

MULTIPLE CERTIFICATION CHALLENGES

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Author: Baudewijn Andris Stelma
Student number: 880903101
stelma@live.nl
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The figure on the cover illustrates the challenges faced by Stiho to get rid of the problems and to have the courage to cut the knot of certification and management problems.

Source: *Alexander cuts the Gordian Knot*, by Jean-Simon Berthélemy (1743–1811).

Wikipedia: The Gordian Knot is a legend of Phrygian Gordium associated with Alexander the Great. It is often used as a metaphor for an intractable problem solved easily by "thinking outside the box" ("cutting the Gordian knot").

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LIST OF ABBREVIATIONS

BVP:	Balie Verkoop Punten
CE:	Conformité Européenne
CoC:	Chain of Custody
DC:	Distribution Center
FSC:	Forest Stewardship Council
KOMO:	Quality Declarations Organization for Building Materials and Components
Nbvt:	Nederlandse Bond van Timmerfabrikanten
PEFC:	Programme for the Endorsement of Forest Certification schemes
QMS:	Quality Management System
SGS:	Société Générale de Surveillance
SKH:	Stichting Keuringsbureau Hout
VVNH:	Vereniging Van Nederlandse Houtondernemingen (Association of Dutch Timbercompanies)

ABSTRACT

From companies in the Dutch timber branch, it is more and more expected that they offer certified timber or wood products. Stihl, an active player in the Dutch supply of building products, is therefore multiple certified. Having multiple certifications has great impact on the company caused by the different requirements which all have to be implemented at the operational levels of the company. The combination of certification differences and management problems show the difficulty of the subject. Being multiple certified requires additional effort to all levels of the company. Different types of certification require various approaches. This study determined the differences and similarities between certificates on the main important points for Stihl. The Chain of Custody (CoC) certification schemes FSC, PEFC and Keurhout were compared. And the product certification schemes concerning stress grading CE and KOMO as well. Besides that, the voluntary memberships of Stihl, FSC The Netherlands and the VVNH, were discussed.

The research methodology chosen consisted of three steps: a literature review, interviews and observations, and conclusions and recommendations. Furthermore, it was investigated how Stihl handles the requirements of the certifications in the area of internal communication, education, internal and external reporting, and planning and organization of internal and external audits. Based on interviews and conversations with employees of Stihl several problems were defined in the internal organization.

The results indicate that the primary goals of both CoC certifications and product certifications differ. The main goals of the certifications differ: Social responsibility (FSC), Economical viability (PEFC), and the legality aspect (Keurhout). Import figures show that the market share of FSC and PEFC certified products is high. Keurhout is losing market share and seems to become superfluous in the future. The top down approach of FSC is noticeable in all aspects because everything is prescribed in detail. The bottom up approach of PEFC is totally different and gives possibilities to develop own solutions. The obligatory nature of the CE certification makes it inevitable. KOMO, however, is voluntary based and the value of this certificate has to be estimated by investigating the turnover rate in relation to direct and indirect costs. Determining the value is also important for Keurhout.

The internal communication around certifications of Stihl is complexly arranged with the product manager as the backbone and source of information. The coordinates the correct implementation of new procedures with other managers. There is no clear sight on the actual implementation of the procedures. There is hardly any feedback about how procedures are functioning in practice. Existing possibilities within the company for communication, education and marketing are not fully utilized.

External communication is arranged with organizations for accreditation (SGS and SKH) and the membership organizations (VVNH and FSC The Netherlands). These organizations have to be kept informed about turnover figures (SGS and SKH), import figures (VVNH) and Stihl's goals in promoting FSC (FSC The Netherlands). The number of parties increases the complexity. It is recommendable that Stihl reduces the number of accreditation boards to one.

The results indicate that not only the requirements of certification schemes are causing complexities, but, first and foremost, the internal management and communication processes. The actualization of information seems not to penetrate into the lower levels of the company. Processes need to be better integrated and aligned to be able to comply with the requirements of the certifications and to be able to streamline required certification procedures. Improving the transfer of information and education to employees would help to take away irritation and ease the fulfillment of requirements. A change in mindset is needed. Certification is valuable for Stihl if it is valuable for Stihl's customers.

1 INTRODUCTION

Since their introduction in the 80's and 90's, certification schemes for wood related products have gone through a fast growing development. Having certified products in stock is very beneficial for supplying companies, both wholesalers and distributors, and is an efficient marketing tool (Rametsteiner, 2003). Companies without a single certificate are more an exception in the timber trade than companies with one, two, or multiple certifications in their product range. This indicates the importance of being certified for companies active in the timber trade.

1.1 THE COMPANY

Nowadays many companies are multiple certified to be able to mainly serve the building branch in their needs. An example of such a company is Stiho. Stiho is a wholesaler which supplies wood related products and other building materials to companies active in the construction branch. Stiho makes use of a number of certification schemes, namely Chain of Custody (CoC)-certifications and product certifications schemes concerning stress grading. Besides certified wood, Stiho offers uncertified timber.

The Stiho Groep is a family owned organisation supplying companies in the building industry, mainly contractors. The company was founded in 1926 by Gerrit Sijbrand Pelt as the 'Stichtse Houthandel', and was located in a basement at the 'Oudegracht' in the centre of Utrecht, The Netherlands. At the moment, the Stiho Groep has around 750 employees in different departments and sub-companies.

Due to the takeover of some companies the Stiho Groep emerged. Nowadays the Stiho Groep consists of three sub companies, briefly:

Stiho and Giebels

Stiho is a supplier of building materials, wood and board materials. Giebels, a supplier for metals and tools, was recently incorporated into Stiho to be able to offer the complete range of products. Materials can either be picked up at the drive ins or are delivered to the customer.

Baars en Bloemhoff

Baars en Bloemhoff is a specialized supplier in luxury board materials, mainly for decoration purposes. Board with a top layer of veneer and countertops are examples of products.

Bouwmaat

Bouwmaat is supplying smaller customers which are active in the building branch. Bouwmaat is a franchise company. The Stiho group is franchise taking 16 of in total 46 shops.

The yearly turnover in 2010 was € 225,9 million for the whole Stiho Groep.

Timber related products have one of the largest shares in the product range of Stiho, approximately 60%. These timber related products consist of construction wood, board materials, window frames, doors and cladding. These product groups have their origin all over the world.

1.2 THE CERTIFICATIONS SCHEMES

Within the different certification schemes, we can define two groups: certification schemes which guarantee the CoC and product certification schemes concerning stress grading.

CoC certifications

CoC certification is part of forest certification which is linked to the trade to guarantee that the traded volume has its origin from certified forests. A CoC certificate allows companies to prove that their specified volume is traceable and comes from a responsibly managed forest. The flow of these products needs to be traceable in processes of the company which are both externally or internally organized. Monitoring and documenting this

flow is strictly required and therefore a major task. The certifications in this group used at Stiho are FSC (since 2007), PEFC (since 2011) and Keurhout (since 2006) (Figure 1).

Product certifications

Product certifications have similar restrictions but are more focusing on the product itself than the origin of the product. The certifications in this group used at Stiho are CE (since 2012) and KOMO (Figure 1). These certification schemes, however, are in some cases obligatory by law (CE) or designed to meet the requirements for the use for construction purposes (KOMO), which are decreed in the Dutch legislation. In 2012, the CE regulation became obligatory for wood with construction purposes.

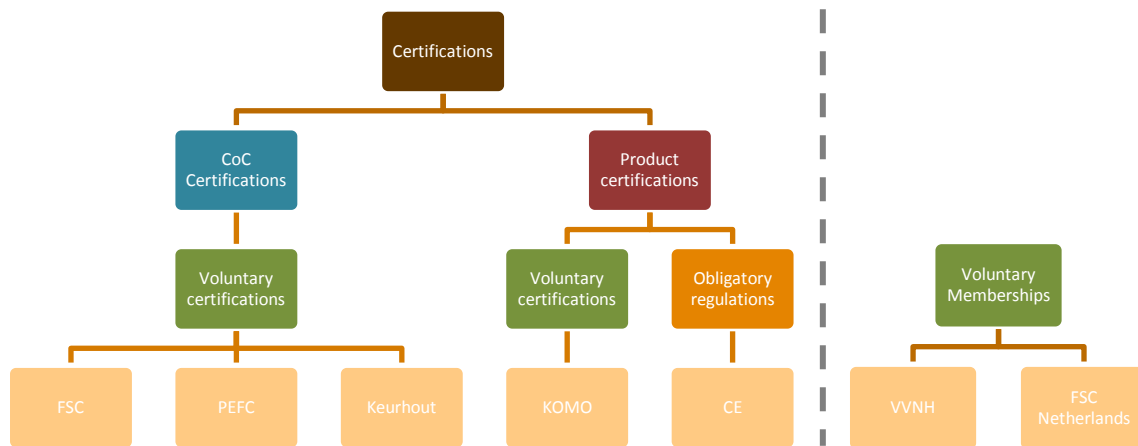


Figure 1: Certifications and memberships of Stiho and their allocation

Memberships

Beside the certifications Stiho takes part in two memberships (Figure 1). The character of these memberships is voluntary. The VVNH is the association representing affiliated timber companies. FSC Netherlands is the Dutch equivalent of FSC International. Being affiliated with these organizations conveys mainly the benevolence of Stiho towards sustainability in timber harvesting and trade and have thereby the same purpose as the certification schemes, promoting the sustainability.

Accreditation

Audits for the different certification schemes are done by SKH or SGS, the accreditation bodies. SGS audits FSC and Keurhout, SKH audits PEFC, CE and KOMO.

1.3 PROBLEM DESCRIPTION

Multiple certification is causing complex situations within Stiho. Current experiences have shown that it is complicated to comply to all the requirements in practice. Thereby there are known difficulties in the education of employees for instance. Stiho noticed that employees are often not motivated to participate in training programmes and the programs are not always geared to their needs.

In the last five years a substantial amount of organizational changes have been made related to certifications. Two new certification schemes have been introduced. PEFC was introduced a couple of years ago, the obligatory CE has been introduced recently. The introduction of these two certification schemes effected many changes in the company's organization. Stiho currently offers six different kinds of timber, five certified and one uncertified.

Because the various certifications have been introduced separately with an intervening period of usually several months or years, their introduction led to expansion of current procedures and administrative tasks. In addition to that, employees have difficulties distinguishing the various certifications and their requirements during their work. All different certifications have their own way of categorizing and publishing their

information, so it is hard to match equivalent processes. In addition to this, there are different procedures related to the different certification labels. This can lead to administrative complexity within the company.

The introduction of the mandatory CE marking in 2012 increased the need for a structured approach. Taking into account the recent political developments on regulations about legality and sustainability, more regulations and mandatory certification can be expected in the future.

1.4 PURPOSE OF THE STUDY

The criteria of the certifications are slightly different with respect to the extent of the criteria, their standards and the required procedures. This results in complexities in the different operational departments and in the management department and in the communication between these departments.

The purpose of this research is to investigate which complexities multiple certificated companies like Stiho face and to recommend possible solutions.

The research focuses on:

- Internal communication
- Education
- Internal and external reporting
- Planning and organization of internal and external audits

The research will yield directions for solutions.

This thesis is carried out at Stiho because their situation is a good example of comparable companies within their branch.

1.5 RESEARCH QUESTIONS

The following research questions will be addressed:

Main question:

How can Stiho, a multiple certified company, solve complexities caused by the use of various certificates, regulations and policies?

Sub questions:

1. *What are the differences and similarities between the certificates, regulations and policies used at Stiho?*
2. *How is the internal communication about certificates, regulations and policies arranged?*
3. *How is the reporting arranged and communicated toward external parties?*
4. *What problems are caused by multiple certification within the organization?*
5. *Which improvements can be made to solve the problems caused by multiple certification in terms of communication, reporting, planning and education?*

1.6 REPORT OUTLINE

The first chapter is the introduction with objectives and research questions. In chapter two, the research methodology will be explained. This is followed by the results about the investigations of the differences of the certifications in chapter three. This chapter is divided into two parts; a part about the CoC certificates and a part about the product certificates. Chapter four is about internal communication followed by chapter five about the communication towards external parties. Chapter 7 contributes to improvements with a number of recommendations based on the conclusions written in chapter 6. In chapter 8 discussions and a final conclusion will answer the main question of this research.

2. RESEARCH METHODOLOGY

This chapter will explain the methodologies used in this research project. The scope of the study is indicated first. After that the steps this study consists of are explained.

2.1 SCOPE OF THE STUDY

The scope of this study are the five different certification schemes, widely used in the Dutch timber trade and building branch: FSC, PEFC, Keurhout, KOMO en CE. The research is divided into three steps (Figure 2), each representing a phase. These steps result in different insights on the subject by using several types of approach: literature review, interviews and discussion of the outcome, resulting in interim conclusions. Based on these interim conclusions final conclusions and recommendations are formulated.

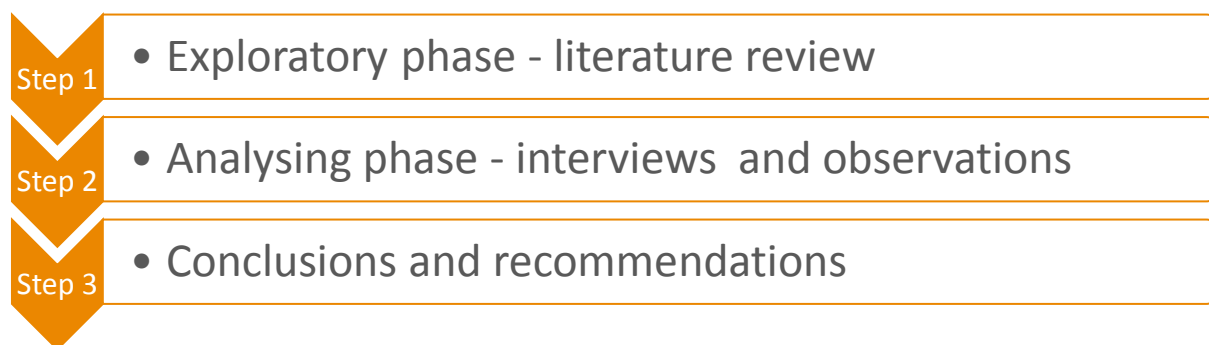


Figure 2: Research Steps

2.2 STEP 1 - EXPLORATORY PHASE

This step is about determining required information, collection of information, the comparison about the different certifications and the interim conclusions.

