ago and a score of 55.4% (p = .019). The group that is familiar with training but never had a training scored significantly lower on alignment on sustainability score than people who had training 6 to 12 months ago (p = .020). Other group comparisons showed no significant difference between each other. It seems that the different training groups seem to influence the alignment on sustainability in this domain.

Table 24 ANOVA between training groups per domain

Domain	Df1	Df2	F	p
MSLH	5	61.98	3.042	.016
ERI	5	304	11.7	.000
PPL Com	5	304	18.1	.000

Overall, the informal groups have shown some influence on the alignment of sustainability scorers in the three domains although mostly in the People and Communities domain. First, the age shows minor influence on alignment. The age group below 25 score lower on alignment than others. This groups seems to be more difficult to align. Second, working hours shows some influence on alignment. The results suggest that the more hours people work the better the alignment although also the contrary was true in one occasion. Third, educations shows barely to be of influence on alignment. Only the third domain shows some weak evidence between groups. Fourth, the level of interest seems to influence the alignment on sustainability knowledge. The higher the interest, the better the fit. Fifth, training appears to influence the alignment on sustainability knowledge. Familiarity with training shows better alignment than no familiarity with training. Also, the more recent the training, the better the alignment on sustainability.

4.7 An overview of the knowledge transfer on alignment

This section concerns the influence on alignment related to the transfer of knowledge on sustainability. This starts with a description of the data, followed by subsections of measured differences on successful knowledge exchange.

4.7.1 Channels of knowledge transfer

The channels used to transfer knowledge on sustainability are presented in Table 25. IKEA Inside (the company's intranet) together with the Tillsammans (monthly internal newspaper of IKEA the Netherlands) are indicated to be channels on which people are kept updated on sustainability (85% and 72% respectively). Channels such as WebEx (1%), Private Email (7%) and Yammer (8%) are barely used by the employees as sources of knowledge related to sustainability. Although Yammer (social platform exclusively for an organization) is supposed to be used to exchange knowledge across the organization, this apparently is not so successful for knowledge exchange on sustainability. In 'other', many indicated the weekly local newspaper of the store to be a source where they are kept updated on sustainability. Training and workshops were indicated by 34% of the respondents which is lower than the familiarity question in Table 6 on training which was about half. So despite the familiarity, it is not a channel to be kept up to date.

Table 25 Channels of information on sustainability.

Channel	Response	Relative
IKEA Inside	263	85%
Tillsammans	222	72%
Training / Workshops	104	34%
Work Email	103	33%
Social Media	86	28%
Roll Call	55	18%
Other	34	11%
Yammer	25	8%
Private Email	23	7%
WebEx	2	1%

In Table 26 below it is shown that about 6 out of 10 employees read regularly about sustainability (196). Just less than half of the employees indicate they know where to find information on sustainability (148). 23% of the employees agrees that they know about sustainability initiatives of other stores (72). Employees seem to read regularly about sustainability and show difficulties with finding information on sustainability half of the time. Furthermore, the knowledge on sustainability seems to flow limited between stores.

Table 26 Distribution of keeping up to date on sustainability

	Reading regularly about sustainability		**Know where to find information on sustainability**		**Know about sustainability initiatives at other stores**	
	Resp.	**Percentage[a]**	**Resp.**	**Percentage[a]**	**Resp.**	**Percentage**
Totally disagree	10	3.2%	22	7.1%	44	14.2%
Disagree	42	13.5%	61	19.7%	103	33.2%
Neutral	62	20.0%	79	25.5%	91	29.4%
Agree	181	58.4%	136	43.9%	67	21.6%
Totally agree	15	4.8%	12	3.9%	5	1.6%
[a]Numbers do not add up to 100% due to rounding						

4.8 Transfer of knowledge

This is a summary of the results, more detailed results about the transfer of knowledge groups regarding differences in variances follows in the resulting subsections.

A one-way (and Welch) between–groups ANOVA was conducted to explore the impact of transfer of knowledge on levels of alignment on sustainability in three different domains; More Sustainable Life at Home, Energy & Resource Independence, People and Communities. This has been examined by reading and finding knowledge on sustainability and transfer between stores. Some moderate effects were found when testing on successful knowledge transfer and the alignment on sustainability knowledge.

There was statistically significant difference between reading about sustainability regularly and the alignment on sustainability knowledge in all three domains ($p < .05$). It appears that when people read regularly about sustainability, the more they are aligned about sustainability knowledge ($p < .1$).

Testing between groups that know where to find information on sustainability showed significant differences in three domains ($p < .05$). The people that indicated to know where to find information on sustainability were more aligned on sustainability knowledge.

Differences between groups that know about sustainability initiates of other stores showed significant differences ($p < .05$) in Energy & Resource Independence and People & Communities domains. The results slightly indicate a positive relation between knowing about sustainability initiatives of other stores and alignment on sustainability ($p < .05$).

Additionally, the multiple linear regression analysis showed that successful knowledge transfer contributes to the alignment on sustainability knowledge in all three domains. Most strong were reading regularly and knowing where to find information on sustainability knowledge with $p < .05$ and stronger. These results support the abovementioned ANOVA tests. Additional results of the regression analysis on the successful transfer of knowledge can be found in paragraph 8.5.3.

4.8.1 Transfer of knowledge - Reading regularly about sustainability

This section sets-out the more detailed results of people that read regularly about sustainability in the transfer of knowledge section. The data was, according to the Levene's test, homogenate for the More Sustainable Life at Home (p = .089), Energy & Resource Independence (p = .210) and People & Communities domain (p = .721). This means that for each domain a one way ANOVA test needs to be performed to test on differences between groups. The scores of the different agreements on reading regularly are shown per domain in Table 27. It must be noted that the totally agree and totally disagree groups are rather small (10 and 15 respectively).

Table 27 Scores of alignment on sustainability with regards to reading regularly per domain.

Reading regularly\Domain	MSL	ERI	PPL Com
Totally disagree	30.0%	53.3%	25.3%
Disagree	56.1%	72.7%	37.8%
Neutral	57.4%	74.7%	44.5%
Agree	64.4%	83.2%	54.0%
Totally agree	64.8%	95.6%	60.4%

The one way ANOVA showed statistically significant difference (p < .05) in alignment on sustainability for the More Sustainable Life at Home score for the 'reading regularly' groups. The effect size, using eta squared, was 0.07 which is a moderate effect. Post-hoc comparisons using the Tukey HSD test indicated that the score on alignment on sustainability for people who totally disagree score significantly lower (30.0%) than people who disagree (56.1%, p = .031), are neutral (57.4%, p = .015), agree (64.4%, p = .000) or totally agree (64.8%, p = .008). Other group comparisons showed no significant difference between each other.

The one way ANOVA showed statistically significant difference (p < .05) in alignment on sustainability for the Energy & Resource Independence score for the 'reading regularly' groups. The effect size, using eta squared, was 0.17 which is a large effect. Post-hoc comparisons using the Tukey HSD test indicated that the score of 53.3% on alignment on sustainability for people who totally disagree score significantly lower than people who disagree (72.7%, p = .008), are neutral (74.7%, p = .002), agree (83.2%, p = .000) or totally agree (95.6%, p = .000). People who disagree score significantly lower than people who agree (p = .002) or totally agree (p = .000). People who are neutral score significantly lower than people who agree (p = .005) or totally agree (p = .000). People who agree score significantly lower than people who totally agree (p = .046). Other group comparisons showed no significant difference between each other. It appears that the more people read about sustainability, the more aligned they get in this domain.