2.2.1 DETERMINING REQUIRED INFORMATION

The required information for this step was defined through comparing corresponding information between the different certification schemes. The most comprehensive certification scheme formed the basis for determining required information, where less comprehensive certifications schemes were paralleled to this scheme. Besides that, Stiho indicated the for them most important information. By combining these two factors the minimum required information was determined.

2.2.2 COLLECTION OF INFORMATION

As a first step the internally available information was collected, information which is available for all people working at Stiho on intranet (internally known as: Joost). This also gave an indication of the measure of availability of internal information. After checking the availability of information internally, all needed information was gathered, and if already internally available validated on actuality and applicability, via external resources. The information was categorized according to the different certificates and if possible by similar terminology.

2.2.3 COMPARING

The most important information gathered in this research was used in a comparison. The main information source for this comparison consisted of the audit forms and the certificate standards. Due to the limitations defined in the focus of this research (see § 1.4) only relevant subjects were part of this comparison. The relevancy of information was determined by answering the question: *Does this directly relate to one of the following departments (see next page)?*

These departments are:

- *Purchasing*
- *Marketing*
- *Human resources*
- *Logistics*
- *Sales*
- *Assortment*
- *Distribution*

2.2.4 INTERIM CONCLUSION

After categorizing the information there was a possibility for drawing interim conclusions. These conclusions were important for the following two steps of this investigation.

After drawing these interim conclusions it was possible to determine whether the focus of the study was still sufficiently narrow for the desired outcome and scope of this study.

2.3 STEP 2 - ANALYZING PHASE

Step 2 focused on how personnel of Stihl is working with the procedures required by the standards of the certifications. Furthermore, it was assessed how employees perceive these in their working environment during carrying out their tasks. The method was a structured interview and personal observations.

2.3.1 SELECTION OF PEOPLE

Based on the pre-selected departments (see § 2.2.3) that are related to the certifications in one way or the other, the key persons for interviewing were selected, based on their role in the company and the required outcome of the interview sessions.

The aim of the interviews was in the first place to be able to get answers to the sub questions 2, 3, and 4. In the second place, the preferred outcome of this part was to check if the interim conclusions made at the end of step 1 were correct. Based on the outcome of this check, some additional people were selected for these interviews as well.

The following people were interviewed:

	Function	Location
1	Account manager	Utrecht
2	Intern communication	Nieuwegein
3	Education	Nieuwegein
4	Employee drive-in store (BVP)	Nieuwegein
5	Employee incoming goods	Utrecht
6	Hardwood/FSC specialist (RPS)	Utrecht
7	Head of sales	Utrecht
8	Logistic regional manager	Gilze
9	Operational Manager drive-in stores (BVP)	Nieuwegein
10	Manager logistic department	Nieuwegein
11	Purchaser board material	Nieuwegein
12	Quality manager	Nieuwegein
13	Softwood/CE specialist (RPS)	Utrecht

2.3.2 GENERATING QUESTIONS

The interviews were held in a structured way, using a number of standard questions which were related to four topics. These topics were:

- Availability of information
- Internal procedures
- Internal communication about certificates
- Education

Sometimes the questions needed to be adapted according to the function of the employee. The information gathered in the interviews was analyzed and combined to reach conclusions about the functioning of Stiho's internal communication and other field of interest. The interviews were recorded and these recordings were worked out later on to draw conclusions. The input from these interviews is incorporated in the results of this research, but not literally. Whenever possible, the sources are indicated in the results. The basic questionnaire is included in appendix 1.

2.3.3 FIELD RESEARCH

Visits to distribution centres of Stiho have been undertaken. Working methods and procedures related to certifications were observed at various departments and phases in the order process. During external audits, the method of auditing was observed and points of interest.

2.4 STEP 3 - CONCLUSION AND RECOMMENDATIONS

Finally, from the information gathered in the literature study, the interviews and the field work, conclusions were drawn to be able to answer sub question 5 and the main question. Some of the conclusions were drawn by combining observations made during the course of the research project and information from different interviews. These are personal observations from the researcher which have to be verified by Stiho. Based on the conclusions, recommendations are formulated.

3 CERTIFICATION DIFFERENCES

Differentiating the types of certifications possessed by Stihl into CoC certificates and product certificates is needed to define differences and similarities between these certificates. At the end of the chapter the interim conclusions of these two groups are combined in a final conclusion.

Certification schemes serve the market with their brands as being a sustainable business partner for both the supplier and the customer. The customer can be assured of a well-qualified company which is regularly assessed according to a specified set of rules which contain both social, sustainable and environmental friendly values. The main goal of the certificates is to distinguish from non-certificated products so the customer is able to choose which kind of product they want to purchase.

The reason this whole discussion is critical for Stihl is because information on this subject has never been compiled before. In Stihl, knowledge about the different certifications is scattered. This indicates the importance of this chapter for this research.

3.1 CoC CERTIFICATES

Voluntary chain of custody certificates are worldwide known certificates to prove the sustainability of forest products. Many initiatives have been initiated during the last two decades worldwide.

This group of certificates is the largest group of certificates which is in use at Stihl (Figure 3). The similarity between these three certifications is that they are voluntary. All certificates are valid for five years.

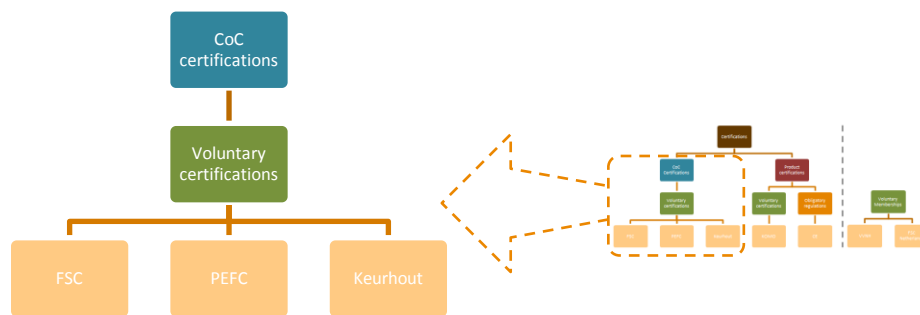


Figure 3: The position of the CoC certifications

3.1.1 PRIMARY GOAL OF CERTIFICATION ORGANIZATIONS

Goals of companies indicate where they derive their right to exist from and how they (want to) operate. The same is true for certificates organizations. Based on the mission and vision of the certifications the goals and main goals are defined. For the CoC certifications these consist of five points which are important for at least one of the certifications (Table 1). Sustainable forest management is the main goal for all three certifications. It is the backbone of the certifications.

The social responsibility aspect is a main goal for FSC as they are describing it as being socially beneficial, which helps local people and societies to benefit from sustainable forest resources (FSC, 2012). PEFC only has the goal of respecting social values and infrastructures which indicates less emphasis on this point (Forest Industries Intelligence Limited, April 2006).

Being economically viable is a main goal for PEFC. This is logical because PEFC was founded by private forest owners to stimulate (roughly said) the sales of sustainable timber. Besides that, the core values of PEFC certification focus primarily on the importance of respect for the ownership structures of the forests. Other important values of PEFC are the belief in free and fair market systems and the desire for federalist tenets (PEFC International, 2012). For FSC the purpose of being economically viable is that the forest management is economically efficient by being structured and managed without generating high profit at the expense of the forest resource (FSC, 2012).

For Keurhout, proving the legality of wood products is one of the main goals. Keurhout was co-founded by the Dutch government and the timber industry. Their goal is to assess certified wood according to criteria of the Dutch government so that is guaranteed that the wood complies with the Dutch law. FSC and PEFC also have goals in legality of wood products. Besides sustainable, the wood also has to be legal for FSC and PEFC. In addition to that, FSC has the label Controlled Wood for wood which is not sustainable but proved legal. Combining regional certificates and proving their legality is a main goal for Keurhout. Although there are possibilities for FSC and PEFC for mixing with other certificates, this has never been a goal for these certifications.

Table 1: Five most important goals for CoC certifications

Goals	FSC	PEFC	Keurhout
Sustainable forest management	Main goal	Main goal	Main goal
Social responsible	Main goal	Goal	No goal
Economically viable	Goal	Main goal	No goal
Legal proof	Goal	Goal	Main goal
Combine certificates	No goal	No goal	Main goal

3.1.2 THE SHARE OF CERTIFIED WOOD ON A GLOBAL SCALE AND AT STIHO

Before going further into detail about the differences in the share of the certifications schemes on a global scale, it is important to get a clear understanding of the share of certified wood compared to non-certified wood. Of all forests in the world only 16% is certified (Figure 4). This indicates that the share of certified wood on a global scale is very low.

Comparing the share of FSC and PEFC in certified forests, a number of differences can be noticed (Table 2). The number of hectares of FSC on continents like Africa and South America is slightly higher than that of PEFC. For the remaining continents PEFC has more hectares of certified forest. Remarkable are the amounts of PEFC certified forest in North America and Europe. If the world climate zones are taken into consideration the conclusion is that most certified timber products come from softwood forests. Another conclusion is that PEFC has a higher share in softwood where FSC has a higher share in hardwoods.

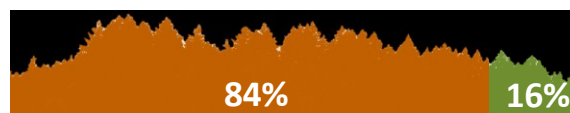


Figure 4: Percentage of certified forest in harvestable forest (Probos, 2010f)

Table 2: Percentage, hectares and CoC certificates of FSC forests in 2011 (UNECE,2011)

Continent	FSC 2011		PEFC 2011	
	ha in millions	CoC certificates	ha in millions	CoC certificates
Africa	7.6	136	0	5
Asia	3.7	4,137	4.6	618
Europe	56	10,045	80	7547
North America	56.6	4,840	145	567
Oceania	2.1	385	10	241
South America	12.2	850	3.2	91

Another aspect which is made comparable in Table 2 is the number of CoC certificates which are currently active on each continent. It is clear that FSC on all continents has the highest number of CoC certificates available which can give already an indication about the popularity of both certifications.

Turnover distribution of Stihl

The turnover distribution of certified timber at Stihl can be compared to the global distribution of certified timber. Stihl has the following distribution (van den Heuvel, 2012):

- Hardwood 74%
- Softwood 100%
- Board material 100%

3.1.3 IMPORT OF CERTIFIED WOOD PRODUCTS IN THE NETHERLANDS

The import of certified wood products is a good indicator of the Dutch certified market. The import figures of certified timber are every year examined by Probos, commissioned by the VVNH (Oldenburger, 2011). This investigation is based on the response of the VVNH members. Probos concludes that 77% of 2.4 million m³ Softwood, Hardwood and Board materials has been imported with a CoC certification.

The market share for the certification schemes differs for each of the product categories. The three main groups of wood materials distinguished in the Netherlands are Softwood, Hardwood and Board materials. For

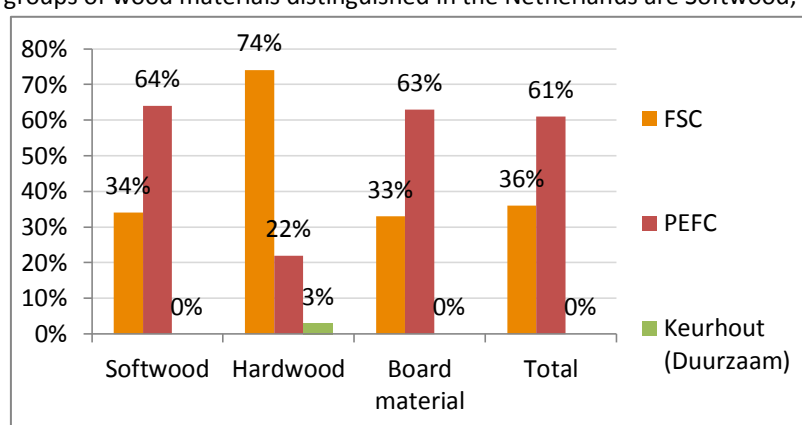


Figure 5: Allocation of the different CoC certification schemes within the total quantity imported timber in the Netherlands 2011 (Oldenburger, 2011)

softwood and board material PEFC has the highest market share. For hardwood the market share is the opposite which is beneficial for FSC. Keurhout only has a little share left at the Hardwood market (Figure 5). However, no clear conclusions can be drawn about Keurhout because some wood products can be double certified. This means that both FSC and PEFC can also become Keurhout certified (Probos, 2011a).

The table below shows the trend in the materials discussed above. Both FSC and PEFC seem to increase their share in the product materials they have the lowest share in. For board materials PEFC has expanded its share to the detriment of the share of Keurhout (Table 3).

Table 3: Trend in market share of the different CoC certificates in the Netherlands, based on (Oldenburger, 2011) and (Probos, 2012)

	Softwood	Hardwood	Board material	Total
FSC 2010	26%	83%	34%	33%
FSC 2011	34%	74%	33%	36%
Trend	+ 8%	-9%	-1%	+3%
PEFC 2010	69%	15%	54%	61%
PEFC 2011	64%	22%	63%	61%
Trend	-5%	+7%	+9%	0%
KH (Duurzaam) 2010	5%	2%	11%	6%
KH (Duurzaam) 2011	0%	3%	0%	0%
Trend	-5%	+1%	-11%	-6%

3.1.4 DIFFERENT CERTIFICATION AND FOREST MANAGEMENT SYSTEMS

The process by which a certification scheme is designed differs from organization to organization. They have a different approach based on their place of origin.

FSC and PEFC

For the management of FSC certified forests, FSC has developed Principles and Criteria of sound forest management. They apply to all types of forests. Requirements include compliance with national legislation, respect for local use rights, maintenance of the ecological functions of the forest and its biodiversity, economic viability, and the need for an adequate management plan and monitoring of operations. The development of national standards of forest management in countries or regions is encouraged (FSC UK, 2012). Wood (2000) found that although there are many commonalities between these standards, there are also discrepancies and inconsistencies. Even under the FSC system substantial differences in the implementation of forest management are commonly existing from country to country.

FSC's first goal was to preserve tropical forests. Their way of working suits the situation in third world countries. FSC is defined as being "top down" organized, caused by the way they perform (Figure 6). Any FSC standard has to be "interpreted" at the national level to meet the different local needs for sustainability. Thus, physical geography, climate, land ownership structures, tree species and national legal and commercial infrastructures all impact how every standard is applied (NBvT, 2012).

PEFC does not set standards, it describes itself as a mutual recognition scheme. PEFC assesses independent forest management schemes against internationally recognized criteria for sustainable management. The assessment process is concerned with both comparing the national standard against the criteria and ensuring that the processes have been implemented robustly in accordance with the required rules and guidelines. PEFC also uses international bodies, such as ISO, for defining process standards. PEFC endorsed the first national systems in Europe in 2000. Therefore, PEFC is defined as a "bottom up" process (NBvT, 2012) and (PEFC, 2012).



Figure 6: Difference in becoming certified: Bottom up and top down (NBvT, 2012)

Keurhout

Keurhout does not have certified forests. Nevertheless, Keurhout is a CoC certificate. This is due to the fact that it makes use of other certifications to prove the chain of custody. Other certificates are reviewed by the Board of Experts of Keurhout (Figure 7). These certifications have to comply with the five Keurhout standards to become accepted. These five standards review the performance of the certificates on biodiversity, international nature conservation, forest ecology, forestry research, international sustainable forest management, timber harvest, timber processing and trade, CoC management, management systems and certification (Keurhout, 2012). The requirements for Keurhout are less strict and extensive than those for FSC. For that reason and the fact that the wood branch itself is owner of this brand, environmental organizations do not support this initiative (Milieu Centraal, 2012).



Figure 7: Acceptance procedure of Keurhout

3.1.5 GRADATIONS IN COC CERTIFICATES AT STIHO

The different certification schemes have different gradations in their product line. Every gradation has its own requirements.

FSC

FSC has the following gradations (Probos, 2011b)

- FSC 100%:
All the timber and wood products have their origin from FSC certified forests.
- FSC mix:
At least 70% of the wood has its origin from FSC certified forests. The remaining part of the wood comes from recycled material or from FSC controlled sources ("FSC Controlled wood").
- FSC Controlled wood:
Besides the standards above, FSC has a standard for controlled wood. This label proves for non FSC certified wood that it has NOT its origin from :
 - Illegal harvesting
 - Areas with social conflicts
 - Forests with high nature or cultural values
 - Conversion (natural forest transferred into plantations)
 - Forest with genetically modified planted trees

PEFC

PEFC has the following gradation:

- PEFC Certified:
At least 70% of the timber and wood products has to have its origin from PEFC certified forests to be able to sell PEFC under this label (Probos, 2011c)

Keurhout

Keurhout has the following labels :

- Keurhout Legaal (Probos, 2011d):
This label assesses the trustworthiness of certifications for the Dutch wood market. The most important requirements are that the wood was harvested legally. The legal origin is checked based on a legality standard.
- Keurhout Duurzaam (Probos, 2011e):
For Keurhout Duurzaam certification schemes were assessed according to a standard based on minimum requirements for sustainable forest management based on the international guidelines of ITTO, FSC, PEFC and the Forest Principles of UNCED. Besides that, Keurhout is also assessing the trustworthiness of the CoC of the certification schemes. Keurhout Duurzaam has two gradations:
 - Keur 1 100% Duurzaam
 - Keur 2 70% Duurzaam

Certified products can always be downgraded. This has to be registered for FSC. For PEFC and Keurhout there are no requirements for downgrading (Polinder, 2012). Stihl often makes use of this possibility in the case where no uncertified timber is available and no separation is possible.

3.1.6 DIFFERENCES IN AUDITING

All three CoC certifications have a checklist that is used during audits. These checklists do reflect the standards of the certifications. Audits are done by SKH or SGS which are accreditation bodies. These bodies are responsible for checking if companies, in this case Stihl, comply to the standards.

The audits for FSC and Keurhout are carried out by SGS, the audits for PEFC are carried out by SKH.

What follows is based on standards:

- FSC-STD-40-004 V2-1 EN (FSC, 2011)
- PEFC ST 2002:2010 (PEFC, 2010)
- Keurhout protocol (Keurhout, 2010)

And the checklists:

- SGS FSC Audit checklist (SGS, 2012)
- SKH PEFC Checklist (SKH, 2012a)
- SGS Keurhout checklist (SGS, 2011).

The extensiveness of the checklists varies. The checklists for FSC and PEFC are the most extensive with more than 20 pages. The Keurhout checklist consist of only one page. The checklists for FSC, PEFC and Keurhout are composed according to the paragraph numbers of the standards. PEFC and FSC both have additional checklists which apply to group certification, controlled wood or other.

The strictness of reviewing these aspects is an important difference between the certification audits. Based on the audit checklists and internal (Stiho) experiences, differences between the main aspects have been indicated. The differences are presented in table 4.

Article management is for all three certifications an important issue. Articles have to be named logically and correctly according to the gradation and product claims.

FSC is stricter about record keeping during audits. For FSC all records covering the standard requirements have to be kept up-to-date. PEFC assesses two points that are important to PEFC with respect to record keeping. For Keurhout, only a list of suppliers, transport documents and order factures is needed.

With respect to stocking, Keurhout only requires to check if the certificate is still accepted by Keurhout. The difference between FSC and PEFC is caused by the extensive amount of products in different gradations of FSC. This leads to more product categories and more administration. In addition to that, Stihl has the possibility to devalue products when they buy it as certified wood, but sell it as uncertified. Devaluation of products has to be done according the regulations and to be registered actively. Furthermore, FSC is very critical about registration of residues. In general for all three certifications, records have to be stored for at least 5 years.

Education is not mentioned in the Keurhout protocol. For PEFC, the employees only are required to have knowledge about how to carry out operations. For FSC, the education is a very important point. FSC requires a training plan where the qualifications needed for every function and/or procedure has to be described. Besides that, a basic understanding of FSC is required from every employee.

This requirement also influences the sales department. The knowledge of certificates and procedures is mainly important for FSC. Understanding gradation and product types and a basic knowledge about FSC is essential. For Keurhout and PEFC this is not required.

For FSC a consultation with P&O was required in the external audit. This is less of an issue for PEFC and not an issue for Keurhout.

Internal audits have to be performed at least once a year. There has to be made a planning each year for these internal audits. The auditors need to be correctly educated. After internal audits a summary has to be made for the management board so they can plan improvements. This improvement plan is being reviewed at the external audit and the outcome is checked.

For FSC approval is needed for all new reproductions of FSC trademarks. Furthermore, FSC has an extensive standard for how the trademark should be used (FSC, 2010). For PEFC no acceptance is needed. For PEFC and Keurhout the correct use of the logo's is checked during the audits.

Records have to be reported every half year for Keurhout. The record keeping for FSC and PEFC is assessed and these reports have to be available during audits.

The Quality Management System (QMS) requirements for FSC are very extensive. The procedures which have to be written for this QMS should contain every part of the standards. For PEFC and Keurhout these written procedures are not needed, only the implementation of a QMS is assessed for PEFC and Keurhout.

Table 4: Differences of importance for the certifications on the main aspects

The colors and the plusses indicate the emphasis the different certification schemes put on a certain subject. The number of plusses is based on both the attention the audit checklists give to the different topics and the experience of the product manager regarding the critical issues during audits (Daatselaar, 2012).

Main assessed points of audit checklist	FSC	PEFC	Keurhout
Internal audits <i>Planning</i> <i>Education auditors</i> <i>Management summary</i> <i>Plan of improvement</i>	+++++	+++++	+++++
QMS <i>Division of responsibilities</i> <i>Up to date procedures</i> <i>Procedure changes (method)</i>	+++++	+++	+++
Stocking (amount, gradation) <i>Entrance check</i> <i>Stock</i> <i>Outgoing</i>	+++++	+++	++
Sale <i>Knowledge of certificate/procedures</i> <i>Order confirmation</i> <i>Sale invoice</i>	+++++	+++	++
Usage of logos and labels <i>Acceptance of use</i> <i>Record acceptance</i> <i>Procedures for marketing department</i>	+++++	+++	+
Education <i>Education plan</i> <i>Communication external changes (standards)</i>	+++++	++	+
Article management <i>Clear product descriptions</i> <i>Correct claims on offers and bills</i>	++++	++++	++++
Record keeping order documents <i>Supplier list</i> <i>Sub-contracting</i> <i>Review of order bills (amount, claim)</i>	++++	+++	++
Safety, Welfare, Health and Environment <i>Policies</i> <i>Management statement</i>	++++	+++	+
Reporting <i>Record keeping</i>	++++	++	+++++
Announced external audits	Yes	Yes	Yes
Max. number of audits per year	1	1	1
ISO acceptance	No	Yes	N/A
Departments part of certificate	BVP & DC	BVP & DC	BVP & DC

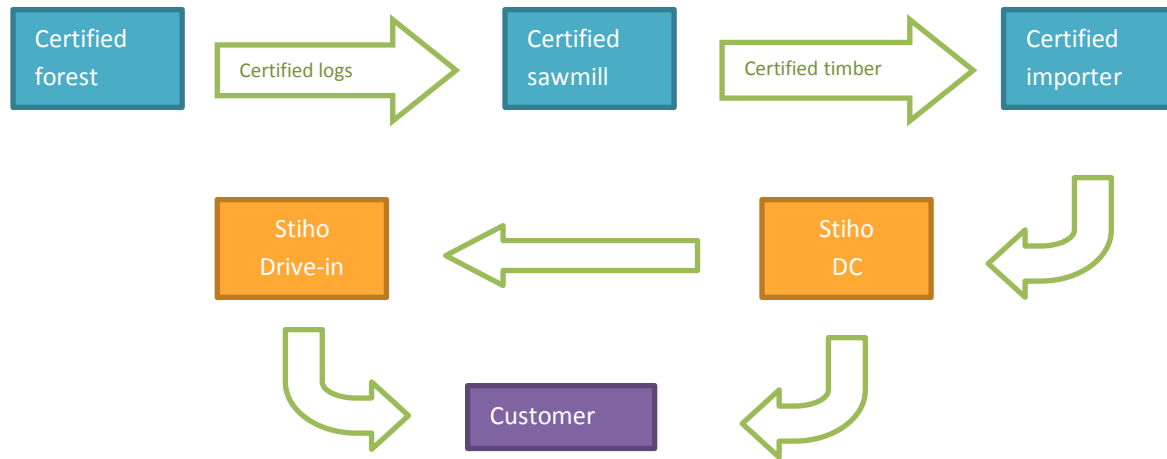


Figure 8: Example of a simple delivery chain for FSC, PEFC or Keurhout

3.1.7 DELIVERY CHAIN DIFFERENCES

The different certificates have various consequences for the organization of Stiho. In this paragraph the most important differences are discussed.

Product origin

CoC certificated products certified with FSC or PEFC always have their origin from certified forests. Figure 8 shows a simplified example of the CoC from forest to the customer. Many other sequences are possible than showed in Figure 8. The only requirement is that it must be guaranteed that the links and chains from the starting point, the certified forest, to the customer are part of a closed chain. Non-certified wood is only accepted in some certification schemes if it is no more than 30%. Illegal wood is never accepted. So the customer can be ensured that the purchased wood has its origin in certified forests for at least 70%. After transportation from forest to sawmill to importer the wood enters the distribution chain of Stiho.

Keurhout is an exception. Since Keurhout does not have certified forests, they make use of other certification schemes to guarantee that the wood is certified according to their regulations and standards. For example, a Keurhout bundle of wood can consist of both PEFC and FSC and additionally other accepted forest certification schemes. Keurhout functions as a "gatekeeper" that only allows acceptable certificates and systems, or certificates within a system, to continue to the Dutch and/or European consumer. Besides FSC and PEFC, other certificates can be accepted. Therefore Keurhout products can enter the chain of custody. The most logical place where Keurhout enters the chain is at the certified importer.

Difference between Stiho Drive in and Stiho DC

As is already shown in Figure 8 above, Stiho has two types of locations. These locations consist of four DC's and around 15 drive-in stores. The drive-in stores are in general the latest link before the products will arrive at the customer. For specific orders some DC's allow customers to drive by. The DC's mainly deliver to customers and do supply the drive-in stores of Stiho at the same time.

3.1.8 DIRECT COSTS

Direct costs are the only measurable costs for the certifications. The annual external audit costs are the costs which have to be paid to the accreditation board for the visits. For these audits a number of locations have to be visited, therefore, travel costs of the auditor are calculated as well and included in the annual external audit costs (Table 5). The FSC audits are the most expensive compared to PEFC and Keurhout. The costs for Keurhout are the cheapest but this is due to the fact that these audits are combined with the FSC audits. Audit costs do change on a yearly basis.

Besides the costs for external audits a yearly contribution has to be paid. For the CoC certifications this contribution is based on the number of locations the company has or the yearly total turnover of the company. The annual contribution for Keurhout is the highest. PEFC the cheapest and FSC is in the middle.