The one way ANOVA showed statistically significant difference (p < .05) in alignment on sustainability People & Communities score for the 'reading regularly' groups. The effect size, using eta squared, was 0.14 which is a large effect. Post-hoc comparisons using the Tukey HSD test indicated that the score on alignment on sustainability for people who totally disagree score significantly lower (25.3%) than people who are neutral (44.5%, p = .036), agree (54.0%, p = .000) or totally agree (60.4%, p = .000). People who disagree score significantly lower than people who agree (p = .000) or totally agree (p = .001). People who are neutral score significantly lower than people who agree (p = .011) or totally agree (p = .041). Other group comparisons showed no significant difference

between each other. It seems that the more people read about sustainability the more they get aligned in this domain.

Table 28 One way ANOVA between different levels of reading about sustainability per domain

Domain	Df1	Df2	F	p
MSLH	4	305	5.3	.000
ERI	4	305	15.1	.000
PPL Com	4	305	12.0	.000

The results suggest a positive relationship between reading about sustainability and getting aligned on sustainability knowledge.

4.8.2 Transfer of knowledge - Know where to find information

This section sets-out the more detailed results of people that know where to find information on sustainability in the transfer of knowledge section. The data was, according to the Levene's test, homogenate for the More Sustainable Life at Home ($p = .284$), Energy & Resource Independence ($p = .885$) and People & Communities domain ($p = .083$). This means that for each domain a one way ANOVA test needs to be performed to test on differences between groups. The scores of the different agreements on finding information on sustainability are shown per domain in Table 29. It must be noted that the totally agree and totally disagree groups are rather small (12 and 22 respectively).

Table 29 Scores of alignment on sustainability with regards to finding information on sustainability per domain.

Know where to find information on sustainability \ Domain	MSL	ERI	PPL Com
Totally disagree	37.7%	61.6%	41.8%
Disagree	59.5%	76.4%	40.0%
Neutral	60.0%	78.2%	44.0%
Agree	65.5%	84.1%	56.9%
Totally agree	60.7%	90.4%	58.3%

The one way ANOVA showed statistically significant difference ($p < .05$) in alignment on sustainability for the More Sustainable Life at Home score for the 'know where to find information' groups. The effect size, using eta squared, was 0.07 which is a moderate effect. Post-hoc comparisons using the Tukey HSD test indicated that the score on alignment on sustainability for people who totally disagree score significantly lower (37.7%) than people who disagree (59.5%, $p = .006$), are neutral (60.0%, $p = .003$), agree (65.5%, $p = .000$) or totally agree (60.7%, $p = .087$). Other group comparisons showed no significant difference between each other.

The one way ANOVA showed statistically significant difference ($p < .05$) in alignment on sustainability for the Energy & Resource Independence score for the 'know where to find information' groups. The effect size, using eta squared, was 0.12 which is a moderate to large effect. Post-hoc comparisons using the Tukey HSD test indicated that the score on alignment on sustainability for people who totally disagree score significantly lower (61.6%) than people who disagree (76.4%, $p = .005$), are neutral (78.2%, $p = .001$), agree (84.1%, $p = .000$) or totally agree (90.4%, $p = .000$). People who disagree score significantly lower on alignment on sustainability than people who agree ($p = .031$). Other group comparisons showed no significant difference between each other although it is noteworthy that people who agree seem to score lower on alignment on sustainability than people who totally agree ($p = .072$) and people who are neutral seem to score lower on alignment on sustainability than people who agree ($p = .105$) or totally agree ($p = .140$). This seems to indicate that the more people know where to find information on sustainability, the more they are aligned on sustainability knowledge in this domain.

The one way ANOVA showed statistically significant difference ($p < .05$) in alignment on sustainability for the People & Communities score for the 'know where to find information' groups. The effect size, using eta squared, was 0.13 which is a moderate to large effect. Post-hoc comparisons using the Tukey HSD test indicated that the score on alignment on sustainability for people who totally disagree score significantly lower

(41.8%) than people who agree (56.9%, p = .009). People who disagree score significantly lower (40.0%) than people who agree (p = .000) or totally agree (58.3%, p = .029). People who are neutral score significantly lower (44.0%) on alignment on sustainability than people who agree (p = .000). Other group comparisons showed no significant difference between each other although it is noteworthy that people who totally disagree seem to score lower on alignment on sustainability than people who totally agree (58.3%, p = .138) and people who are neutral seem to score lower on alignment on sustainability than people who totally agree (p = .132). Also in this domain it seems that the more people know where to find information on sustainability, the more they are aligned on sustainability knowledge.

Table 30 One way ANOVA between different levels of knowing where to find information on sustainability per domain

Domain	Df1	Df2	F	p
MSLH	4	305	5.8	.000
ERI	4	305	10.4	.000
PPL Com	4	305	11.3	.000

The results suggest a positive relationship between knowing where to find information on sustainability knowledge and alignment on sustainability.

4.8.3 Transfer of knowledge - Know about initiatives of other stores regarding sustainability

This section sets-out the more detailed results of people that know about sustainability initiatives of other stores in the transfer of knowledge section. The data was, according to the Levene's test, homogenate for the More Sustainable Life at Home (p = .062), Energy & Resource Independence (p = .000) and People & Communities domain (p = .009). This means that for each domain a one way ANOVA test needs to be performed to test on differences between groups. The scores of the different agreements on knowing about sustainability initiatives of other stores are shown per domain in Table 31. It must be noted that the totally agree group is rather small (5 people).

Table 31 Scores of alignment on sustainability with regards knowing about sustainability initiatives of other stores per domain.

Knowing about sustainability initiatives of other stores\Domain	MSL	ERI	PPL Com
Totally disagree	50.0%	73.0%	44.1%
Disagree	63.4%	76.3%	46.5%
Neutral	62.5%	80.4%	49.2%
Agree	61.4%	88.1%	56.9%
Totally agree	62.9%	85.8%	50.7%

The one way ANOVA showed no statistically significant difference (p < .05) in alignment on sustainability More Sustainable Life at Home score for the 'know what happens at other stores regarding sustainability' groups. The effect size, using eta squared, was 0.03 which is a moderate effect. It is significant when a critical value of .1 is maintained. Post-hoc comparisons using the Tukey HSD test indicated that the score on alignment on sustainability for people who totally disagree score significantly lower (50.0%) than people who disagree (63.4%, p = .036). Other group comparisons showed no significant difference between each other although it is noteworthy that people who totally disagree seem to score lower on alignment on sustainability than people who are neutral (62.5%, p = .070) or agree (61.4%, p = .160).

The one way ANOVA showed statistically significant difference (p < .05) in alignment on sustainability for the Energy & Resource Independence score for the 'know what happens at other stores regarding sustainability' groups. The effect size, using eta squared, was 0.08 which is a moderate effect. Post-hoc comparisons using the Tukey HSD test indicated that the score on alignment on sustainability for people who totally disagree score significantly lower (73.0%) than people who agree (88.1%, p = .000). People who disagree score significantly lower (76.3%) on alignment on sustainability than people who agree (p = .000). People who are neutral score significantly lower (80.4%) on alignment on sustainability than people who agree (p = .048). Other group comparisons showed no significant difference between each other although it is noteworthy that people who disagree seem to score lower on alignment on sustainability than people are neutral (p = .149).

The one way ANOVA showed statistically significant difference (p < .05) in alignment on sustainability for the People & Communities score for the 'know what happens at other stores regarding sustainability' groups. The effect size, using eta squared, was 0.04 which is a small to moderate effect. Post-hoc comparisons using the Tukey HSD test indicated that the score on alignment on sustainability for people who totally disagree score significantly lower (44.1%) than people who agree (56.9%, p = .013). People who

disagree score significantly lower (46.5%) than people who agree (p = .012). Other group comparisons showed no significant difference between each other although it is noteworthy that people who are neutral seem to score lower (49.2%) on alignment on sustainability than people agree (p = .145).

Table 32 One way ANOVA between groups that are knowledgeable about other sustainability initiatives per domain

Domain	Df1	Df2	F	p
MSLH	4	305	2.3	.062
ERI	4	305	6.7	.000
PPL Com	4	305	3.5	.009

The results slightly indicate a positive relation between knowing about sustainability initiative of other stores and alignment on sustainability.

5 Discussion

Overall, the results show that the alignment of knowledge on sustainability of the employees with the organization varied per domain. Employees are most aligned in the Energy & Resources domain (average of 80.2%) that is related to the environmental dimension of sustainability. Second comes the More Sustainable Life at Home domain with an average score of 66.6%, which is related to the economic dimension of sustainability. Last comes the People & Communities domain that is related to the social dimension of sustainability with an average of 53.5%. In an assessment on sustainability knowledge of college and university students of Zwickle & Koontz (2014), a similar pattern was visible. The environmental dimension attained the highest score followed by economic and social dimensions of sustainability. The differences were not as large as found in this study. This can be explained by the differences in set-up of the survey, as this study focuses on alignment of sustainability knowledge in a company and not general knowledge on sustainability, which was assessed by Zwickle & Koontz (2014). The reason why the environmental dimension of sustainability is more aligned could be because most businesses identify sustainability with eco-efficiency (Dyllick & Hockerts, 2002) although every company defines sustainability differently (Berns et al., 2009). In these cases companies find it easier to identify with the environmental dimension of sustainability than other dimensions. This could be because environmental aspects such as waste sorting are more related to the daily job while the social aspects such as good causes are more distant to the employees.

Looking at the groups, the formal groups have shown limited influence on the alignment of sustainability in the three domains. The strongest differences occurred in the Energy & Resource Independence and People & Communities domains. Part of the formal groups are the different function levels. In previous research, the importance of alignment of the strategic, tactical and operational level on sustainability in a Higher Education Institute has been highlighted in Djordjevic & Cotton (2011) and Goni et al. (2013). However, in these studies no empirical evidence is provided that demonstrates to what extend that alignment happens. This current research demonstrates that strategical levels, such as the Management Team of a store, are more aligned than the operational level (co-workers). Changing the operational level in their operations can sometimes be misjudged by the top-level (Strebel, 2009), which might explain the differences in alignment in this study although this could not be established in this study.

The second comparison made between the formal groups is the different stores. Such a comparison has not been made in previous academic studies. A remarkable fact to note is that the store in Zwolle did not score significantly higher or lower in alignment on sustainability knowledge compared to others. This is in contradiction with expectations as employees at Zwolle have had a different training than other stores. So the different training in this store did not affect the alignment although more factors besides training could be of influence on this. The high score of the store in Heerlen was strongly related to the sustainability score in the company's employee monitoring survey (VOICE) that is conducted every year at IKEA. Similarly, the Customer Service Center also scores lower in the company's employee monitoring survey as well as in this research although the difference is not as big. This is likely to vary due to a different design of the survey. Where the company asks two questions related to sustainability, this research has taken a more holistic approach. The stores showed barely significant differences in alignment on sustainability knowledge, which could be explained by the many groups that were

formed. This spreads the data among many groups thereby making it difficult to have significant differences. More respondents could show a more realistic result.

While in Tallon & Kraemer (2003) departments scored different on alignment, the results of this study shows no strong differences in alignment on sustainability knowledge between departments. However, this study has been a single case study whereas Tallon & Kraemer (2003) studied multiple companies in different countries. A second result comparison with the departments could be made with the company's employee monitoring survey. The departments scored different than found in this study. Where customer service and HR score low in the company's employee monitoring survey, customer service scores are no different than others in this study. HR even scores significantly high compared to Sales in the People & Communities domain. So the company might have different view on the current progress they make due to the minimalistic measures of the company's employee monitoring survey, which has only two questions related to sustainability.

The informal groups have shown some influence on the alignment of sustainability scores in the three domains, although mostly in the People and Communities domain. According to Gottschalg & Zollo (2007), the level of interest alignment determines how much of the performance potential will be realized. Thus, the increased interest alignment can support a company to receive potential rents. Similarly, this study found that the higher the interest in sustainability, the higher the alignment on sustainability, which should also lead to gain or sustain a competitive advantage.

Training appears to influence the alignment on sustainability knowledge. Familiarity with training shows better alignment than no familiarity with training. Also, the more recent the training, the better the alignment on sustainability knowledge. Suggesting that keeping the employees knowledge on sustainability up to date with training can certainly help to align with the organization in order to gain or sustain a competitive advantage.

The age of the employee shows minor influence on alignment. The age group below 25 score lower on alignment than others, therefore this group seems more difficult to align. Other age groups showed no significant differences in alignment. This means that the current knowledge transfer on the age groups to align on sustainability knowledge has similar effects.

Educational background appears barely to be of influence on alignment. Only the People & Communities domain shows some weak evidence of differences between groups where people with higher education seem to score higher. As the vision should be clear to everyone in order to align successfully (Kotter, 1995), the fact that educational background does not seem to influence the alignment on sustainability, presumes that the vision has been formulated clearly enough to be understandable for all levels.

The different number of working hours per week shows some influence on alignment. The results suggest that the more hour people work per week, the better the alignment although also the contrary was true in one occasion. This might have to do with the type of job one can expect with the number of hours people work per week. A team leader or MT function can be expected to be a full time job. Therefore, this result could be related to the function groups although this could not be established in this study.

The influence of successful knowledge transfer on the alignment on sustainability seems to have effect. Reading about sustainability appears to influence the alignment on

sustainability knowledge. When people read regularly about sustainability, the more aligned they get in the Energy & Resource Independence and People & Communities domain. This shows that the communication channels used are successful in aligning knowledge on sustainability in the organization. In particular the company's intranet (IKEA Inside) and the Tillsammans magazine. Knowing where to find information on sustainability influences the alignment on sustainability knowledge. The people that know where to find information on sustainability are more aligned in the Energy & Resource Independence and People & Communities domain than people who do not know where to find it. Knowing about sustainability initiatives of other stores had some minor effects on the alignment on sustainability knowledge. The results showed a weak positive relation between knowing about sustainability initiative of other stores and alignment on sustainability knowledge. These three findings on successful knowledge transfer supports the importance of knowledge transfer (Bekkers & Bodas Freitas, 2008) as it leads to improved alignment.

In summary, this study could provide some confirmations of the literature such as more affinity with the environmental dimension of sustainability but also the importance of knowledge transfer for alignment. Related to formal groups the results show a different view than the one of the company with its own monitoring system. This also showed an irregularity with literature on alignment of firm level when looking at departments. The informal groups had varied results that could confirm some literature such as interest alignment for improved firm performance and the data support a clear understanding of the sustainability vision along different educational levels.

5.1 Limitations

Several limitations have been detected in this research that can possibly influence the meaning of the results. Such a limitation is the fact that this research studies one part of one company in the Netherlands, which restricts its implications. More companies will need to be researched for generalization of the results to a wider conclusion about the sector. Similarly, this research also limits to the "Retail & Expansion" part of the IKEA group in the Netherlands. Extending this research to other parts of the organization such as "Production" or "Retail & Expansion" in other countries would give an even better overview of the alignment on sustainability knowledge at IKEA.