Table 5: The annual direct certification costs for Stiho per CoC certificate

	FSC	PEFC	Keurhout
Annual external audit	€4,759.52	€ 3,675	€ 1,315 ¹
Annual contribution to certifier	€2,496.47	€ 2,000	€ 3,800
Total yearly costs	€ 7,256	€ 5,675	€ 5,115
Annual FSC partner contribution²	€4,500		
Total FSC costs	€ 11,756		

¹The Keurhout audits are combined with the FSC audit. A reduction therefore applies

²The partner contribution is part of the FSC membership

Besides the direct and measurable costs it has to be taken into account that the highest amount of costs will be indirect costs. To be able to indicate these indirect costs assumptions have to be made. This lies beyond the scope of this research project.

3.1.9 INTERIM CONCLUSIONS

What are the differences and similarities between FSC, PEFC and Keurhout? The first differences discussed were the primary goals of the certifications. Although FSC and PEFC have similar principles, they differ in the degree of importance they grant to these principles. For FSC the social responsibility is the main point, for PEFC the economic viability is of higher importance. The main focus for Keurhout lays at guaranteeing the legality and sustainability. Compared to FSC and PEFC, their vision is more limited to these main aspects. The backbone of all three certifications is the sustainable forest management. For Stiho it is important to have the goals of these certification in mind for the internal communication. By informing the employees about these goals, a better understanding can be created about the reason why procedures have to be carried out. The requirements of procedures are mainly derived from the goals of the certification.

The import of certified wood is very low (16%). Both FSC and PEFC have few resources for certified products. The share of PEFC is higher in temperate regions and therefore PEFC has a higher share in softwood products. FSC is more active in tropical regions and has therefore a higher share in hardwoods. This division also effects the Dutch market share of both FSC and PEFC certified products. However, both FSC and PEFC are increasing their share in the area where their competitor has traditionally the highest share. Therefore it is to be expected that both certification schemes will remain important for Stiho because of the market demand. Stiho already has a high share in certified timber products. This share is close to 100% for softwood and board materials. For hardwood it is above 74%.

Both FSC and PEFC certifications have very similar standards. However the main difference is their usage of laws and regulations. PEFC has a bottom up process by reviewing and endorsing national standards, laws and regulations about sustainable forestry, whereas FSC has a more elaborate top down approach by setting standards that will be interpreted at the national level. Keurhout is yet another approach. They review other certification schemes to guarantee the CoC. Stiho has to keep these differences in mind. Because FSC is far stricter than the other two schemes, their influence on the internal procedures at Stiho is far greater. FSC prescribes processes in great detail, including what they require on the work floor.

The different certification schemes have one or more gradations. This has administrative and logistic consequences for Stiho.

FSC has the strictest and most extensive external audits. PEFC is similar, but on most points PEFC is less strict. FSC is the most expensive certification. PEFC and Keurhout are cheaper due to lower external audit costs and contribution fee. The certification schemes require a yearly or half yearly internal audit. This leads to more administrative requirements and investment in time and money on the part of Stiho.

The guaranteed and closed delivery chain has administrative consequences and requirements for Stiho. Documents and administration have to guarantee that the closed chain is ensured. This also affects the

procedures.

The measureable costs are the only costs which can indicate directly what the expenses are of the certifications. The costs differ on small scale. FSC is the most expensive certification scheme. Combining the audits of FSC and Keurhout leads to a significant reduction in auditing costs.

3.2 PRODUCT CERTIFICATES

The second group consists of a certification scheme and a regulation. The KOMO certification is voluntary. The CE regulation is obligatory by Dutch and EU legislation. Below the difference between these two is discussed.

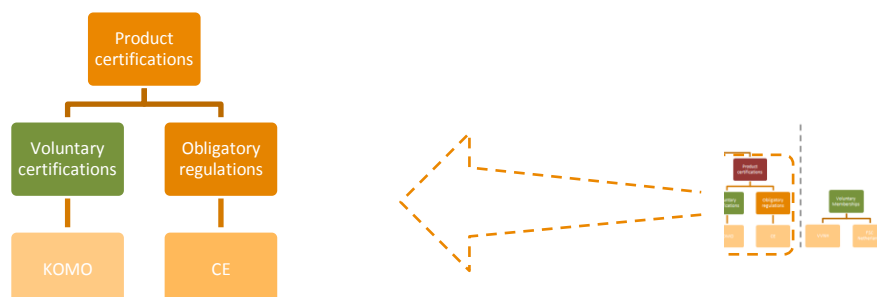


Figure 9: The position of the Product certifications

3.2.1 PRIMARY GOALS OF KOMO AND CE

A number of stakeholders in the timber branch like VVNH, Centrum Hout and the NBvT took the initiative to develop their own sets of requirements, which were concluded in a 'quality statement' for KOMO-certification. In addition to public requirements set in Dutch Building Legislation, a quality statement consists of private requirements which come from the market. The Dutch Building Legislation does not set specific requirements on matters like machinability, straightness, colorfastness and durability of the timber. Nevertheless, these properties are important. Other goals and main goals are to decrease the failure costs for products with a KOMO trademark, to increase the safety level and to inform consumers (Table 6).

CE is an obligatory certification. CE is introduced for the grading of construction timber and other applications. With the CE mark the EU wants to stimulate the trade in Europe. Regions in Europe which have slower growth, and hence stronger wood, have a larger amount of trees suitable for construction purposes available. The CE marking gives the countries that have faster growing wood the opportunity to take part in the trade for construction wood by offering a guarantee that the timber is suitable for construction purposes. Trade barriers caused by climate differences are tackled by grading all the European construction timber the same way. So, construction timber from southern regions can compete with construction timber from northern regions (SKH, 2012b).

Another main goal for CE is to increase and guarantee the safety level. Timber products which are not CE graded are not allowed in constructions.

The last main goal for CE is to inform the consumer about the properties of the timber. Ensuring high quality products is not a main goal of CE, but is defined as just a goal (Table 6).

Table 6: Differences between KOMO and CE in goals

Goals	KOMO	CE
Decrease failure costs	Main goal	Goal
Ensuring high quality	Main goal	Goal
Complies to legislation	Main goal	No goal, but partly achieved
Tackle trade barriers	No goal	Main goal
Increase safety level	Goal	Main goal
Inform consumer	Goal	Main goal

3.2.2 USAGE OF LAWS

The main document of a KOMO certificate is a Beoordelingsrichtlijn (BRL) (translated: National Assessment Directive). This official document lists all the private and public requirements for a certain product. The Dutch government checks a BRL to see if it covers the requirements in the Dutch Building Regulation. If approved, it means that by meeting the requirements in a BRL, one automatically fulfills the public legal requirements as well.

Accreditation bodies like SKH check if a product meets the requirements of the BRL. If so, it is accepted as KOMO.

This BRL also states which requirements are related to the Dutch Building Regulation. For this KOMO BRL this consists of

- General strength of the building construction
- Restriction of development of fire
- Restriction of development of smoke (SKH, 2010)

In the Dutch construction sector it is common practice to use KOMO certificates. It is hard to enter the market and to keep market share without being certified according to KOMO.

KOMO products for structural purposes have to include the CE marking which is obligatory for all construction purposes in the Netherlands. KOMO certification cannot be used instead of CE marking.

CE mark is a European directive that is incorporated in the Dutch law. The CE certification is obligatory. The CE mark is not a hallmark, it only indicates that the product conforms to Dutch and European regulations (SKH, 2012b).

3.2.3 PRODUCT CERTIFICATES AT STIHO

For KOMO and CE, each product category has its own certificate. The certificate always states the scope. Stihl has the following certificates and corresponding scopes.

KOMO

Stihl holds the KOMO-certificate 'Visually graded softwood (For structural and non-structural architectural and non-architectural applications)'. This BRL is enacted by the Board of Experts of SKH on 23-03-2007.

CE

Stihl holds the CE-certificate 'Visually strength graded softwood with a rectangular cross-section' for the species Spruce and Pine.

3.2.4 METHOD OF AUDITING

KOMO and CE both make use of checklists in audits. They do not reflect directly to the standards as the checklists of the CoC certifications do. KOMO and CE have very short checklists of respectively one and two sheets (See appendix 2 and 3).

Beside these two checklists also for the comparison (Table 7), the following documents are used: KOMO BRL 2301 (SKH, 2010), CE SG18 Document, (EU SG18, 2007) Guidance paper B (European Commission, 2002) and the EN NORM 14081-1 (Nederlands Normalisatie Instituut, 2011).

The method of documentation is assessed mainly by CE. At the checklist a few points are mentioned about that. For KOMO a documentation of the grading is needed.

The requirements of both certificates for the structure of the organization and the division of the responsibilities are similar. For training and education CE has stricter requirements. KOMO only requires examining of the graders. This is not very strictly reviewed. CE, however, requires that the skills and knowledge of employees is tested. CE also requires a training schedule.

Incoming goods have to be checked and registered. KOMO and CE have similar requirements for this process. The place of grading is essential for good grading and working conditions. CE is assessing a couple of points about that in the checklist, e.g. visibility and light conditions.

For KOMO, marking and the use of a logo is a major point in the assessment. KOMO requires a marking on the products with the number of the product certificate. If this is not present on the KOMO certified product, these KOMO products cannot be classified and not be sold as certified. The strength class of the KOMO product has to be present on the product as well.

For CE, visually graded products do not have to be marked with a logo. This is only required for mechanically graded CE products.

For both CE and KOMO a procedure for complaints and nonconforming products is required. Corrective and preventive actions have to be carried out correctly. For both certification schemes, Stihl uses ISO 9001 to streamline the handling of complaints.

Maintenance of equipment is assessed by both checklists. The calibration of measuring equipment has to be done on a regular basis and the moisture meter has to be checked.

For KOMO, a parcel is assessed during audits to check whether the timber was graded properly or not. For CE, this is not a point in the audit checklist. For CE only the grading conditions are assessed which are audited for KOMO as well.

KOMO is the only certificate that has unannounced audits. Probably this is done because of the grading of a sample. Otherwise, if the audit was announced, a company could prepare a good sample for the audit.

KOMO is standard checking twice yearly. However, when a company is ISO certified the number of visits is reduced.

For CE and KOMO only the distribution centers (DC's) are certified to grade visually.

Table 7: Differences of importance for the certifications on the main aspects

The colors and the plusses indicate the emphasis the different certification schemes put on a certain subject. The number of plusses is based on both the attention the audit checklists give to the different topics and the experience of the product manager regarding the critical issues during audits (Daatselaar, 2012).

	KOMO	CE
Grading of sample	+++++	++
Marking	+++++	++++
<i>Logo</i>		
<i>Strength class</i>		
Record keeping	+++	++++
<i>Method of documentation and maintenance</i>		
<i>Internal evaluation</i>		
Organisation/education	+++	++++
<i>Structure and responsibilities</i>		
<i>Training</i>		
<i>Examining graders</i>		
Grading conditions	+++	++++
<i>Place of grading</i>		
<i>Instructions visible /available</i>		
Stocking	++++	++++
<i>Entrance check</i>		
<i>Record keeping</i>		
<i>Stocking</i>		
Complaints	++++	++++
<i>Handling of complaints</i>		
<i>Registration</i>		
Maintenance of equipments	++++	++++
<i>Checking of measuring equipment</i>		
<i>Calibration of measuring equipment</i>		
Announced external audits	No	Yes
Max. number of audits per year	2	1
ISO acceptance	Yes	Yes
Departments part of certificate	Only DC	Only DC

3.2.5 DELIVERY CHAIN DIFFERENCES

Products can become certified at any stage of the pipeline. The origin of the product is not of direct importance. Since product certificates are only assessing the product characteristics, a certified owner of a bundle of timber can grade the wood and certify the timber according to the standards of the certificate (

Figure 10). From that moment on the timber remains certified as long as the dimensions or other characteristics do not change. The owner of an item which has a product certificate does not have to own the grading certificate for the specified product. This means for example that Stihl is allowed to sell products of certified timber without being certified for these specific product items. For product items which are not yet graded, the company needs to be certified in order to be able to grade this wood visually and mark it as either KOMO or CE.

Figure 10 shows the chain of how products can become certified. Stiho holds a KOMO certificate for visually graded softwood (for structural and non-structural architectural and non-architectural applications). Timber for KOMO enters Stiho uncertified. Stiho grades this timber. In

Figure 10 this situation is drawn under number 3. Besides this softwood product, Stiho purchases other products which are already KOMO certified under the BRL of that type of product. For these products chain 1 and 2 apply.