The questions of the survey relate to surface and shallow knowledge level on sustainability. Deeper knowledge level on sustainability questions would be a stronger indication for alignment on sustainability knowledge. This, however, would require a more in-depth study, which is out of the scope of this research.

The design of the scoring system impacts the results. Most questions were on surface level and only few were on shallow level. Also more points could be earned by the shallow questions making them relatively more important. This affects the results on alignment. With more shallow level questions properly answered, the alignment score increases faster than with surface level questions. With too easy shallow questions this could give a false positive image on the alignment of sustainability knowledge. Similarly, too difficult shallow questions might give a false negative image on the alignment of sustainability knowledge.

The data consist mainly of respondents that are interested in sustainability. This makes the data skewed as the people without interest are not represented. A similar limitation exists in the reached people. There are employees that cannot access the intranet, nor

have access to email, nor read the focus newsletter that is send out each month (also to private email if there is no IKEA work-mail). It has been spread by the Social Ambassadors of the store of which some just did not have the time to do this. Possibly there might not have been a poster, table talker or message in the weekly local newspaper of the store. Still, 310 out of 5,500 employees responded (~5.6%).

Due to limited response in the stores (22 on average), analyses on detailed level (groups in a store) are not possible. However, on a more general level of the company this is acceptable to create an overview, which is one of the objectives of this study.

Lastly, the results show that formal groups are mostly similar whereas the informal groups are somewhat more different. However, it turned out that the most significant differences in alignment on sustainability knowledge were found in the successful knowledge transfer comparison, which could have been a more extensive part of the research. However, because this is a first overview of knowledge alignment on sustainability in a company, this could not be known prior to the research.

6 Conclusion

This study focused on the alignment of sustainability knowledge of employees in a company in relation to groups and successful knowledge transfer, where the main research question is:

How is the alignment of employees on sustainability knowledge in an organization influenced by groups and knowledge transfer?

The groups studied in this research were formal and informal groups. Part of the formal groups were different functional levels of employees, departments and the different store locations of the company. This study found that alignment seems mostly influenced in formal groups by the different functional levels. It showed that strategic functions are more aligned on sustainability knowledge than the operational functions. Differences between other formal groups were weak.

Furthermore, different levels of alignment were found in informal groups. This study distinguished age, working hours per week, educational background, level of interest and familiarity with training as part of informal groups. Especially familiarity with training and actually participation in training seems to dramatically improve the alignment on sustainability knowledge compared to those that are not familiar with training. Also, the younger age group (younger than 24) is more difficult to align than other age groups. As expected, more interest also means more alignment on sustainability knowledge in the company. Similarly, the more people work, the more aligned they get although this could have to do with the fact that one's function level (co-worker or management team) is related to the hours a person works per week, which also indicated improved alignment. No strong evidence was found for differences between educational backgrounds, meaning that this is not likely to influence the alignment on sustainability knowledge.

Finally, when more successful knowledge transfer occurs (i.e reading more regularly, know where to find information and have knowledge about initiatives of other stores) the people are more aligned on sustainability knowledge. This was the strongest result found and indicate the importance knowledge transfer on alignment of sustainability knowledge.

6.1 Further research recommendations.

This study has provided an overview of differences in alignment on sustainability knowledge in a company. A more in-depth study is suggested to assess the deep knowledge level in the company as deep knowledge usually leads to the best solutions according to the literature. An in-depth study of stores in companies can display some interesting insights in how they differ or are similar. It would also require to understand possible cultural differences inside the company for which work of Lozano (2008) could be used.

Another step in improving the alignment could be by the use of the balanced scorecard by Kaplan and Norton that is used to successfully implement corporate strategies (Figge, Hahn, Schaltegger, & Wagner, 2002). The Balanced Scorecard as a strategic management tool claims to identify the major strategically relevant issues of a business and to describe and depict the causal contribution of those issues that contribute to a successful achievement of a firm's strategy (Kaplan & Norton, 2000). Therefore, the balanced scorecard might help to make it more tacit for the company.

As the most significant differences on the alignment on sustainability knowledge occurred in the successful knowledge transfer comparison, it is suggested to further explore this area of research.

6.2 Advice to the company

Based on the outcomes of the research, it is advised to IKEA to consider the following.

Generally, employees are stronger aligned on the environmental dimension of sustainability but less on the social dimension. Despite the many initiatives, this is not conceived as such by many employees. Efforts should be made to make the social dimension more visible to increase the awareness of what initiatives are implemented locally, especially what the Social Ambassadors do. For example by training programs on People & Communities domain of the sustainability strategy.

As the management team is more aligned than co-workers, it appears that the current efforts are less effective for the co-workers. Similarly, training appears to be effective for improving this alignment but is not fully used yet as half of the employees indicated they are not familiar with sustainability training. Thus, the current training implementation needs improvement to increase the alignment on sustainability knowledge by ensuring that all employees will participate in the training. It is recommended that IKEA formulates a goal of 100% employees that are offered sustainability training.

No strong significant differences were found in the various stores and departments. The differences that were found should be further explored to derive the successful practices and improve in other stores and departments. A start for deeper examination of the stores would be the Heerlen store as they scored better in the survey and the Haarlem store as they scored lower in the survey. Therefore they biggest differences are expected to be found between these two stores. Further suggestions between departments could not be appointed as no strong differences resulted from the survey. More in-depth study would be needed to test on differences between deep knowledge levels in the departments.

The level of interest in sustainability influences the alignment positively. However, as not all levels were significantly represented, it is not possible to give very concrete advice, as it is unknown how the alignment is when there is no interest in sustainability. If this would be in fact the same trend, then it should be made more interesting to the employees and increase the level of importance from higher levels in the organization. This could also be integrated in HR when hiring new employees to assess their interest in sustainability before hiring new co-workers.

Regarding to age and educational background, only small differences were found. When targeting young people (younger than 24) to align on sustainability knowledge, this should be reevaluated as they score considerably lower. Other age groups showed no significant difference; therefore the knowledge is aligned similarly in these groups. It appears that the current efforts are having the same effect in alignment which should be continued.

The more successful knowledge transfer has led to better alignment on sustainability. Efforts in this area to improve the knowledge transfer such as easier access to knowledge sources and better search systems are encouraged as reading regularly and know where to find information on sustainability showed positive effect on the alignment

on sustainability knowledge. The exchange of knowledge between stores is not strong but have potential to improve the alignment of sustainability knowledge. More research in the communication and transfer of knowledge would be needed for more specific insights on which channels work best. Already the intranet and Tillsammans magazine are most used sources and should be sustained in its use. With the latest evolvements, the newly developed coworker app could be a strong new channel to reach the whole company. The needed knowledge on sustainability differs from person to person and requires different approaches. For example, people with more interest are more likely to search for the knowledge, for others this will require more active approaches.

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8 Appendix

8.1 Appendix I

Histograms and Q-Q plots of the data of the three domains including the normalization.

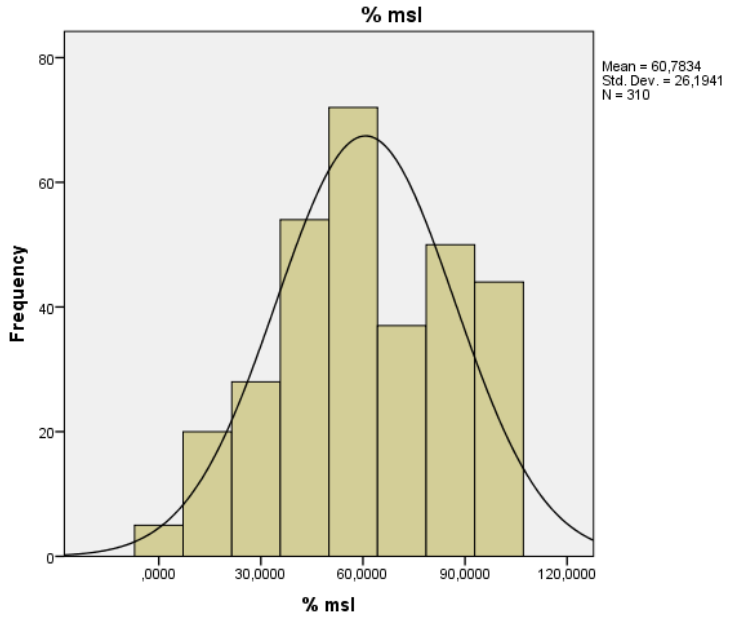

Figure 2 Histogram of More Sustainable Life at Home domain.

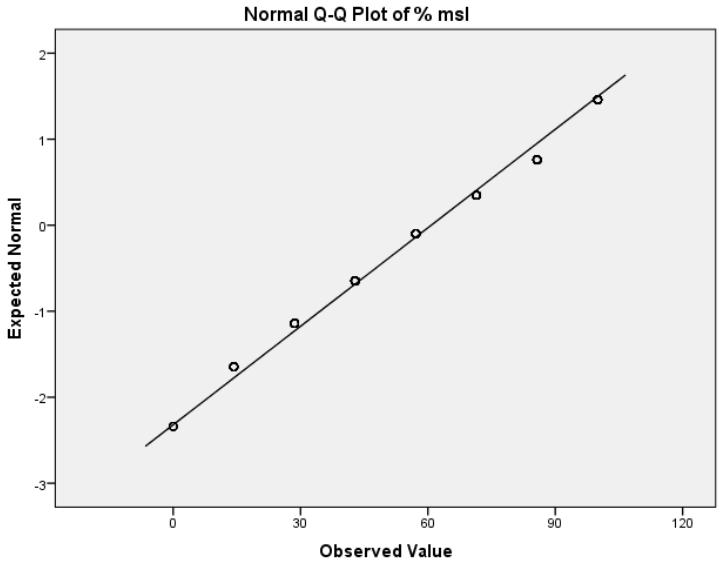

Figure 3 Q-Q plot of More Sustainable Life at Home domain.

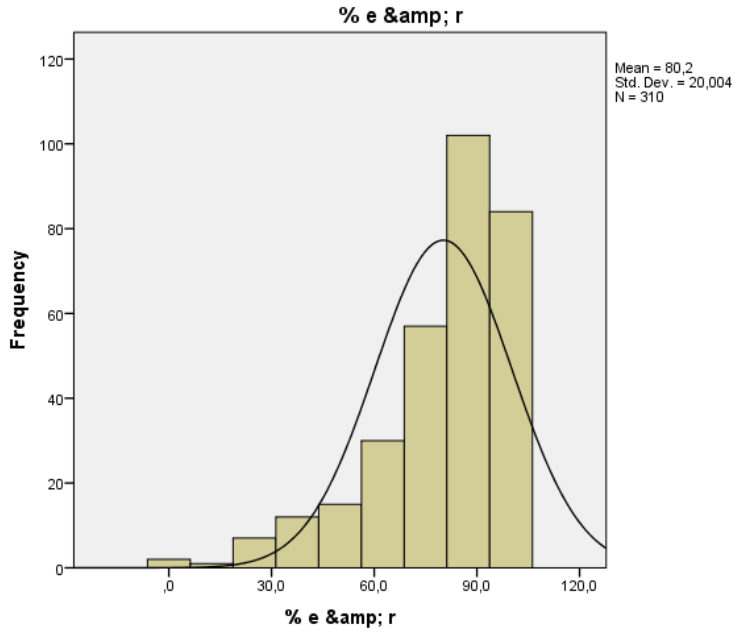

Figure 4 Histogram of Energy & Resource Independence domain.

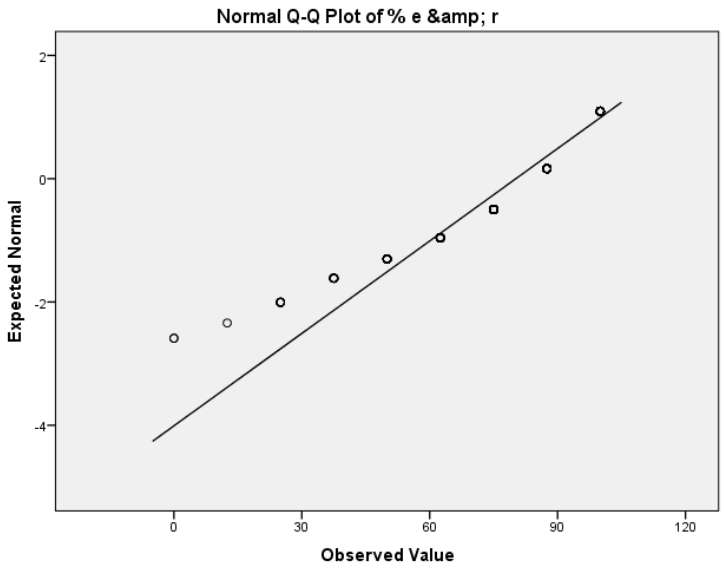

Figure 5 Q-Q plot of Energy & Resource Independence domain.

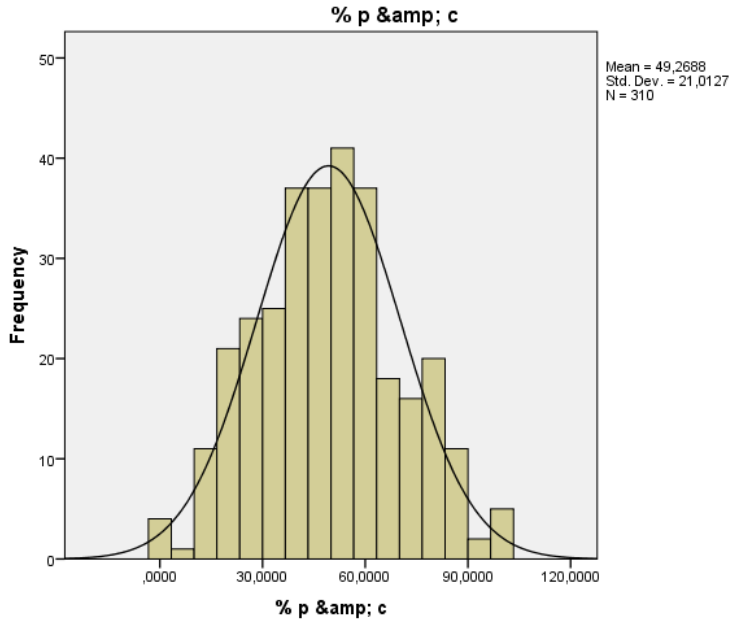

Figure 6 Histogram of People & Communities domain.