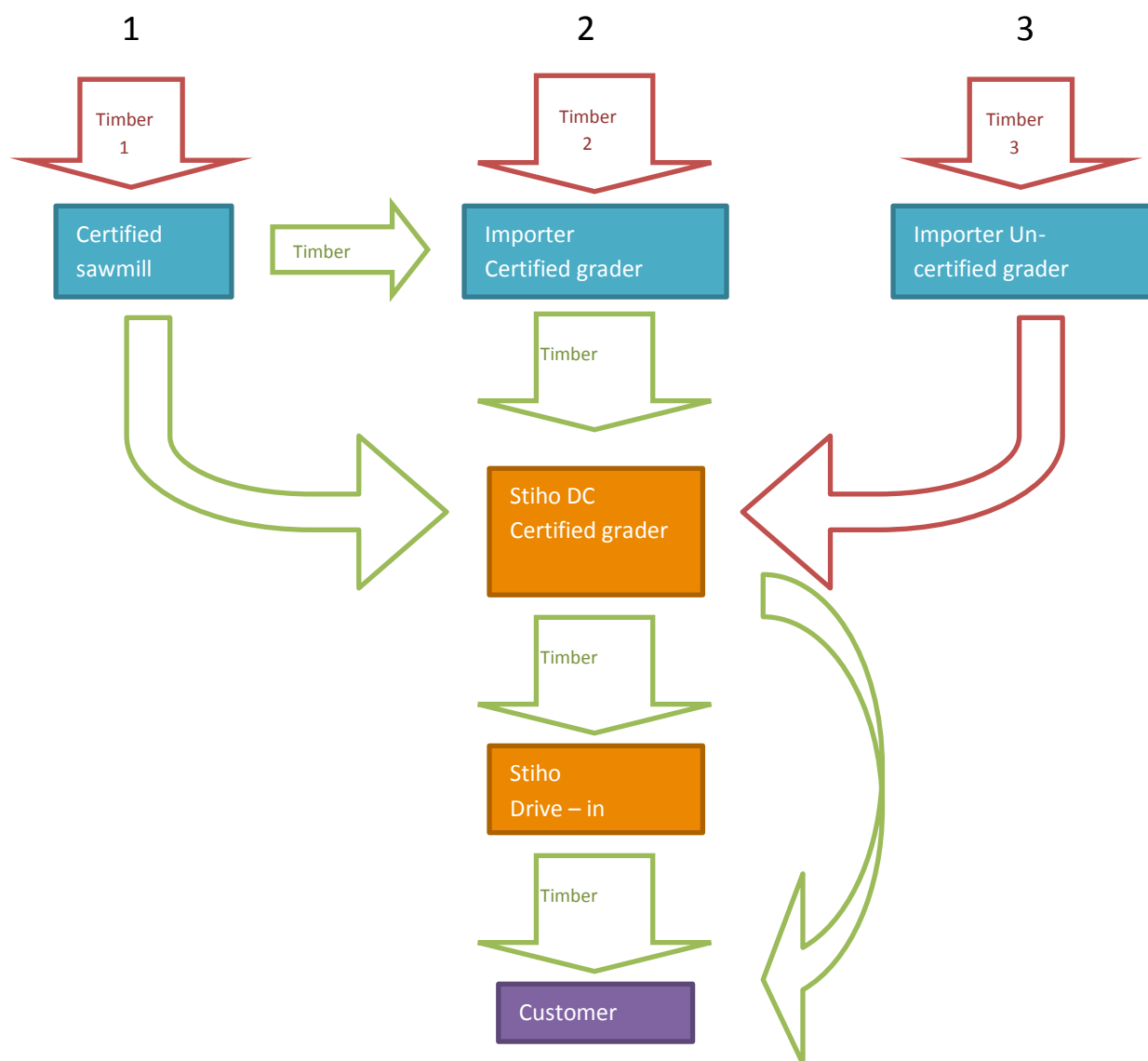


Figure 10: Example of a simple delivery chain for KOMO and CE

3.2.6 DIRECT COSTS

The annual external audit costs for KOMO are twice those of CE (). What causes this, is unknown. The audits of both are done by SKH. The annual contribution only applies for KOMO. CE is obligatory by law, so no contribution is needed.

	KOMO	CE
Annual costs	€ 7,575.00 ¹	€ 3,640
Annual contribution to certifier	€ 1,856.25 ¹	-
Total costs	€ 9,431.25	€ 3,640
	KOMO	CE
Annual costs	€ 7,575.00 ¹	€ 3,640

As with the CoC-certifications, besides the direct and measurable costs it has to be taken into account that the highest costs will be indirect costs. To be able to indicate these indirect costs for the KOMO certification, assumptions have to be made. This lies beyond the scope of this research project. For CE this could be done, but it adds little value, because of the obligatory character of CE marking.

Annual contribution to certifier	€ 1,856.25 ¹	
Total costs	€ 9,431.25	€ 3,640

¹ This amount includes a reduction, because Stihl is ISO certified.

3.2.7 INTERIM CONCLUSIONS

The product certificates are geared at specific product characteristics for construction purposes. The main goals of the two certifications differ. While CE focuses on safety level and informing the customers, KOMO aims at the reduction of failure costs and compliance with Dutch legislation.

KOMO adheres to the Dutch Building Regulation and CE to Dutch and European regulations.

Stihl holds one KOMO and one CE certificate.

The method of auditing is similar for both certifications. Both audits have an element of grading. During the KOMO audit, the auditor checks a parcel of already KOMO graded timber to check if the grading was done correctly. So the KOMO audit is more focused on the product outcome. During the CE audit, the auditor requires an employee to grade timber on the spot to check the grading skills of employees and the grading environment. For CE, the QMS is a point that is assessed strictly. Stihl follows ISO 9001 for the handling of complaints. KOMO has unannounced audits, twice yearly. CE has a yearly audit.

The delivery chains for KOMO and CE are comparable. Products can become certified at any stage of the pipeline.

The costs for KOMO and CE are very different. KOMO is twice as expensive as CE and for KOMO an annual contribution is necessary. Direct costs are known, but Stihl has no clear picture of the indirect costs and of total costs of the KOMO certification in relation to the turnover realized because of holding the KOMO certificate.

3.3 DISCUSSION AND CONCLUSIONS

This paragraph answers sub question 1: *What are the differences and similarities between the certificates, regulations and policies used at Stihl?*

The CoC certifications and the Product certifications are two types of certification schemes which can only partly be compared to each other.

Every CoC certification has several main goals. The shared main goal of all three CoC certifications schemes is the sustainable forest management aspect. Besides that, the main goal of FSC is to act socially responsible, the main goal of PEFC is being economically viable and the two main goals of Keurhout are to prove legality and to facilitate combining certificates. However, most goals are shared by CoC certification schemes, whether its role is large or small.

The product certificates have totally different goals compared to CoC certificates. In practice, KOMO and CE are very similar, but in goals they differ in key issues. As a result of the obligatory character of CE, it focusses more on goals which are for public benefit, where KOMO is more committed to product quality.

The CoC and product certifications combined have as a goal to label the company as a sustainable business partner. The main goal of all certifications is to differentiate from non-certified products to serve the customer in their product choice, except the CE certificate which is obligatory.

The aspect of forest management is a crucial element for the CoC certificates. The number of certified production forests available makes it clear that the CoC certificates depend on a small percentage of timber on the market. PEFC has a higher share in softwood, whereas FSC has a higher share in hardwood, both in forest

and import numbers. The trend in import share shows that both PEFC and FSC are strengthening their position on the markets where they are less active on. At the same time their dominance in softwood respectively hardwood is decreasing.

Where the origin of the timber is a very relevant aspect for the CoC certificates, for the products certificates it is not. It can be assumed that the share of CE for construction purposes is near 100% because it is obligatory. For KOMO it is known that the market for end products demands the KOMO brand. The KOMO certificate for Stiho, however, is less important for the largest part of the customers. It is not known if this fact is reflected in the turnover as well.

In all of the certifications legislation plays a major role. The different approaches of FSC (top down) and PEFC (bottom up) are an indicator of how the certifications deal with the legislations of the different countries where the forests are located and this affects the whole CoC. For both Keurhout and KOMO, the standards are examined on conformity with the laws. For KOMO the Dutch Building Regulation is an important Dutch law which is used to check on conformity.

Differences in auditing have been mainly assessed by comparing the checklists. The length of the checklist is a good indicator for the strictness of an audit. The audit checklists of FSC and PEFC are very extensive compared to the checklists of Keurhout, KOMO and CE. However, looking to the main points on the audit checklists and the character of the audits, it is clear that FSC has the most extensive and strict audits. PEFC is similar to FSC but is less strict on minor issues. Keurhout is only assessing main points during audits.

KOMO and CE are very similar. KOMO seems to be stricter on some points than CE, especially in documentation, marking and grading conditions. CE makes a major issue of Complaints and Education. Another important difference is that the audits for all the certification schemes are announced except for KOMO.

The delivery chain of the CoC certificates and the product certificates differ, because a closed CoC always has to be guaranteed in the CoC certificates. For the product certificates, the products can be certified during any step of the delivery chain. The only requirement is that the certifying link has to be certified either KOMO or CE, but the subsequent links don't have to. This difference in chain of delivery has consequences for the requirements the certifications have with respect to record keeping. In the case of product certification there is no need to record the origin of the product.

The comparison of the direct costs of the certificates shows that certification has a variable price. The obligatory CE certification is the cheapest, whereas KOMO is the most expensive certification scheme. The CoC certification schemes cost each around €6.000. The indirect costs could not be taken into account, but do influence the decision making process for Stiho. The turnover realized due to having the certificates at large or specific certificates like KOMO should justify the (combined) direct and indirect costs.

4 ARRANGEMENT OF INTERNAL COMMUNICATION

Arranging proper internal communication flows about certifications is crucial for companies in order to operate according to the certification standards. Certification standards require in all cases a proper functioning QMS of which communication is an important aspect.

This chapter will answer sub question 2: *How is the internal communication about certificates, regulations and policies arranged?* based on the interviews and personal observations.

4.1 STRUCTURE OF ORGANIZATION AND RESPONSIBILITIES

Employing in total 750 employees, Stiho is a middle large company. As in most other companies of the same size, at Stiho organizational structures are created to be able to operate efficiently and communicate an identical message towards external parties.

In general, Stiho consists of strategic and operational departments (Figure 11). Decision making is the main task for the strategic departments. The operational departments have to carry out the major tasks which mainly consist of supplying customer needs. Both departments therefore also can be characterized as being prescriptive and executive, respectively.

Strategic departments at Stiho are: General management, Purchase, Marketing, Assortment, Communication and People and Organization.

Operational departments at Stiho are: Order management, Logistics, Sellers, Drive in and Distribution Centers.

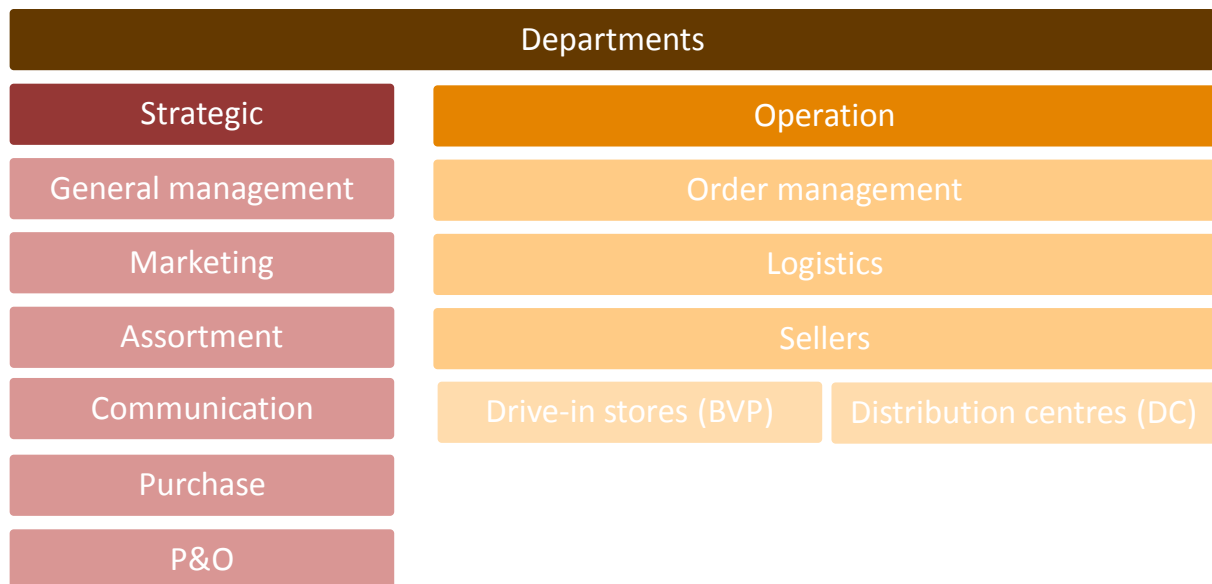


Figure 11: Strategic and operational departments at Stiho

4.2 ARRANGEMENT OF INTERNAL COMMUNICATION

The internal communication is supposed to be arranged hierarchically. In practice, however, it acts like a Gordian knot (Figure 12). External information enters the company via the product manager. The product manager therefore acts as a source of knowledge about certifications for the entire Stiho company. The kind of communication that the product manager uses for internal communication can be divided into four different types (Figure 12): the flow of internal information which is mainly about rules and regulations (orange), consultation (blue), instructive communication (red) and feedback (light blue). It depends on the department and person which type of communication is used.