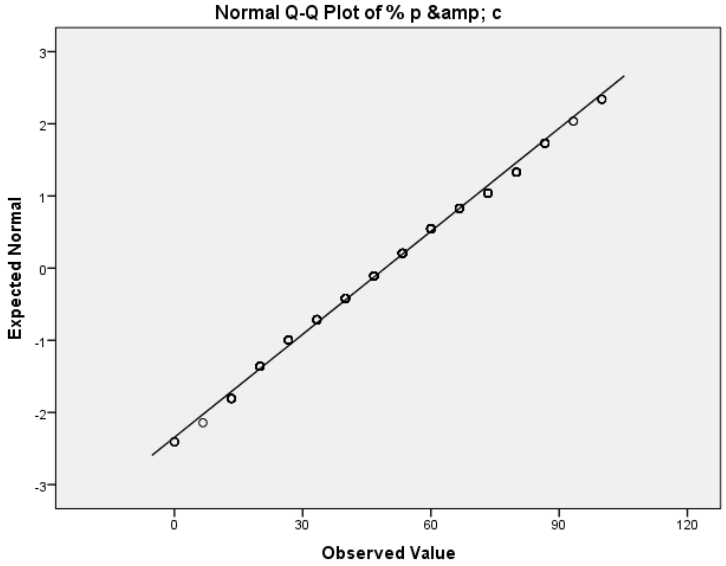

Figure 7 Q-Q plot of People & Communities domain.

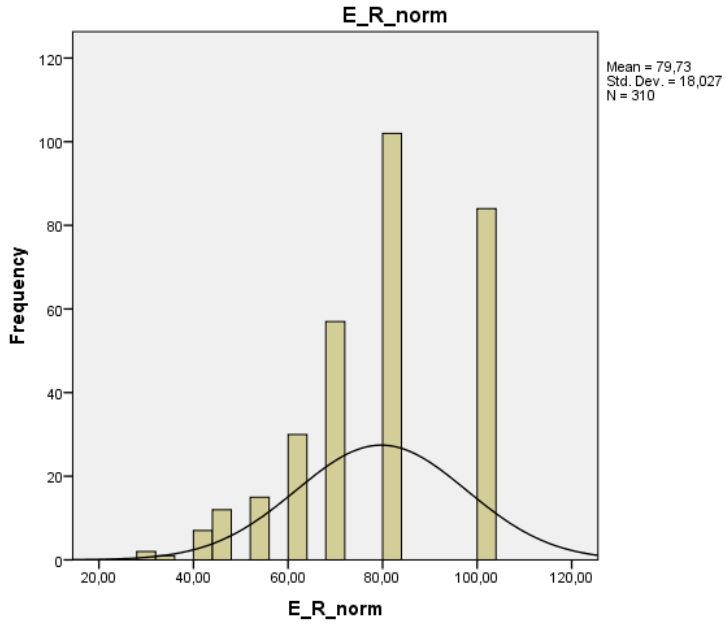

Figure 8 Histogram of normalized Energy & Resource Independence domain.

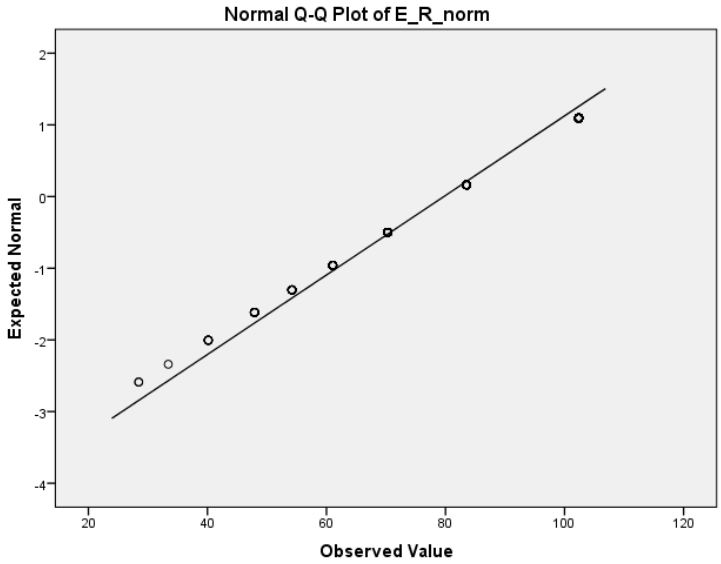

Figure 9 Q-Q plot of normalized Energy & Resource Independence domain.

8.2 Appendix II

Example of flyer, also used as table talker. Designed by the researcher.

8.3 Appendix III

Example of poster, used as promotion material for the survey. Designed by the researcher.

8.4 Appendix IV

Example of the survey.

1 Welke uitspraak past het best bij jou?

- Ik heb veel interesse in duurzaamheid
- Duurzaamheid vind ik interessant
- Ik heb enigszins interesse in duurzaamheid
- Duurzaamheid vind ik niet interessant
- Duurzaamheid vind ik totaal niet interessant

2 Ben je bekend met duurzaamheidstrainingen bij IKEA?

Ja – nee go to 4

3 Kan je aangeven wanneer je voor het laatst een duurzaamheidstraining hebt gehad?

- 0 - 6 maanden geleden
- 6 - 12 maanden geleden
- 12 - 18 maanden geleden
- Langer dan 18 maanden geleden
- Ik heb nog nooit een duurzaamheidstraining gehad

4 Welke definitie van duurzaamheid past het best bij jou?

- Duurzaamheid is hetzelfde als het maximaliseren van de winst op zowel de korte als de lange termijn
- Duurzaamheid is het doneren van winst aan goede doelen en daarbij verantwoording afleggen
- Duurzaamheid is goed zorgen voor het milieu via derde partijen met zowel geld als kennis
- Duurzaamheid is zorgen voor behoeftes van nu en de behoeftes van toekomstige generaties op het gebied van economische, ecologische en maatschappelijke aspecten.

5 Kan je aangeven met welke partners IKEA samenwerkt? (Er zijn meerdere antwoorden mogelijk)

Unicef – Greenpeace - Save the Children – WNF - Oxfam Novib - Geen van allen

6 Kan je van de volgende stellingen aangeven of deze volgens jou waar of niet waar zijn?

Duurzaamheid is belangrijk voor IKEA om op lange termijn te kunnen blijven groeien

De verwachtingen van IKEA ten opzichte van samenwerkende partijen staan beschreven in IWAY

7 Kan je aangeven hoe sterk de volgende aspecten terugkomen in je eigen werk?

Commercieel aspect - Milieu aspect - Mens aspect

8 Hoe zou je je eigen werk beoordelen op de volgende aspecten?

Ik weet wat ik in mijn eigen werk kan doen om de impact op het milieu te reduceren

Ik weet wat ik in mijn eigen werk kan doen om de impact op de maatschappij te reduceren

9 In hoeverre ben je het eens met de stelling: IKEA wil haar klanten inspireren om thuis duurzamer te leven

10 Ben je op de hoogte dat IKEA een 'duurzamer leven thuis' producten lijn heeft?

Ja – Nee go to 12

11 Kan je van de volgende producten aangeven of ze in de 'duurzamer leven thuis' lijn zitten?

LEDARE (lamp) - DALSKAR (kraan) - IKEA 365+ (servies) - FROSTIG (koelkast) - IKEA PS 2002 (gieter) - SORTERA (afvalbak) - FARGLAV (badlaken) - FRACK (spiegel) - IKEA PS 2014 (plantenkas) - PATRIK (vergaderstoel)

12 Welk van de volgende uitspraken past volgens jou het best bij IKEA?

- IKEA heeft de 'duurzamer leven thuis' producten range om hiermee een nieuwe markt aan te boren en daarmee handig inspringt op een nieuwe trend
- IKEA heeft de 'duurzamer leven thuis' producten range om mensen te kunnen helpen met het reduceren van energie, water en afval voor een zo laag mogelijke prijs.
- IKEA heeft de 'duurzamer leven thuis' producten range om hierdoor haar verantwoordelijkheid te nemen als multinational
- IKEA heeft de 'duurzamer leven thuis' producten om dit te gebruiken als marketinginstrument
- IKEA heeft de 'duurzamer leven thuis' producten range omdat dit verplicht is vanuit de Europese richtlijnen.

13 In hoeverre ben je het eens met de volgende stelling: IKEA is bezig om in haar bedrijfsvoering energie en materiaal onafhankelijker te worden.

14 In hoeverre ben je het eens met de volgende stellingen?

- Door het slimmer ontwerpen van onze producten reduceren we ons afval
- Door het slimmer ontwerpen van onze producten hebben we minder grondstoffen nodig
- Afval scheiden reduceert de kosten voor IKEA
- Ik weet hoe ik mijn afval moet scheiden

15 Welk van de volgende uitspraken past volgens jou het best bij IKEA?

- IKEA wil in haar bedrijfsvoering energie en materiaal onafhankelijker worden om hierdoor op de lange termijn toegang te blijven behouden tot materialen die nodig zijn voor haar operaties.
- IKEA wil in haar bedrijfsvoering energie en materiaal onafhankelijker worden omdat dit moet vanwege internationale afspraken met betrekking tot energie- en materiaalhandel
- IKEA wil in haar bedrijfsvoering energie en materiaal onafhankelijker worden omdat dit de huidige trend is in de manier van handelen
- IKEA wil in haar bedrijfsvoering energie en materiaal onafhankelijker worden want dit is veiliger voor de medewerkers omdat hierdoor minder energie en materiaal gebruikt hoeft te worden

16 In hoeverre ben je het eens met de stelling: IKEA is bezig om het leven van mensen en gemeenschappen te verbeteren.

17 Onze vestiging draagt haar steentje bij aan lokale sociale initiatieven.

Waar – niet waar go to 19 – geen idee go to 19

18 Kan je een voorbeeld geven van één van de sociale initiatieven?

Ja ……. - Nee

19 Onze vestiging heeft een ambassadeur mens en maatschappij (ook wel: social ambassador).

Waar

Niet waar - Go to 21

Geen idee - Go to 21

20 Kan je een initiatief/activiteit van de ambassadeur noemen?

Ja ……. - Nee

21 Kan je aangeven met welke certificaten van derde partijen IKEA Nederland samenwerkt? (Er zijn meerdere antwoorden mogelijk)

UTZ – Fairtrade - Max Havelaar - Beter Leven – MSC – ASC – FSC – BCI - Blue Angel - Energy Star – LEED - Geen van alle

22 Welk van de volgende uitspraken past volgens jou het best bij IKEA?

- IKEA zet zich in voor mensen en de gemeenschap om het leven te verbeteren voor alle mensen in de waardeketen en daarbuiten
- IKEA zet zich in voor mensen en de gemeenschap omdat dit moet vanuit humanitaire richtlijnen
- IKEA zet zich in voor mensen en de gemeenschap omdat dit een trend is in de markt en gunstig is om te volgen
- IKEA zet zich in voor mensen en de gemeenschap omdat dit voor betere klantbinding zorgt

23 In hoeverre ben je het eens met de onderstaande stellingen?

- Ik ben op de hoogte van wat er gebeurt op het gebied van duurzaamheid bij andere IKEA vestigingen in Nederland
- Als ik meer wil weten over duurzaamheid bij IKEA weet ik waar ik dat moet vinden
- Ik lees regelmatig iets over duurzaamheid bij IKEA

24 Op welke manier word je op de hoogte gehouden over duurzaamheid binnen IKEA?

Prive Email - IKEA Email - IKEA Inside – Tillsammans - Roll Call – WebEx – Yammer - Social Media (Facebook, Twitter etc.) - Training/Workshops - Anders, namelijk...

25 Wat is je leeftijd?

<24 jaar 25 - 34 jaar 35 - 44 jaar 45 - 54 jaar 55 - 64 jaar >65 jaar

26 Wat is je geslacht?

Man Vrouw

27 Wat is je hoogst afgeronde opleiding?

Basisschool – VMBO – Havo – VWO – MBO – HBO – WO

28 Bij welke vestiging ben je werkzaam?

Amersfoort – Amsterdam – Barendrecht – Breda – CSC – Delft – Duiven – Eindhoven – Groningen – Haarlem – Heerlen – Hengelo – SO – Utrecht – Zwolle

29 Op welke afdeling ben je werkzaam?

Sales – HR – FOOD – Klantenservice – Logistiek – Business Navigation – Com&In – Anders, namelijk...

30 Wat is je functietype?

MT – Teammanager – Specialist – Co-worker

31 Hoeveel uur per week werk je?

1 - 12 uur per week 13 - 24 uur per week 25 - 31 uur per week 32 - 35 uur per week Meer dan 35 uur per week

32 Heb je verder nog op- of aanmerkingen over dit onderzoek of hoe wij je beter kunnen informeren over activiteiten rondom duurzaamheid? Dan horen wij dit graag.

8.5 Standard Multiple Linear Regression (SMLR)

The standard multiple linear regression was performed to assess how much the alignment scores of knowledge on sustainability in the three different domains can be explained by multiple independent variables. These independent variables are the different formal and informal groups as well as knowledge transfer factors. These results are discussed in the next subsections.

8.5.1 SMLR – Formal groups

For the More Sustainable Life at Home domain as dependent variable and formal groups (functions, departments and stores) as independent variable, the regression was not significant (F = 1,77 and p = .153). For this domain, the formal groups in the regression model cannot explain the alignment on sustainability knowledge.

For the Energy & Resource Independence domain as dependent variable and formal groups (functions, departments and stores) as independent variable, the regression was significant (F = 3.73 and p = .012) without autocorrelation (d = 1.82). The model as a whole explained between 2.6% (Adjusted R Square) and 3.5% (R Square). As shown in Table 33 only one of the three independent variables made a unique contribution to the model, which is function type (t = 2.25, p = .025), recording a Beta score of .127 without violating the tolerance level (tolerance = .980).

Table 33 Coefficients of ERI domain regression with formal groups.

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	70,371	3,233		21,765	,000***		
	Function_type_nmbr	2,509	1,118	,127	2,245	,025**	,980	1,021
	Department_nmbr	,877	,457	,109	1,918	,056*	,973	1,027
	Store_nmbr	,323	,257	,071	1,255	,211	,993	1,007
a. Dependent Variable: E_R_norm *** p < .1 ** p < .05 *** p < .01**								

For the People & Communities domain as dependent variable and formal groups (functions, departments and stores) as independent variable, the regression was significant (F = 19.13 and P = .000) without autocorrelation (d = 1.71). The model as a whole explained between 15.0% (Adjusted R Square) and 15.8% (R Square). As shown in Table 34 only one of the three independent variables made a unique contribution to the model, which is function type (t = 7.37, p = .000), recording a Beta score of .391 without violating the tolerance level (tolerance = .980).

Table 34 Coefficients of PPL Com domain regression with formal groups.