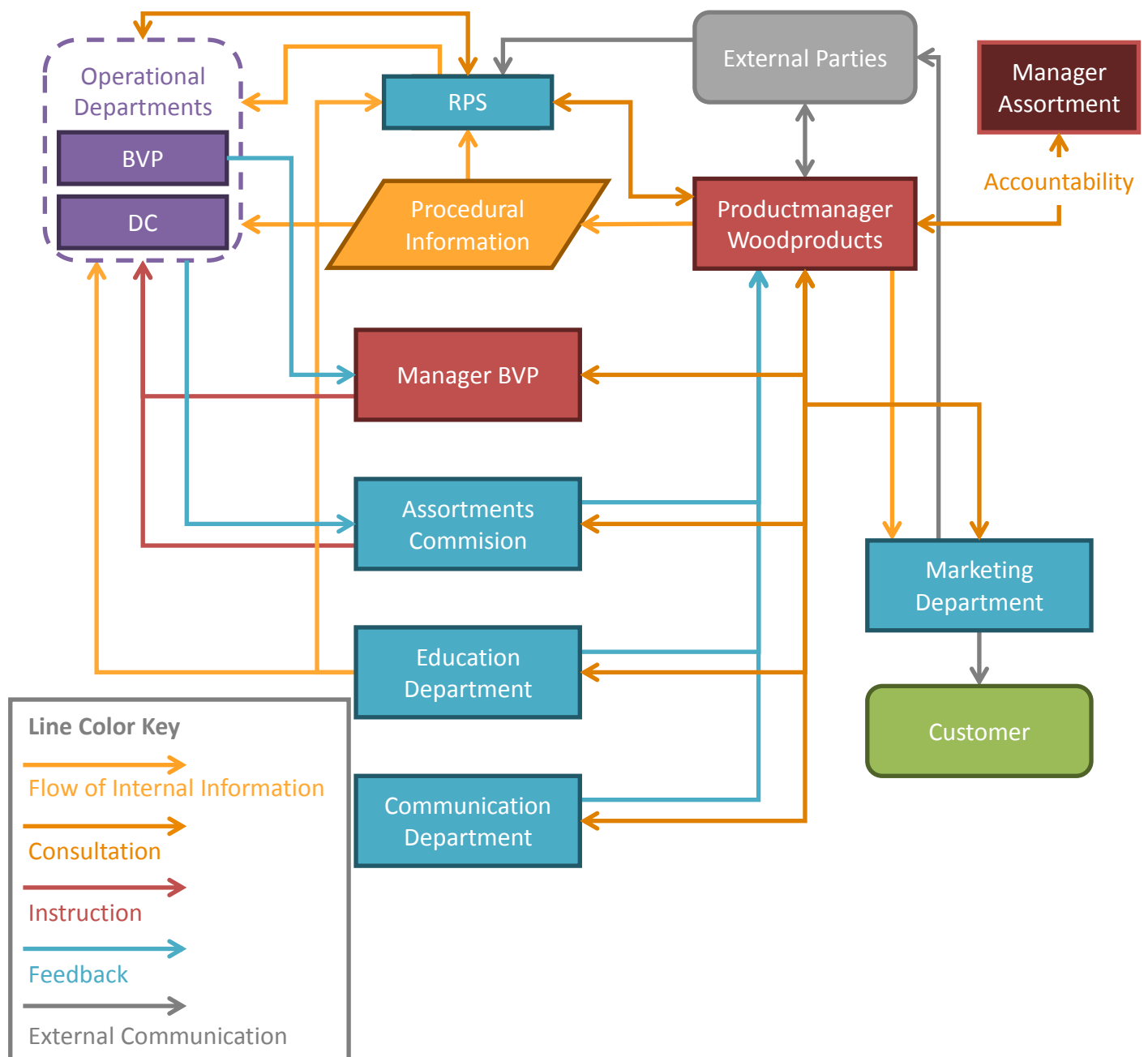


Figure 12: The flow of internal information, consultation, instruction and feedback as the four main types of internal communication.

External parties

The product manager is informed about changes in the standard of FSC through email by SGS. (Polinder, 2012) For PEFC, this is carried out by SKH. This can also consist of documents which have to be signed or filled out. Besides that, SGS is arranging a day about FSC which is specially organized for customers of SGS. On these days actual cases are explained. The last source of input for the product manager is the external audit. In these audits, a number of remarks or tips are given and in case of critical shortcomings minor or major Corrective Action Requests (CARs) are given. (Daatselaar, 2012)

The product manager

The product manager for wood and board materials is responsible for the supply of internal information about certifications and acts as a hub for certification issues within Stihl. His up-to-date knowledge about certifications serves the company as a source of information. Changes related to certifications that have to be made in organizational procedures are initiated and supervised by the product manager in cooperation with

other applicable managers, departments and a committee (manager BVP, manager assortment and the departments for communication, education, and marketing and the assortment committee). In the process of implementing new certification systems the product manager acts as the leading factor. The product manager coordinates the internal and external audits and is normally present during audits. In case a CAR is given the product manager is responsible for Corrective Action Plan (CAP). The product manager decides which information has to be shared to whom and when, both internally and externally. (Daatselaar, 2012), (Anon, 2012a)

Regional Product Specialists (RPSs)

Sales teams in the region South, North and Middle Netherlands have one or more Regional Product Specialists (RPS). These RPSs are specialized in a number of disciplines or product groups. Certification issues can be one of these disciplines.

The function of RPS is carried out by persons who are daily active as a salesperson. During meetings or via briefings, these RPSs are on a regular basis informed by the product manager about the developments of certifications and actual changes. The RPS also accesses external information independently without consulting the product manager wood products. (Anon, 2012b), (Anon, 2012c), (Anon, 2012d)

Operational manager BVP

The manager BVP is responsible for the drive-in locations of Stihl. This person develops the procedures for the BVP in cooperation with the product manager. This person verifies whether procedures are correctly observed and gives feedback to the product manager wood products (Anon, 2012a)

Marketing department

The marketing department is responsible for developing advertisements and other marketing expressions. Regarding certifications, this department has to make sure that the advertisements use correct logo's and claims of certifications. The marketing department communicates with external parties about the approval for all new reproductions of FSC trademarks. In consultation with the product manager of wood products this department defines the marketing strategy.

Education department

The education department develops materials for employee training purposes. In consultation with the product manager and the education department material for teaching purposes is developed (Daatselaar, 2012), (Anon, 2012e). These materials, however, are not function specific (Anon, 2012e).

Communication department

The communication department can assist the product manager wood products in the method of communication towards either employees or customers. (Anon, 2012f). In practice, this possibility is not often used, partly because of the communication department being quite new. (Daatselaar, 2012)

Assortments commission

In the assortments commission wood products the specialists of operational departments consult with the product manager of wood products who acts as the leading chairman. (Stihl, 2012)

Assortment manager

The assortment manager is the supervisor of the product manager wood products and for three other non-wood product managers. The product manager wood products is therefore accountable to the assortment manager. (Stihl, 2012)

4.2 ADMINISTRATIVE COMMUNICATION

Stihl is using computer systems to automate the registration of the orders, quotes, supplies and all other in- and output. For CoC certification and to a lesser extent, for Product certification the documentation and registration of the in- and outflow of certified products is very important and highly assessed in audits. All administration from purchase to delivery is traceable and saved in the ERP (Enterprise Resource Planning) system.

4.3 MAIN METHODS OF COMMUNICATION

The internal communication about certifications uses four different means. Figure 13 below shows these means of internal communication.

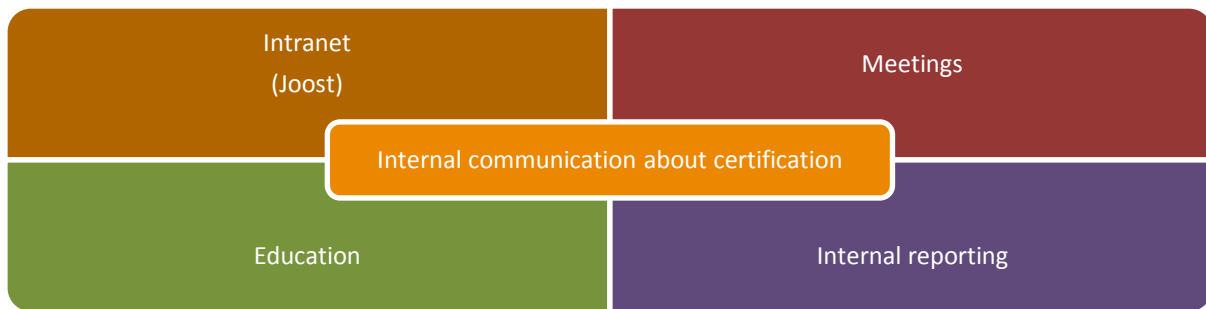


Figure 13: Four different types of communication about certifications

Intranet

The main information channel at Stiho is the intranet (called Joost) which is accessible via the internal computers. At Stiho, all types of information for the operational management is shared through this platform. The intranet is used as one of the main channels to share information about certifications. A few examples of information shared about certifications are:

- Procedures
- Forms
- Actual certificates

The employees are expected to consult the intranet of their own accord to find out which procedures they have to follow. They have to find out on their own if any changes were made. In practice, they do not prefer to use the intranet, but rather retrieve their information from either the internet, the product manager wood products or the RPS. (Anon, 2012b), (Anon, 2012d), (Anon, 2012g) (and four others) The most common complaint about this system is that it is too cluttered. The RPSs often provide themselves with information available at the internet. For them, this is a guarantee that the information is up to date. The intranet system is only used for getting information which is not available via other sources.

Due to the Dutch saying 'Joost mag het weten', employees associate the name of the intranet 'Joost' with the impossibility to find information. (Anon, 2012h), (Anon, 2012b),

Personal communication

Meetings are used to reach groups of employees that need to be informed about specific topics. These meetings are arranged for a number of departments and are so called team meetings. In these team meetings several subjects related to the work of the employees can be discussed. Certifications can be one of the subjects during these meetings. The meetings are supposed to be scheduled monthly. During the interviews, it became clear they are not scheduled as was agreed (Anon, 2012b), (Anon, 2012d), (Anon, 2012c). Employees prefer personal communication over communication via intranet (Anon, 2012i), (Anon, 2012h), (Anon, 2012g).

Education

Education is used at Stiho mainly to inform employees about the introduction of new developments in the area of certificates.

Education may include:

- General training
- Groups training
- Personal training
- Practical, short instructions on the work floor

From the interviews, it became clear that the employees prefer short, personal instructions on the work floor over methods like presentations (that take about an hour) and e-learning (which requires a lot of reading) (Anon, 2012g), (Anon, 2012i). These two methods have been used by the management, but they seem not to resonate with the employees of the work floor (Anon, 2012e), (Daatselaar, 2012) (Anon, 2012f). This way of education fits better with higher educated employees (Anon, 2012b), (Anon, 2012c), (Anon, 2012d).

Internal reporting

The last channel of internal communication is important for:

- Certifications brochure
- Actual changes in certification standards
- Changes in procedures
- Assortment report
- Product administration
- Internal audits

Stiho uses a folder that was created for customers to inform the employees (Stiho, 201?). However, customers and employees require a different message, and hence, a different approach, because the goal of the communication is different. Stihl wants to motivate customers to buy timber products and their employees to do their work properly.

4.4 DISCUSSION AND CONCLUSIONS

This paragraph answers sub question 2: *How is the internal communication about certificates, regulations and policies arranged?*

The product manager is the main link for the transmission of information. To perform this task he needs to coordinate with other managers to implement the actual requirements on the work floor. Although the manager BVP is not responsible for the certifications per se, he is responsible for the implementation of the procedures in the operational departments. The product manager, however, loses sight on how the information is implemented and whether it is implemented correctly. The manager BVP could give feedback about the implementation and any problems he detects to the product manager. This feedback, however, is limited.

It is not very clear how the authority relationship between the product manager and the manager BVP is organized. The product manager seems not to have authority over the manager BVP. There is management consultation between these two. Therefore the product manager hears during audits what the manager BVP already should have discussed with him previously. This lack of communication has the risk of Stihl receiving minor or major CARs. In practice, external audits act as the most important way to improve the business, where internal audits and internal feedback should fulfill this role.

On behalf of the product manager, the education department develops educational materials for the employees. These materials, however, are not function specific and sometimes not even written for the employee, but for the customer.

The internal communication about certificates, regulations and policies is coordinated solely by the product manager wood products who could make better use of the existing possibilities within the company. This is mainly about the education- marketing- and the communication department.

5 ARRANGEMENT OF EXTERNAL COMMUNICATION

Besides the need for proper internal communication, there is a need for proper communication with external parties. The communication with external parties is required for retaining the certificates, even when the certificates are voluntary.

This chapter will answer research sub-question 3: *SQ 3. How is the reporting arranged and communicated toward external parties?*

Two external parties are involved in the external communication of Stiho, see Figure 14.

5.1 ORGANISATIONS FOR ACCREDITATION

The first parties are the organizations which are responsible for accreditation. A number of accreditation bodies are available in the Netherlands. Stiho is able to choose which organization they want for accreditation. As already mentioned in chapter 3 Stiho has chosen for SKH and SGS as accreditor for several certification schemes. These accreditation bodies are responsible for the external audits. The product manager is involved in arranging the communication towards external parties. The product manager uses the internal organization of Stiho as discussed in the previous chapter to become informed about the situation in the different Stiho departments.

SGS

Stiho has chosen SGS as the external auditor for FSC and Keurhout.

SKH

Stiho has chosen SKH as the external auditor for PEFC, KOMO and CE.

They require that they are kept informed. For instance the Keurhout certification scheme requires a half yearly report about the in- and outgoing certified goods. (Keurhout, 2010). For the other certification schemes the report is available for inspection during external audits.

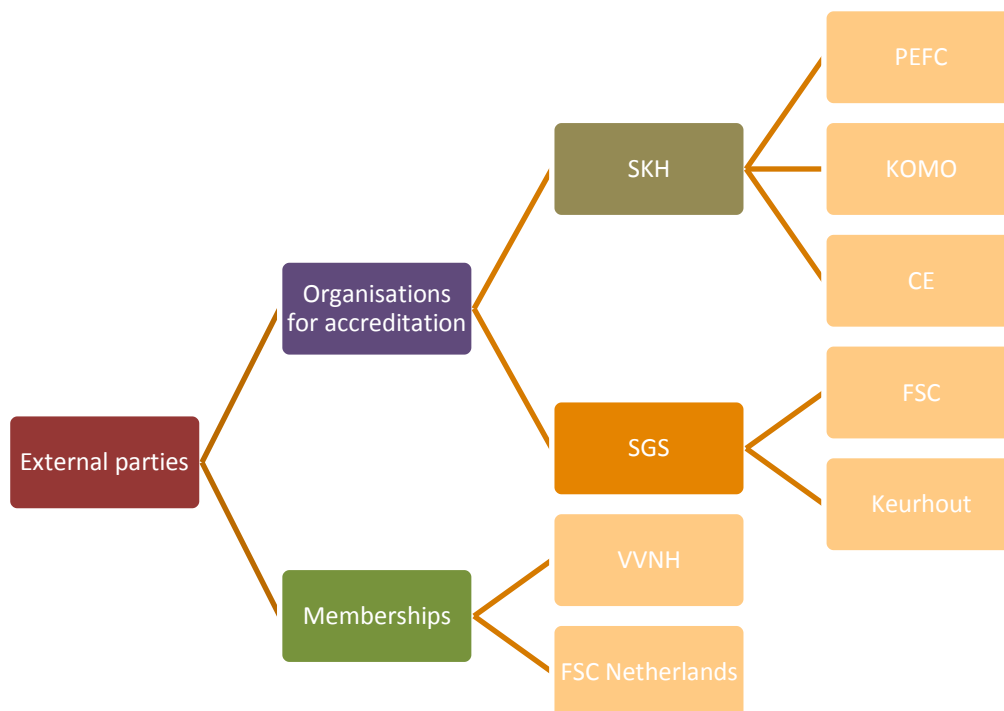


Figure 14: The external parties of Stiho and their relation

5.2 MEMBERSHIPS

The memberships are of voluntary nature, however if affiliated there are requirements set to the membership.