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	32,789	3,521		9,312	,000***		
	Function_type_nmbr	8,969	1,217	,391	7,370	,000***	,980	1,021
	Department_nmbr	,324	,498	,035	,650	,516	,973	1,027
	Store_nmbr	,190	,280	,036	,679	,498	,993	1,007
a. Dependent Variable: % p & c *** p < .1 ** p < .05 *** p < .01**								

Regarding the formal groups, only function type significantly contributes to the alignment on sustainability knowledge in two of the three domains. Departments and stores do not significantly ($p < .05$) contribute.

8.5.2 SMLR – Informal groups

For the More Sustainable Life at Home domain as dependent variable and informal groups (level of interest, training, age, education, working hours) as independent variable, the regression was significant ($F = 2.53$ and $p = .029$) without autocorrelation ($d = 1.83$). The model as a whole explained between 2.4% (Adjusted R Square) and 4.0% (R Square). As shown in Table 35 none of the five independent variables made a unique contribution to the model ($p < .05$). The strongest predictor of reporting alignment on sustainability was training ($t = 1.84$, $p = .067$), recording a Beta score of .107 without violation of tolerance (tolerance = .936).

Table 35 Coefficients of MSL domain regression with informal groups.

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	43,958	8,394		5,237	,000***		
	Interesse_nmbr	3,480	2,101	,097	1,656	,099*	,936	1,068
	Training_nmbr	1,834	,998	,107	1,838	,067*	,936	1,069
	Age_group_nmbr	1,196	1,411	,052	,848	,397	,835	1,197
	Education_nmbr	,211	1,165	,011	,181	,857	,883	1,133
	Hours_nmbr	1,102	1,084	,062	1,017	,310	,854	1,171
a. Dependent Variable: % msl *** p < .1 ** p < .05 *** p < .01**								

For the Energy & Resource Independence domain as dependent variable and informal groups (level of interest, training, age, education, working hours) as independent variable, the regression was significant ($F = 9.60$ and $p = .000$) with slight autocorrelation ($d = 2.08$). The model as a whole explained between 12.4% (Adjusted R Square) and 13.8% (R Square). As shown in Table 36 two of the five independent variables made a unique contribution to the model. The strongest predictor of reporting alignment on sustainability was training ($t = 3.94$, $p = .000$), recording a Beta score of .218 without violation of tolerance (tolerance = .936).

Table 36 Coefficients of ERI domain regression with informal groups.

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	66,948	5,419		12,354	,000***		
	Interesse_nmbr	4,519	1,357	,185	3,331	,001***	,936	1,068
	Training_nmbr	2,539	,644	,218	3,942	,000***	,936	1,069
	Age_group_nmbr	1,286	,911	,083	1,411	,159	,835	1,197
	Education_nmbr	-1,041	,752	-,079	-1,383	,168	,883	1,133
	Hours_nmbr	,832	,700	,069	1,189	,235	,854	1,171
a. Dependent Variable: E_R_norm *** p < .1 ** p < .05 *** p < .01**								

For the People & Communities domain as dependent variable and attributional groups (level of interest, training, age, education, working hours) as independent variable, the regression was significant ($F = 25.24$ and $p = .000$) without autocorrelation ($d = 1.87$). The model as a whole explained between 28.4% (Adjusted R Square) and 29.6% (R Square). As shown in Table 37 all five independent variables made a contribution to the

model. The strongest predictor of reporting alignment on sustainability was training (t = 6.42, p = .000), recording a Beta score of .322 without violation of tolerance (tolerance = .936).

Table 37 Coefficients of PPL Com domain regression with informal groups.

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	6,804	5,771		1,179	,239		
	Interesse_nmbr	4,788	1,445	,166	3,314	,001***	,936	1,068
	Training_nmbr	4,404	,686	,322	6,422	,000***	,936	1,069
	Age_group_nmbr	2,260	,970	,123	2,330	,020**	,835	1,197
	Education_nmbr	2,235	,801	,144	2,790	,006***	,883	1,133
	Hours_nmbr	2,938	,745	,207	3,944	,000***	,854	1,171
a. Dependent Variable: % p & c *** p < .1 ** p < .05 *** p < .01**								

Regarding the informal groups, training and level of interest significantly contributes to the alignment on sustainability knowledge in two of the three domains. Age, type of education and hours that people work contribute also significantly in one of the three domains.

8.5.3 SMLR – Knowledge transfer

For the More Sustainable Life at Home domain as dependent variable and transfer of knowledge (reading regularly, know where to find information on sustainability, know about initiatives of other stores) as independent variable, the regression was significant (F = 7.15 and p = .000) without autocorrelation (d = 1.85). The model as a whole explained between 5.6% (Adjusted R Square) and 6.6% (R Square). As shown in Table 38, two of the three independent variables made a unique contribution to the model. The strongest predictor of reporting alignment on sustainability was reading regularly about sustainability (t = 2.63, p = .009), recording a Beta score of .162 without violation of tolerance (tolerance = .806).

Table 38 Coefficients of MSL domain regression with succesful knowledge transfer.

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	33,773	6,370		5,302	,000***		
	Read_nmbr	4,707	1,788	,162	2,633	,009***	,806	1,241
	Where2find_info	4,050	1,676	,158	2,417	,016**	,713	1,402
	Sust_otherstores	-,852	1,605	-,033	-,530	,596	,775	1,290
a. Dependent Variable: % msl *** p < .1 ** p < .05 *** p < .01**								

For the Energy & Resource Independence domain as dependent variable and transfer of knowledge (reading regularly, know where to find information on sustainability, know about initiatives of other stores) as independent variable, the regression was significant (F = 23.96 and p = .000) without autocorrelation (d = 1.98). The model as a whole explained between 18.2% (Adjusted R Square) and 19.0% (R Square). As shown in Table 39 two of the three independent variables made a unique contribution to the model. The strongest predictor of reporting alignment on sustainability was reading regularly about sustainability (t = 4.94, p = .000), recording a Beta score of .283 without violation of tolerance (tolerance = .806).

Table 39 Coefficients of ERI domain regression with succesful knowledge transfer.

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	46,065	4,081		11,288	,000***		
	Read_nmbr	5,653	1,145	,283	4,936	,000***	,806	1,241
	Where2find_info	2,744	1,073	,156	2,556	,011**	,713	1,402
	Sust_otherstores	2,001	1,028	,114	1,946	,053*	,775	1,290
a. Dependent Variable: E_R_norm *** p < .1 ** p < .05 *** p < .01**								

For the People & Communities domain as dependent variable and transfer of knowledge (reading regularly, know where to find information on sustainability, know about initiatives of other stores) as independent variable, the regression was significant (F = 20.87 and p = .000) without autocorrelation (d = 1.87). The model as a whole explained between 16.2% (Adjusted R Square) and 17.0% (R Square). As shown in Table 40 two of the three independent variables made a unique contribution to the model. The strongest predictor of reporting alignment on sustainability was reading regularly about sustainability (t = 4.80, p = .000), recording a Beta score of .278 without violation of tolerance .806.

Table 40 Coefficients of PPL Com domain regression with succesful knowledge transfer.

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	12,851	4,816		2,668	,008***		
	Read_nmbr	6,488	1,352	,278	4,799	,000***	,806	1,241
	Where2find_info	4,174	1,267	,203	3,294	,001***	,713	1,402
	Sust_otherstores	,218	1,214	,011	,180	,858	,775	1,290
a. Dependent Variable: % p & c *** p < .1 ** p < .05 *** p < .01**								

Regarding knowledge transfer, reading regularly and knowing where to find information on sustainability knowledge significantly contributes to the alignment on sustainability knowledge in all three domains.

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