VVNH

For the VVNH, Stiho reports about the amount of traded sustainable wood products. This is required because of the objectives laid down by the VVNH. These objectives are mentioned in the plan of action “Bewust met hout” (freely translated: Careful with wood). Members of the VVNH agree the following: in 2015 they will import officially guaranteed sustainable wood in the following percentages: 50% of the hardwood, 85% of the board material and 100% of the softwood. (VVNH, 2009) For the years in-between sub-goals have been defined. To prove that Stiho’s import figures comply with these goals they have to report every year.

FSC Netherlands

Partners of FSC The Netherlands aim at enlarging the FSC certified forest area on a global scale. In addition to that, FSC partners also aim at increasing the market share of FSC certified timber and paper products in the Netherlands. To be able to meet this goal, Stiho, as a FSC partner, has to define a set of goals and write this in an annual plan.

This annual plan is evaluated yearly by FSC. FSC Partners can use this evaluation to promote their willingness to invest in sustainable initiatives. (FSC Nederland, 2010)

5.3 CONSUMERS

This is the largest external party. Stiho knows his role in serving the customers with fast delivery services and good prices. This is clear from the language and communication Stiho uses towards them via different channels.

5.4 CONCLUSION

Sub question 3 is: *How is the reporting arranged and communicated toward external parties?*

The reporting is arranged for two groups of external parties.

The most important group consists of organizations for accreditation. With these, Stiho has to maintain communication regarding turnover figures of certified products.

The memberships require the reporting of:

- Import figures (VVNH)
- Year plan to promote FSC (FSC Netherlands)

Further investigation is needed to answer the question on how the reporting is actually arranged.

6 PROBLEMS CAUSED BY MULTIPLE CERTIFICATION

This chapter will answer sub question 4. *What problems are caused by multiple certification within the organization?*

6.1 MANAGEMENT

Conclusion 1:

In many aspects, Stihl is focusing correctly in terms of being a valuable partner for the customer. Stihl wants to be able to provide the customer e.g. with fast delivery services and good prices. Without the customer, Stihl has no right to exist. In the case of certification, it is the researcher's observation that this point is being underestimated.

Conclusion 2:

FSC and PEFC have a very high market share in the Netherlands. Keurhout has a lower marketshare. Keurhout Duurzaam only accepts FSC and PEFC. Therefore, Keurhout Duurzaam has little added value, except for the possibility to mix FSC and PEFC in a bundle. Keurhout Legaal, however, can theoretically add more value.

Conclusion 3:

The costs for KOMO and CE are very different. KOMO is twice as expensive as CE and for KOMO an annual contribution is necessary. Direct costs are known, but Stihl has no clear picture of the indirect costs and of total costs of the KOMO certification in relation to the turnover realized because of holding the KOMO certificate. There is only a selected group of customers which is interested in KOMO visually graded certified products. It is possible that this small group represents an acceptable turnover rate.

Conclusion 4:

Offering both certified and uncertified timber leads to specific problems in logistics, administration and stock and adds to the confusion of the employees. There are actually six types of 'certification' to manage. While considering the value of the five certifications for Stihl, the category of uncertified timber should be taken into account, too. If one needs to go, uncertified timber should be a candidate as well. The import share of Stihl is already indicating a high percentage of certified wood (74%-100%). Because of downgrading of certified products, however, the advantages of this import share are not fully utilized.

6.2 INTERNAL COMMUNICATION

Conclusion 5:

A clear procedure for sharing new information about certifications internally is not available.

Conclusion 6:

The actualization of information seems not to penetrate into the lower levels of the company, the executive staff. This is partly caused by the number of chains in the hierarchy of the company. There seems to be minimal communication with employees of the operational levels. This communication is one way arranged.

The strategic department will benefit from having more sight on whether information reached the targeted persons and is read, understood and implemented, and whether it is workable. Communication processes have to be more actively managed. Currently, the personnel at the operational level is not only responsible for implementing changes, but also for gathering new information. This affects the streamlining and uniformity. This leads to inefficiency, confusion and frustration at operational levels.

Conclusion 7:

There is no standard procedure to share new information about certificates first internally and next with the customer. This leads e.g. to uncomfortable situations where the customer seems to be better informed than the employee and to using customer geared brochures for informing employees.

Conclusion 8:

Internal information is spread through an intranet system named 'Joost'. The awareness of employees about the existence of this platform is a very positive aspect. The interviewed persons were aware of this system. Overall can be concluded that this system is not working properly. At the moment, only people who do know where information is located are able to find the documents they need. It is nearly impossible to find documents by using the intranet search engine. Search results are showed in alphabetic order. People functioning under time pressure will avoid using this medium to inform themselves. Employees therefore are developing their own database for the information they regularly need to have access too. This increases the risk that employees are working with outdated information provided by their own databases.

Conclusion 9:

Employees associate the name of the intranet 'Joost' with the impossibility to find information.

Conclusion 10:

In former days certifications were not yet part of the business processes. The certificates do require additional procedures. The executive staff works according to their habit. They do not attach much importance to punctually carrying out their tasks according to prescribed procedures. The sentiment about certifications is not very proactive. Employees do not have enough insight in the reasons behind the changed procedures. The question "why?" seems to emerge regularly during their work. This leads to motivation problems at the operational level. It is obvious that this problem is caused among others by the diversity of certifications. Besides that, for the strategic level certification issues seem not to have the highest priority. This enhances the motivation problem.

Conclusion 11:

Communication structures are more or less available, however, they seem not to be fully utilized in practice.

Conclusion 12:

Employees get information they don't need to have. They also sometimes do not get information they need. It is essential to have a communication structure which brings people only relevant information, including the relevant procedures.

Conclusion 13:

Realizing personal and face-to-face communication is the desired scenario for most employees. Due to the size of the company this is hardly achievable.

6.3 EDUCATION

Conclusion 14:

At the operational departments, the knowledge of employees about certification issues is limited, apart from a few exceptions.

Conclusion 15:

Existing methods of education are not effective for the people in the operational departments, on the work floor.

Conclusion 16:

From the interviews, it became clear that employees know less of PEFC than of FSC, the knowledge of Keurhout is even less. The difference between these certificates is often unknown for employees. There is a huge difference between knowledge of the different certificates. The consequence is that certificates are confused. This exists also between the product certifications.

Conclusion 17:

Employees have no clear idea of the tasks they have to fulfill for the certifications. The procedures are generic and not function specific.

Conclusion 18:

Education is important for all the employees. However, not for all people the same type of education is needed. Just like communication has to focus itself on a target group, education has, too. Currently, education targets whole departments or even the whole company.

6.4 PLANNING AND ORGANISATION OF INTERNAL AND EXTERNAL AUDITS

Conclusion 19:

Internal audits are obligatory and should be used as a pre examinations. Internal audits have to be based on the criteria for external audits.

Conclusion 20:

Stiho uses two different accreditation boards. For the product certificates (KOMO and CE) one external auditor (SKH) is used. For the CoC certificates, however, both SKH (PEFC) and SGS (for FSC and Keurhout) are external auditors. Due to different accreditation boards, there is a undesirable spreading over the year of the tasks related to the audits. The different tasks surrounding certification audits are quite time-consuming and, therefore, the related indirect costs are high.

6.5 OVERALL CONCLUSION

Conclusion 21:

Many of the problems that surfaced during this research project have more overlap with business management than international timber trade.

7 RECOMMENDATIONS

This chapter will answer sub question 5:

Which improvements can be made to solve the problems caused by multiple certification in terms of communication, reporting, planning and education?

7.1 MANAGEMENT

Recommendation 1: Evaluate the value of the certificates for both customer and Stiho

If customers value certain certifications, they are valuable for Stiho. The product manager wood products should make a yearly overview of the certification related turnover and profit growth, per certificate. Shortly before a certificate expires, the turnover trends over the past years should be examined to link the value of the certificate to the customer's needs and wants and hence, the value of the certificate for Stiho. There is a small chance that some certifications lead to loss instead of profit.

Decision criteria need to be established. Criteria for three scenarios could be developed to present the results to the manager assortment. The scenarios could be e.g. 'continue', 'continue, but with preconditions', 'discontinue'. A precondition could be: continue, but the turnover for this certificate should increase with x percent over the next year.

Recommendation 2: Investigate the viability of Keurhout Legaal

Stiho should investigate as soon as possible whether turnover figures and consumer wishes justify continuing Keurhout Legaal and Duurzaam.

Recommendation 3: Investigate the viability of KOMO based on turnover figures

It is important to know for which turnover rate this small group is responsible. Based on revenue figures, Stiho should decide whether the KOMO certificate is still valuable for customers and therefore the company. If the small group of customers represents a large share in turnover, the KOMO certificate can be continued, but if the turnover is only small, Stiho could consider discontinuing the KOMO certificate. This investigation should be made

Recommendation 4: Investigate the possibility of offering only certified timber:

Investigate turnover figures to determine whether Stiho could stop offering uncertified timber at a higher rate than the aims of VVNH. Take into account the gain realized by better streamlining the business processes regarding administration, logistics and clarity for the employees. Ceasing to offer uncertified timber does not have to lead to loss of clients. Offering only certified timber means one category less to manage and more clarity for the employees. It creates more possibilities for a natural and logical division between the certifications at the work floor. Last but not least, offering only certified timber will heighten the credibility of Stiho with the customer. Stiho could aim at being one of the first companies to offer only certified timber and use this as a marketing tool. While investigating this, it has to be taken into account that the global amount of forest certificated products is still limited. However, looking to Stiho's certified import rate, this should not pose a problem. This recommendation does not apply to CE and KOMO.

7.3 INTERNAL COMMUNICATION

Recommendation 5: Share new information about certificates rightaway internally

Strategic departments have to develop clear procedures for the sharing of new information and the implementation of necessary changes. New information about certification issues needs to be shared actively and right away through the internal documentation and communication structures. Whenever a change of procedures is necessary, they need to be changed as soon as possible. It has to be taken into account that time is needed to spread the new information through many departments and channels of the company.

Recommendation 6: Share information about certificates actively

Intranet is a good back up medium; for new information, however, it is more efficient to communicate this directly and actively to employees at the operational level in order to ensure that the information has reached the persons and has been read, understood and implemented. They should only be responsible for implementing new procedures, not for gathering information. The responsibility for sharing information lies at the management level. The department of communication can be assigned to play a key role in the communication between this levels. The strategic department should ensure that they receive regular feedback from the operational level.

The strategic department will have more sight on if information reached the persons. Management has to verify whether employees are acting according to given information and apply to given instructions. People do what you inspect, not what you expect.

Recommendation 7: Share new information about certificates internally first

The priority for sharing information internally needs to be higher than informing the customer. Having educated and timely informed employees creates trust in the relationship between employee and customer.

Recommendation 8: Improve the intranet search engine

The currently used intranet system needs to be improved. Listing the search results in order of relevance will already greatly reduce the time needed for searching. Furthermore, it has to be investigated what other obstacles employees perceive in using the intranet.

Recommendation 9: Change the name of the intranet platform

A recommendation is to change the name of the intranet. The name "Joost" has a negative connotation caused by the Dutch expression "Joost mag het weten" which means something like "I don't know and I don't care" or "A higher power will know it". People are using this expression if they are embarrassed with a question which is impossible to answer or when they are not really interested in the answer. Being constantly associated with this expression does not motivate people to make use of the information system.

Recommendation 10: Give more insight in the reasons behind procedures and enthuse

Giving insight in the reasons why these procedures were or are introduced, creates understanding at the operational level. The management should see the certifications more as a jewel in the crown of the company. This enthusiasm will motivate the operational level to work more precisely according to the procedures. This creates less soil for a negative work environment. The employees will understand the importance of certification issues better and feel less free to express negatively.

Recommendation 11: Use existing communication systems and schedule monthly meetings monthly

The existing communication structures need to be fully utilized. Monthly meetings have to be scheduled monthly as agreed. Someone must ensure that these meetings are actually scheduled and are held. They should be recorded and made available for inspection.

Recommendation 12a: Design a communication structure for function relevant information

A better communication structure has to be developed that brings the people the information made to measures. Thereby it is important that they get all the information relevant for their function and no information irrelevant to their function.

Recommendation 12b: Understandable, made to measures procedures

To ensure that everybody does understand the procedures, these have to be communicated in a way that the language used is understandable for people in the operational departments. Preselect for the employee the information he has to read.

Recommendation 13: Meet the preference for personal communication

The preference of employees for personal communication can be partly met by giving the employees the ability to speak themselves out. This can be done by presenting changes in such a way that they have the possibility to ask questions. For example a short meeting followed by a newsletter with same content. The newsletter is

functioning as a reminder.

7.4 EDUCATION

Recommendation 14a: Appoint talented and motivated employees as information sources

To increase the knowledge at the operation level there need to be more people available which are able to propagate orally the needed information or knowledge. This person is broader educated about the certificates and prepared to share his knowledge with people in the operational departments. For the sales department the function of RPS does exist. For the operational departments a similar specialist needs to be available. This person acts as a certifications oracle for questions and at the other hand he assesses if proceedings are carried out correctly according to the transferred knowledge.

Recommendation 14b: Make an introduction program for new employees

For new employees an introduction program could be designed, so they are capable to gain feeling with the different certificates and the purpose of these. They have to understand why these certifications are valuable for either the environment, Stiho and, most important, the customer. If they know this background information, they will be more motivated to get the procedures done correctly.

Recommendation 15: Reckon with different learning styles

It needs to be taken into account that people have different learning styles. People who do prefer a more practical approach are most of the time less interested in gaining knowledge through reading. These people learn faster if knowledge is transferred during working time, where they can put the learned directly into practice. The method of transferring knowledge has to fit the people who have to perform.

Recommendation 16: Enlarge knowledge of employees about differences

On many aspects, FSC and PEFC are similar. To enable the employees to tell apart these two, they should be taught the differences. This can easily solve the confusion and enlarge their knowledge about the plethora of certifications.

Recommendation 17: Extend job description with required knowledge about certifications:

The function description of the employees has to be extended. The minimum knowledge about certification needs to be described in the function description. For each function or group of functions it has to be sought out which description therefore is needed. Doing this, also the relevant procedures can be connected to the function description. This has to be assessed regularly .

Recommendation 18: Provide function specific education

Developing function specific education for employees is necessary to motivate and inform them, which is beneficial on many levels. Employees will value their work more, the customers can be served better by well-informed people, invoices and so on will be better checked, because the employees have background knowledge that helps them motivate themselves to carry out their function egregiously.

7.5 PLANNING AND ORGANIZATION OF INTERNAL AND EXTERNAL AUDITS

Recommendation 19: Use internal audits more as a tool

For Stiho internal audits have to be used more as a tool to prevent CAR's in external audits. This can be done by taking internal audits e.g. three months before external audits. While doing this, critical points can already be noticed before external audits are taken. In the period between the internal and external audit, improvements can be made to prevent major or minor CAR after external audits.

Recommendation 20: Use only one accreditation board and concentrate audits

By making use of only one accreditation board, at least per type of certification (CoC or product), more efficiency can be gained. Cost reduction and more or less simultaneous external audits thereby could be negotiated. While combining these audits, many other benefits can be gained. This will result all certifications

or one type of certification being assessed in a short period of time, preferably a couple of weeks. All processes related to these audits, like internal audits, reports, CARs, etc., can therefore also, for all certifications, be scheduled in a short time span instead of being spread over the whole year. Working in a short time span will also better show the similarities and differences between the auditing processes and, hence, spark creativity to integrate certifications processes.

A certain period in a year can be concentrated on improving certificate related processes. This focus also results in the audits being less of a burden.

7.6 ADDITIONAL RECOMMENDATIONS

Recommendation 21: Hire a business specialist

Because many of the problems that surfaced have more overlap with business management, it is recommended to hire a business specialist to investigate and work on improvement of the non-timber related business processes.

8 DISCUSSION AND CONCLUSION

In this chapter the main question is answered by a discussion and a conclusion.

Certifications do distinguish Stihl's products from non-certified products because they have added value in certificate specific aspects. This is something which has always to be taken into account. In many aspects, Stihl is focusing correctly in terms of being a valuable partner for the customer. Stihl wants to be able to provide the customer e.g. with fast delivery services and good prices. Without the customer, Stihl has no right to exist. In the case of certification, this point seems to be underestimated. If certifications are valuable for customers, they have to be important for Stihl on all levels. The influence of offering uncertified products has to be assessed as well.

For employees in both strategic and operational departments, the requirements issued by the certification standards are perceived as a burden. This results in a negative approach which is not resulting in the resolving of the problems. Stihl has to propagate itself as a proud owner of certificates and memberships, not only towards customers but also internally. This will stimulate the employees in making the most out of it. Improving the availability of clear, function specific information will increase the willingness to make the most out of it. This will add to a personal feeling of responsibility. Employees have to see themselves more as part of Stihl's backbone to satisfy the customers' needs and wants. Faster actualization processes give employees possibilities to give feedback on the implementation of changes.

Communication should be more positively approached. A positive renaming of communication tools (Intranet) can already be helpful in taking away part of the irritation. Personal communication is the desired type of communication for most employees. Giving them the ability to speak themselves out can provide relief. Personal communication can also be achieved by making language understandable and developing function specific materials.

Giving insight in the value certifications have for the company, can result in simplification of the business situation by making clear choices about which certificates to keep and which to dispose of. Maintaining certifications which are not valuable for the company does not only result in unnecessary expenses, but also counteract simplification processes.

Education about certifications needs, as with communication, to focus on the different, working levels, functions and learning styles. Knowledge about certification should be demanded by enlarging the function description with required knowledge. Knowledge can be a tool to solve the complexities and confusion about the different certification schemes.

Main question:

How can Stihl, a multiple certified company, solve complexities caused by the use of various certificates, regulations and policies?

In solving the complexities not only the certifications have to be examined. Also existing business processes have to be reviewed, preferably by a managerial expert. Embedding the processes surrounding the certifications into well streamlined management processes will result in a better general performance of Stihl. Providing a constant chain of feed forward and feedback in the area of communication and education will be very valuable. The complexities created by the certifications are partially a symptom, because other processes at Stihl are not sufficiently streamlined to carry the weight of the certification requirements. In the areas where certification schemes cause problems, the most important changes have to be made in a better routing and transfer of function specific information and education of the employees. Besides that, it has to be clarified which reasons lay behind the procedures, processes and inventory management. Clustering of audits will result in an intensive period where the focus in the entire company lies on certification issues. This will

naturally lead to more efficient processes for audits, reporting and determining bottlenecks and areas for improvement.

Certificates represent certain values. Therefore, during the introduction of certifications not only changes in work processes are needed but also a change in management culture and mindset. More attention needs to be paid to this last element.

The complexities of being multiple certified can change in to challenges promising many beneficial opportunities for Stiho to profile itself on the Dutch timber market.

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APPENDICES

ANNEX 1 THE INTERVIEW QUESTIONS

Availability of information

1. Op welke manier kom jij aan de informatie die je nodig hebt over bepaalde certificaten?

Translation: How do you usually gather the information you need about certain certificates?

2. Op welke manier kom jij te weten dat de verkregen informatie actueel is?

Translation: How do you know if the gathered information is actual?

Intern procedures

3. Hoe controleer jij dat jouw werk volgens de procedures verloopt?

Translation: How do you check if that your work is carried out according to written procedures?

4. Sluiten de procedures aan bij de werkzaamheden uitgevoerd moeten worden?

Translation: Do the procedures match with the tasks you have to carry out?

5. Is het duidelijk welke werkzaamheden er speciaal gedaan moeten worden om te voldoen aan de eisen van certificaten?

Translation: Is it clear which processes have to be carried out to meet the requirements of certificates?

6. Hoe kunnen de procedures verbeterd worden, welke problemen neem je waar?

Translation: How can current procedures be improved, which problems are you aware of?

Internal communication about certifications.

7. Kun je altijd beschikken over actuele informatie?

Translation: Do you have the possibility to dispose of actual information?

8. Op welke manier zorg jij dat je wordt geïnformeerd over actuele informatie?

Translation: In what way do you ensure that you are informed about actual information?

Education

9. Vind jij dat jouw eigen kennis op het gebied van certificeringen voldoende is om werkzaamheden uit te kunnen voeren? Op welke punten mis je kennis?

Translation: Is your knowledge about the world of certifications sufficient to function properly in your function? On which field do you experience a lack of knowledge?

10. Wat vind jij van de huidige manier van kennisoverdracht binnen dit bedrijf?

Translation: What do you think about the current methods of education in this company?

11. Heb je gebruik gemaakt van de E-learning? Waarom wel/niet?

Translation: Did you make use of the E-learning? Why (not)?

12. Welke manier van kennisoverdracht zou voor jou het beste zijn?

Translation: Which method of education would fit you best?

Audits

13. Ben jij op de hoogte de audits die gehouden worden in dit bedrijf om te toetsen of het bedrijf voldoet aan de voorwaarden die de certificeerder stelt? Heb jij kennis genomen van de verbeterpunten die naar voren kwamen in deze audits?

Translation: Are you aware of the audits regularly being held in this company to assess if the company is working according to the requirements of the certification scheme? Have you taken notice of the areas of improvement which were the outcome of these audits?

14. Zijn de vervolgstappen die worden genomen voor jou inzichtelijk? Zo ja op welke manier?

Translation: Do you have insight in the action points which have to lead to improvements? If yes, how?

15. Op welke manier ga jij om met fouten en gebreken die geconstateerd zijn bij audits?

Translation: In what way do you deal with the problems detected during audits?

Overige zaken

16. Zijn er nog andere problemen en zaken die van belang zijn om te benoemen in dit interview?

Translation: Do you have additional issues you want to mention to appoint in this interview?

ANNEX 2 EXAMPLE OF AN SKH KOMO AUDIT CHECKLIST (CENSURED)



Externe kwaliteitsbewaking: Visueel gesorteerd naaldhout

BRL: 2301

Rapportnummer: Productcertificaatnr.:

Naam: Datum bezoek:

Plaats: Datum vorig bezoek:

OMSCHRIJVING	BEOORDELING				TOELICHTING	
	+	-	nvt	nb	nvt = niet van toepassing	nb = niet beoordeeld
A PRODUCTEISEN					Partij 1: Kwal./sterkteklasse: Vu./Den./Gren./Lar./Doug.%, ..%, ..%, ..% aantal: kopmaat:	Partij 2: Kwal./sterkteklasse: Vu./Den./Gren./Lar./Doug.%, ..%, ..%, ..% aantal: kopmaat:
01 Houtsoort	0	0		0		
02 Houtvochtgehalte	0	0		0		
03 Afmetingen						
a. Lengte	0	0		0		
b. Dikte	0	0		0		
c. Breedte	0	0		0		
04 Houtkwaliteit (constructief en niet-constructief)						
a. Boordergangen / insectenschade	0	0		0		
b. Schimmelaantasting	0	0		0		
c. Ingegroeide schors en/of bast	0	0		0		
d. Draadverloop	0	0		0		
e. Groeiringbreedte	0	0		0		
f. Reactiehout: drukhout	0	0		0		
g. Scheuren	0	0		0		
h. Vervorming	0	0		0		
i. Wan	0	0		0		
j. Mechanische beschadigingen	0	0		0		
k. Kwastgrootte	0	0		0		
+ Houtkwaliteit (constructief)			0			
l. Schietkwasten	0	0		0		
m. Kwastgroep	0	0		0		
n. Topbreuk	0	0		0		
o. Golvende draad	0	0		0		
p. Bast	0	0		0		
+ Houtkwaliteit (niet-constructief)			0			
q. Losse kwasten	0	0		0		
r. Zachte kwasten	0	0		0		
s. Collaps	0	0		0		
t. Inwendige scheuren	0	0		0		
u. Zacht spint	0	0		0		
v. Verkleuring door verwerking	0	0		0		
w. Drukbreuk	0	0		0		
x. Harszakken	0	0		0		
y. Hart	0	0		0		
B. BEWERKINGEN	+	-	nvt	nb	ruw / geschaafd / vandikte	ruw / geschaafd / vandikte
05 Verduurzamen (facultatief)	0	0	0	0		
06 Vingerlassen (facultatief)	0	0	0	0		
07 Lamineren (facultatief)	0	0	0	0		
C. MERKEN	+	-	nvt	nb		
08 KOMO® woord- of beeldmerk	0	0		0		
09 Nummer productcertificaat	0	0		0		
10 Aanduiding kwaliteitsklasse / sterkteklasse	0	0		0		
11 Klimaatklasse	0	0	0	0		
12 Schriftelijke specificatie (houtsoort / afmeting / hoeveelheid / kwaliteits-/sterkteklasse / klimaatklasse)	0	0		0		

Akkoord SKH:

DOC. 02.3004.V007

ANNEX 3 EXAMPLE OF AN SKH CE AUDIT CHECKLIST (CENSURED)



CHECKLIST FPC T.B.V. CE MARKERING OP STERKTE GESORTEERD HOUT

Bedrijfsnaam:	Certificaatnr.:
Plaats:	Contactpersoon:
Tel:	E-mail:
Type sortering:	Beoordeling:
Visueel <input checked="" type="checkbox"/> Machinaal <input type="checkbox"/> Beide <input type="checkbox"/>	Handboek <input checked="" type="checkbox"/> Initiële audit <input checked="" type="checkbox"/> Audit <input type="checkbox"/>
Aantal Bijlagen:	Datum:
Auditor:	

Item	Ref.	FPC handboek	+	-	n.v.t	Opmerking/Observatie
FPC-1	EN 14081-1 § 6.3	Documenten beheersing • Opstellen/documentatie/onderhoud • Interne beoordeling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
FPC-2	EN 14081-1 § 6.3	Organisatie schema • Directie/kader/KAM/sorteerders • Training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
FPC-3	EN 14081-1 § 6.3	Grondstoffen • Ontvangstcontrole/criteria • Registraties	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
FPC-4	EN 14081-1 § 6.3	Productie methodes • Instructies/criteria/controles • Registraties	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
FPC-6	EN 14081-1 § 6.3	Afwijkend product & klachten • Markeren • klachtenbehandeling • Corr. en preventieve maatregelen • Registraties	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Opmerkingen handboek:

Item	Ref.	Visueel gesorteerd constructiehout	+	-	n.v.t	Opmerking/Observatie
VGr-1	EN 14081-1 § 6.3.6	Sorteer condities • Training/vaardigheden medewerkers • Sorteer lijn/verlichting/zichtbaarheid • Beschikbare Instructies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGr-2	EN 14081-1 § 6.3.5, § 6.3.6, § 6.3.7	Gezaagd/geschaafd hout • Houtsoorten/groeigebied • Diktes/breedtes/lengtes • Ruw/geschaafd • Kalibratie vochtmeter/houtvocht • Registraties	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGr-3	EN 14081-1 § 6.3.5, § 6.3.6, § 6.3.7	Sorteren • Sorteer regels • Sorteerdere/controle van sorteerders • Registraties	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VGr-4	EN 14081-1 § 6.3.5	Eindproduct • Verdere bewerkingen • Duurzaamheid en brand • Markering • Opslag	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Opmerkingen visueel sorteren:

Akkoord bedrijf:

SKH/test versie

Akkoord SKH: