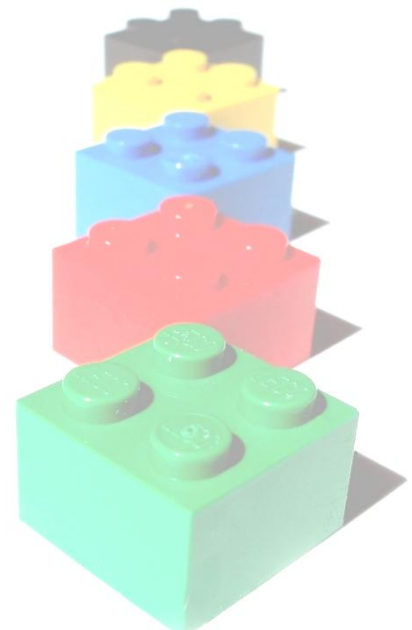


FUTURE WORK PROCESS FOR THE PREPARATION OF FINANCIAL STATEMENTS

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Abstract

This research aims to develop a better and applicable work process for the preparation of financial statements, in Dutch called; 'de Samenstelpraktijk'. This preparation activity is one of the most performed activities, by financial intermediaries (read accountants), for small to medium sized businesses in The Netherlands.

Several experts argue that some inevitable upcoming changes require the financial intermediary to rethink its current processes regarding this preparation activity. This research therefore tries to assist the financial intermediary in the development of such a new design.

For our new proposed design we looked at other fields of study. We found similarities with the scientific field of 'Production and Logistics'. The upcoming changes, concerning the preparation activity, were therefore compared to the changes that already took place within 'Production and Logistics'. We observed that, to some extent, the field of 'Production and Logistics' already coped with the same changes the financial intermediaries are currently facing now.

Based on this observation the appropriate underlying theories from the field of 'Production and Logistics' were selected and translated to the practice of Accountancy, read the practice of preparing financial statements. Important additions from 'Production and Logistics' are; the use of a Customer Order Decoupling Point and the appliance of direct modularity, read re-usage.

The appliance of these theories resulted in a process design which can combine flexibility with low costs.

The proposed design can cope with custom information needs while enabling low cost preparation and even decreases throughput time. This is primarily done by dividing the preparation process in two different and somehow independent processes with their own objectives. One continuous process is aimed at efficiency, while another order driven process is aimed at effectiveness. XBRL has an enabling role in this design.

To support an actual implementation, a classification model was developed. This model helps in dividing current activities between these two processes.

The new process design was also empirically validated with the use of field experts. The empirical validation showed that our connection between 'Production and Logistics' and Accountancy was accepted, however additional points require further research.

Acknowledgements

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REIN STEENS



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1. Introduction

This thesis is the result of a graduation assignment which is part of the master program; Economics and Informatics, specialization Economics and ICT, at the Erasmus University Rotterdam. An internship, for the period of seven months, was part of the graduation assignment. This internship was performed at AccountView (Amsterdam). AccountView is a Dutch software developer which delivers a series of solutions aimed at the processing of the financial administration. The clients from AccountView vary from individual users to medium and large administration offices / accountancy firms. Each group is supported with its own set of software tools. It is important to notice that this research is aimed towards these accountancy firms and administration offices.

1.1 Research motivation and problem

It is important to state that the research motivation was initially contributed by AccountView.

AccountView see some inevitable changes in the nearby future regarding these accountancy firms and administration offices. It can be argued that this group are, and always have been, subject to certain changes. Think hereby of changes in law and regulation and technological developments. These changes have, to some extent, effect on the way how work is done. The magnitude of these changes however varied throughout time. It is expected that there are going to be changes, in the nearby future, that will have a great magnitude of impact (Wietsma, 2009).

An example of such a change is the appliance of eXtensible Business Reporting Language (XBRL). It is likely that a change such as XBRL puts pressure on the current business processes within the organization. It is therefore expected that some accountants and administration offices, read financial intermediaries, may find it difficult or even irrelevant to incorporate these changes into their processes (AccountancyNieuws, 2008).

AccountView argues that it is important to create certain awareness about these upcoming changes and encourage the financial intermediaries to think about a redesign of their current processes which can support these upcoming changes. Therefore the goal of this research is to present a founded new way of work which is able to handle the upcoming changes.

Based on this research problem the following research question is stated:

“How could the new future work process for the accountant or administration office, active for small and medium sized businesses, look like which is able to cope with the vision of AccountView?”

This is a very general and broad question. The scope of this question is minimized by adding the following objectives and boundaries:

- The new future work process has to affect the Dutch **process of preparing financial statements**¹. The process of preparing financial statements includes the preparation of the annual report and other financial statements. The process of preparing financial statements is a very important service for small and medium sized businesses (NOvAA, 2008). Primarily because this group lacks the in-house knowledge to do it their self. You can read more about the process and working of preparing statements in paragraph 2.1.3.
- The (new) technology called **eXtensible Business Reporting Language** must be incorporated in the new work process. EXtensible Business Reporting Language is an important development in the world financial reporting. It greatly affects the way financial information is communicated by setting open and global standards. It is observed that accountants and administration offices are discovering different ways to apply the benefits of the eXtensible Business Reporting Language (Bisschop & Snijders, 2009). Therefore eXtensible Business Reporting Language is given a prominent place in our work process to illustrate the potential benefits. You can read more about eXtensible Business Reporting Language in paragraph 2.2.
- **Make the new work process applicable.** The new work process must be more than a vague vision or something of ‘how it could possibly look like in the nearby future’. Goal is to provide tools and methods that could support an actual implementation of this new work process.

1.2 Research approach

This chapter describes all steps taken to answer the research question. The first step taken was that of information gathering, hereby primarily focusing on Accountancy and eXtensible Business Reporting Language. This phase started from a general view and was narrowed down with the research question in mind. To guide this process some sub questions were formulated.

For the topic Accountancy the sub questions were:

- What is Accountancy?
- How is Accountancy organized in the Netherlands?
- What is the role and position of preparing financial statements in Accountancy?
- How are the processes, regarding the preparation of financial statements, currently organized?

¹ Translated to Dutch: ‘samenstelpraktijk’.

For the topic eXtensible Business Reporting Language the sub questions were:

- What is eXtensible Business Reporting Language?
- How does the eXtensible Business Reporting Language (technical) work?
- How can eXtensible Business Reporting Language be used in accountancy (process of preparing financial statements) today?

To answer these sub questions a literature study was performed, interviews conducted and seminars attended. The results are incorporated in chapter 2. This chapter can also be used to place the research into context.

Based on this current situation an analysis was made about the future of accountancy regarding the process of preparing financial statements. The vision of AccountView was mainly used for this analysis. AccountView sees some inevitable upcoming changes. The vision is based on the experience and interaction they have with their clients and their view on the market. The requirements for the new work process are established with their vision in mind.

Because of the scientific “standing on the shoulder of giants” we looked at other scientific fields of study to find a solution to fulfill these requirements. Did other scientific fields of study address the same problems we are facing now? We found similarities between the changes in the scientific field of ‘Production and Logistics’ and our upcoming changes. We therefore started with information gathering on ‘Production and Logistics’ by performing a literature study. The results of this study are also incorporated into chapter 2.

The question for the scientific field of ‘Production and Logistics’ was:

- How did production developed throughout the years? Or in other words, what changes and problems occurred in ‘Production and Logistics’ and how were these problems solved?

After this literature study a selection of the appropriate theories was made. These theories were translated to the practice of accountancy, resulting in a new process design, see chapter 3.

For a workable implementation of this way of work, a (classification) model was developed. This classification model is described in chapter 4.

The classification model was used on a real life example, namely the banking taxonomy. The outcome of this classification is described in chapter 5. Because this new way of work influences the

current assurance related activities we discuss these changes and new possibilities in chapter 6. Other changes regarding this way of work are described in chapter 7.

The last stage was an empirical validation of the new developed work process and supportive classification model. This stage is described in chapter 8.

1.3 Thesis structure

The schematic presented in Figure 1. *Thesis structure.* illustrates all steps taken to answer the research question. This structure is also used in the thesis.

The first step; ‘information gathering’ is composed out of several smaller steps which are described in the following paragraphs: step 1a ‘Accountancy’ is described in paragraph 2.1, step 1b ‘XBRL’ is described in paragraph 2.2 and step 1c ‘Production and Logistics’ is described in paragraph 2.3.

The second step; ‘identification of upcoming changes’ is described in paragraph 3.1.

The third step; ‘Design new work method’ is described in paragraph 3.5.

The fourth step; ‘Model creation’ is described in chapter 4.

The fifth step; ‘Model testing’ is described in chapter 5.

The sixth and last step; ‘Empirical validation’ is described in chapter 8.

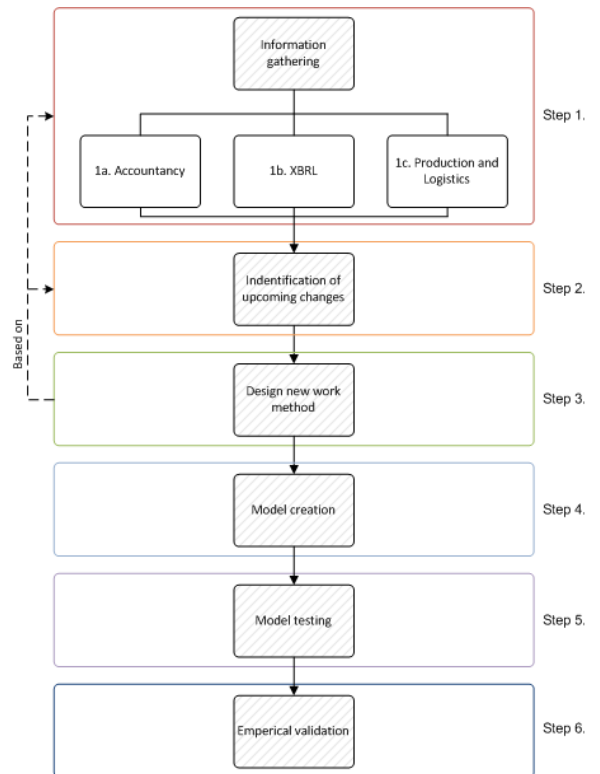


Figure 1. Thesis structure.

2. Background Information

This chapter provides background information about the topics: Accountancy, Extensible Business Reporting Language and 'Production and Logistics'. This chapter can be used to place the research question and research answer into context.

2.1 Accountancy

For image-forming, a broad and general definition of Accountancy is given. Accountancy is *"the science which deals with the recording of monetary transaction of every description, whether of a private nature, or of commercial or financial undertakings"* (Pixley, 1900, p. 4). According to Pixley the field of accountancy can be divided into three branches:

- The first branch, defined by Pixley, is **constructive**. It focuses on the design, reorganization and communication of the books of account.
- The second branch focuses on the **recording of transactions**. This branch is defined as *"The recording branch concerns itself with the making of correct entries in such books of account as have been designed for the purpose of containing them. This is technically known as Book-keeping"* (Pixley, 1900, p. 5).
- The third branch is the, commonly known, **analytical** or critical branch. This branch is defined as *"The analytical or critical branch of Accountancy is concerned in ascertaining the correctness of such entries, or the correctness of statements prepared from such entries, either by means of a periodical checking technically known as "Auditing", or by means of an investigation undertaken for a special purpose"* (Pixley, 1900, p. 5).

2.1.1 Accountancy in the Netherlands

This chapter further elaborates on the current situation of accountancy in the Netherlands. This is done because the research question affects the situation in The Netherlands. This summary is based on information from Westra (2009).

In the Netherlands a distinction can be made between two types of accountants namely; Register Accountants (RA) and Accountants-Administratieconsulenten (AA). An important difference between RA's and AA's is that RA's are academically educated while AA's are vocationally trained. Currently there are about 20000 active



Figure 2. Fokke & Sukke visited by an external accountant © Reid, Geleijnse, & Tol.

accountants in the Netherlands. These can be divided into 14000 RA's and 6000 AA's. Membership at a branch organization is obligatory to be active as an accountant in the Netherlands and also to use the title: RA or AA. For Register Accounts this branch organization is the Koninklijk Nederlands Instituut van Registeraccounts (NIVRA) and for Accounts-Administratieconsulenten this is the Nederlandse Orde van Accountants-Administratieconsulenten (NOvAA). From historical point of view AA's were specialized in the supportive work for small and medium sized businesses, while RA's were more active in larger audit assignments. Since new law and regulation went active in 2006 the separation between these groups is disappearing.

Both accountants, in the Netherlands, can perform different roles:

- **External or Public accountants**, this group can be seen as trustees or guardians of social commerce, see 'leer van de gewekte vertrouwen'. External and public accountants are employed at accountancy firms. To be able to perform legal audits, an (external) accountant and the accountancy firm, both need to be registered at the Authority Financial Markets (AFM). This is a financial authority in the Netherlands.
- **Internal accountants** are active for Internal Audit Services / Departments. Activities are centered on the audit and compliance of internal figures and internal control.
- **Government accountants**, these accountants are active for government agencies. For example the Dutch Tax Office.
- **Accountants in business**, this group consists of RA's and AA's that are active in other roles like Chief Financial Officer, financial controller or project manager.

The process of preparing financial statements, as focused on in this thesis, is one of the tasks of the external and public account. 31% of the total RA's (4.359) and 63% of the total AA's (4.093) is active as external or public accountant. Total 41% (8.452) of the active accountants is external or public accountant.

2.1.2 Activities of an external accountant

A public or external account may perform the following assignments in the following categories:

Assurance related assignments (aimed at the provision of certainty)	
<i>Legal audits</i>	<ul style="list-style-type: none"> • Legal audits (of the annual report)
<i>Other assurance related assignments</i>	<ul style="list-style-type: none"> • Voluntary audits of annual report • Special audits • Review of annual report • Review of temporary figures
Non-assurance assignments	
<i>To assurance related assignments (aimed at a certain provision of certainty)</i>	<ul style="list-style-type: none"> • Agreed specific services • Preparation of financial statements (annual report)
<i>Other assignments</i>	<ul style="list-style-type: none"> • Transaction related services (for example: advice on takeovers, ratings and financing) • Administrative services (for example: the preparation of tax declarations) • Other services

Table 1. Possible activities external/public accountant

There is a general division between assurance related assignments and non-assurance assignments. With assurance related assignments, the accountant adds value by providing assurance through acting as a third independent and trusted party. The accountant acts as a guardian of social commerce based on ‘the auditor’s doctrine of good faith’ by Limpberg (Sluyterman, 1993).

Freely translated, Limpberg stated “*an accountant is obligated to perform his task in such a way that he doesn’t shame the expectations of another (right-thinking) uninitiated individual. The other way around; the accountant shouldn’t raise expectations that are not equivalent to his performed actions*”. Foundation of the auditor’s doctrine of good faith is that an accountant serves a higher goal. He does not serve his employer. He is a guardian of social commerce. This doctrine is used even in today’s (Dutch) lawmaking and branch regulations (Koninklijk Nederlands Instituut van Registeraccountants, 2006).

The most commonly known assurance related assignment is the (lawful obligated) audit of an annual report. With non-assurance assignments, the accountant adds value by using its broad expertise and

skill. This addition of expertise and skill can also be seen as form of certainty, for example with the preparation of the annual report.

Assurance related assignments can be divided into legal audits and other assurance related assignments. Legal audits affect companies that are obligated by law to certify their annual report by an accountant based on Civil Book Code 2, art 393/1. The result of a legal audit is an auditor's report which can, depending on the outcome, provide a high degree of certainty. Due to this high degree of certainty the amount of required checks is very large. Other assurance related assignments can be divided into review assignments and special assignments. Review assignments can be performed on (other) annual reports or temporary figures. Result of a review assignment is a review report which provides a moderate amount of certainty. This moderate amount of certainty implies a smaller number of checks. Both the review and the audit assignment concern historical financial facts. By performing special audits, it is also possible to provide assurance about financial facts which are aimed at the future, for example forecasts or projections. Another example is provision of assurance for systems, processes or behavior, for example assurance about the operation of internal control. Result of this type of audit is an assurance report. Depending on the beforehand set criteria this could provide a moderate to high degree of certainty.

Non-assurance assignments can be divided into 'to assurance related assignments' and 'other assignments'. Goal of the 'to assurance related assignments' is to provide an undefined, however present level of certainty. The expertise, skill and reputation of the accountant are an important factor in this provision of certainty. The 'to assurance related assignments' can be divided into 'agreed specific services' and 'the preparation of the annual report or other financial statements'. Agreed specific services are customized services where the assignment and possible outcomes are determined in advance. The outcomes of these services are therefore only intended for the accountant and the employer, not for another third party.

The preparation of financial statements is a service whereby the accountants preparers the annual report, or other statement of such sort. The most delivered service for small and medium sized businesses is the preparation of financial statements (NOvAA, 2008). Other assignments are all other services. Expertise plays a key role within other assignments. These assignments include administrative and transaction related services like advice on takeovers, ratings and financing. Because this thesis affects the preparation of financial statements, the subject is further elaborated in the next chapter.

2.1.3 Preparation of the annual report and other financial statements

When the accountant prepares an annual report or other financial statements he will perform some basic checks. The scale of these checks is less thorough than at the audit or review assignment. The accountant adds value by applying his broad knowledge and expertise regarding the keeping, auditing and processing of an administration. When the accountant has prepared the annual report he adds a statement of preparation². This states that the annual report complies with applicable standards. It also denies the guarantee of the completeness and reliability of the annual report. The accountant is dependent on information supplied by its client. Therefore he cannot fully establish the correctness and reliability of the data. This assignment is only possible if there is no legal obligation for an independent audit of the annual report. In many cases the annual report is accompanied with an analysis. This analysis is a representation of interesting developments regarding the annual report.

The preparation of an annual report can be based on:

- **Companies who keep their own administration.** This is often the case with medium sized business. These businesses are able to hire sufficient skilled administrative personnel which are able to process the administration. This personnel nevertheless is not able to prepare and audit an annual report.
- **Administration kept by the accountant.** Small businesses are often not able to hire administrative personnel or the owner lacks administrative knowledge. In that case the business owner asks the accountant to keep its administration. Processing the client's administration is a non-assurance related (other assignment). This processing of the client's administration is also a common activity for accountants active for small to medium sized business.

The process of preparing financial statements is supported by work programs. These work programs can be seen as step by step instructions to gather, assure and report data required for the financial statement. These work programs are developed by the different branch organizations. The usage of a work program is displayed in Figure 3. *The usage of a work program.*

² Translated to Dutch: 'samenstellingsverklaring'

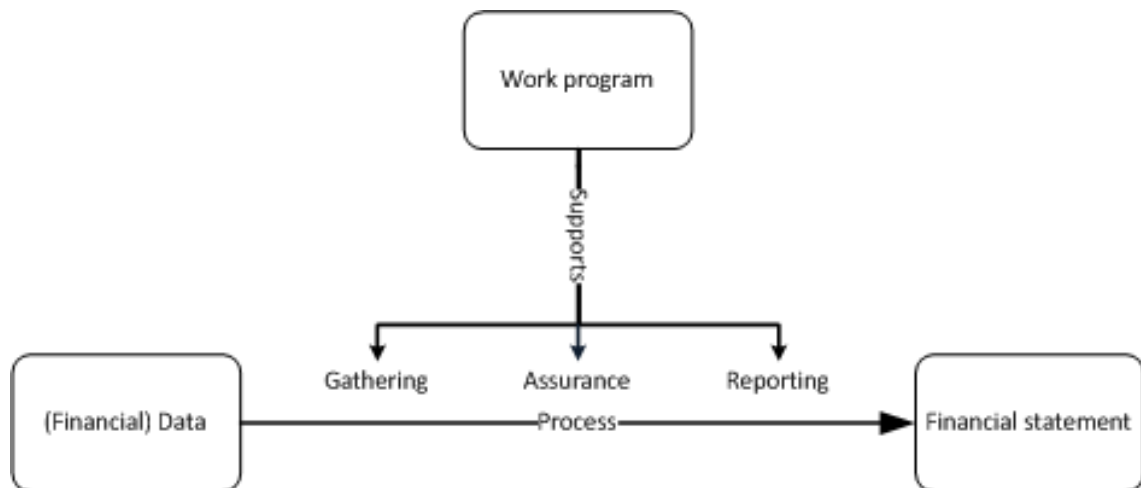


Figure 3. The usage of a work program.

These work programs can be supported by the following (software) systems. Note: a combination of / or the appliance of additional systems is also possible.

- **Financial administration software.** This software is used to capture and store the financial facts of the client's organization. The data exported from this system usually acts as source data for other systems. A sub-set is the payroll system. The pay-roll system supports the processing of employee costs. This to make sure the correct bookings regarding employee costs is made in the financial administration.
- **Fiscal software.** This software is used for the preparation of tax declarations. It contains data and rules regarding fiscal legislation.
- **Report generator.** This software is used for the generation of reports, most commonly the annual report. It defines the structure and lay-out of a report. In case of an annual report, it also makes sure that the required explanations are given for all financial facts.
- **Customer relationship management and Permanent dossier.** These systems contain facts about the clients of the accountant. Examples are contact history, history of delivered services (customer relationship management) and time independent facts of the client's organization (permanent dossier). The whole process of preparing statements, including the here mentioned supportive systems, is graphically presented in Figure 4. *The preparation process of financial statements.*

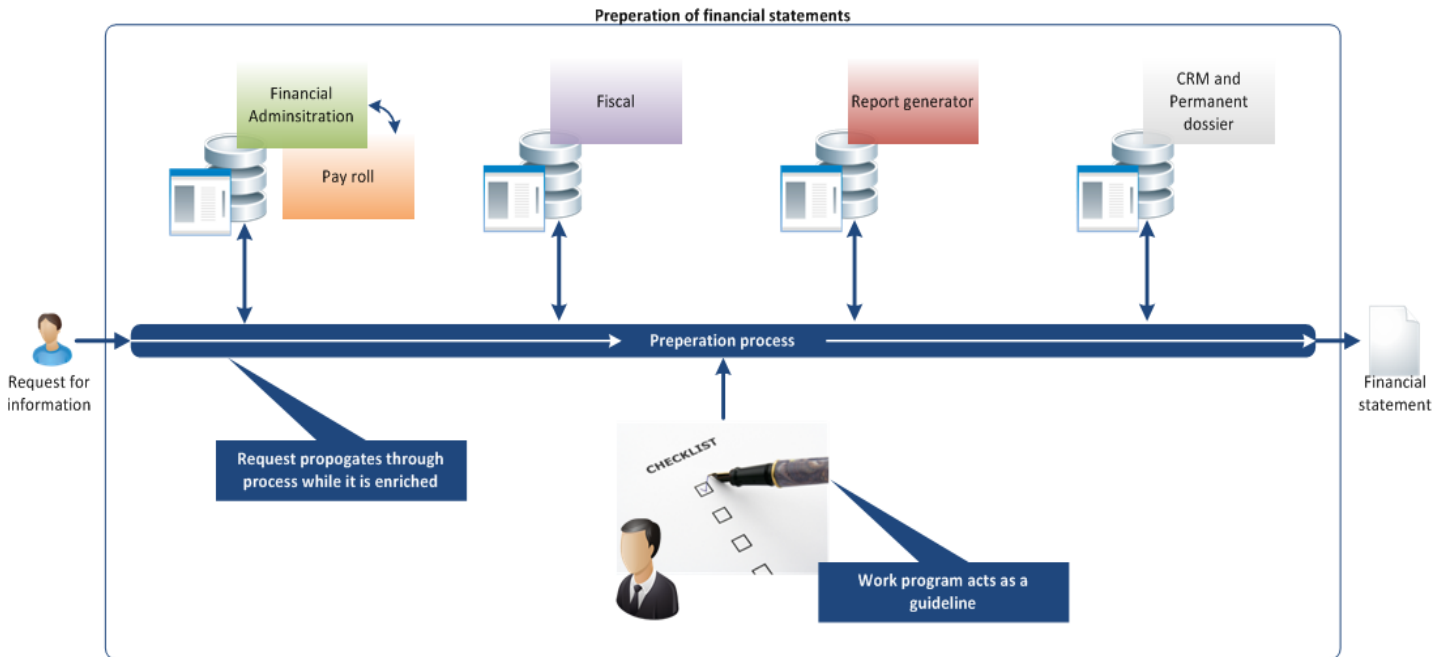


Figure 4. The preparation process of financial statements.

The process starts with an information request, see left side of the diagram. To comply with the information request certain data elements need to be processed (gathered and assured). This processing of data takes place in the preparation processes. The preparation processes is a sequential order of events. Usually the data originates from the financial administration and is enriched by other (external) systems and sources. The end product is the requested information by the external party. This can be on paper or in a digital form. Depending on the importance the client can agree on the contents of the produced information before it is transmitted to the external party.

2.2 eXtensible Business Reporting Language

Extensible Business Reporting Language, abbreviated as XBRL, is defined as a “XML-Based standard for representing business information and associated metadata” (Debreceeny, 2009, p. 37). Metadata is a very important addition. Metadata can be defined as “*data about data*” or “*information about a thing, apart from the thing itself*” (Melton, 2006, p. 67). In other words, the XBRL methodology therefore implies that XBRL documents do not only contain the necessary (financial) data, they also provide an **unambiguous** meaning for this data.

As Debreceeny (2009) explains “*XBRL provides an identifying tag for each individual item of data*”, for example ‘Assets’. “*This makes it computer readable and enables automated processing of business information by software*” (Melton, 2006, p. 37). The author compares the working of XBRL with to the use of barcodes on products. A barcode enables a (software) system to uniquely identify and read a product based on its (unique) number. The (meta) data associated with this barcode tells the computer how it should understand the product, for example; its characteristics and its price. From an accounting perspective; the term ‘Asset’ refers to “*an economic resource owned by business or company*”. Characteristics of an ‘Asset’ are: it must be a monetary value with a debit balance nature (see double entry accounting) and an ‘Asset’ is a resource available to an entity at a particular point in time. XBRL provides the framework to define, and ultimately communicate, these characteristics for almost each possible concept. These concepts are defined in so called *taxonomies*; see later on in paragraph 2.2.3.

It is possible to distinguish between two branches of XBRL, namely: XBRL Financial Reporting (FR) and XBRL Global Ledger (GL). The Financial Reporting branch was developed to “*prepare financial statements in accordance with generally accepted accounting principles as well as other reports and forms based on authoritative rule or general practice*”. XBRL FR is the most commonly known branch. Therefore the term XBRL usually refers to XBRL FR. The other branch is XBRL GL. GL was developed for “*the integration of systems so that data can be moved seamlessly between them*”. GL can be seen as a taxonomy framework “*designed to be a common representation of the underlying details that flow from data gathering systems to business reporting systems*”. The use of FR is therefore more externally oriented while GL is more internally oriented.

2.2.1 History of XBRL

The beginning of XBRL goes back to 1998. It started with Charles Hoffman, a Certified Public Auditor employed at ‘Knight Vale and Gregory’ in Washington (now RSM McGladery). He noticed the possibilities to use the (then relative new) XML standard for the use of electronic reporting of

financial information. He therefore made some prototypes of financial statements and audit schedules using this new technology. You can read more details about XML in the next chapter. In September that same year (1998), Charles Hoffman presented his prototypes to the board of AICPA High Tech Task Force. The AICPA saw the potential of his prototypes and decided to fund a project for its further development. The results were presented in January 1999. The AICPA again acknowledged the potential of these prototypes and decided to create a business plan for its further developments. It started out as XFRML (Extensible Financial Reporting Markup Language). Due to its growth the AICPA was not able to fund the project anymore. A solution was found, a consortium of companies was created. From there on more companies joined. This eventually grew into XBRL International Inc., the owner of the XBRL specification. Nowadays XBRL International Inc. defines itself as *“a not-for-profit consortium of approximately 550 companies and agencies worldwide working together to build the XBRL language and promote and supports its adoption”* (Debreceeny, 2009, p. 37).

2.2.2 The technical foundation of XBRL

Without going into much technical detail, XBRL is based on XML which is an abbreviation of Extensible Markup Language. XML can be seen as a standard for the markup of text document markup (Melton, 2006). The goal of XML is to *“contain, name, structure and secure information”* (Debreceeny, 2009, p. 17). An example of a XML document, containing a booklist, is presented at the right. XML is an open source standard which is widely accepted, freely available and maintained by the international W3C cooperation. The XBRL specification, based on XML, is maintained by XBRL international Inc. The goal of the XBRL specification is to *“regulate the syntax for documents created in various reporting environments”* (Debreceeny, 2009, p. 38). In other words, it adds standardized functionality to the traditional XML syntax with respect to business reporting. This specification acts as a foundation for all further XBRL documents. Based on these specifications, information needs can be defined and data can be processed, stored and communicated.

```
<Books>
  <Book ISBN="0553212419">
    <title>Sherlock Holmes: Complete Novels...
    <author>Sir Arthur Conan Doyle</author>
  </Book>
  <Book ISBN="0743273567">
    <title>The Great Gatsby</title>
    <author>F. Scott Fitzgerald</author>
  </Book>
  <Book ISBN="0684826976">
    <title>Undaunted Courage</title>
    <author>Stephen E. Ambrose</author>
  </Book>
  <Book ISBN="0743203178">
    <title>Nothing Like It In the World</title>
    <author>Stephen E. Ambrose</author>
  </Book>
</Books>
```

Figure 5. Piece of XML code.

2.2.3 The appliance of XBRL

XBRL knows two types of important documents, see Figure 6. *The appliance of XBRL* below. The first document is the XBRL taxonomy. The role of a taxonomy is to define concepts. Concepts could for example be; assets, equity or liabilities. Taxonomies are therefore used to define the information

needs. The taxonomy together with the company's source data produces the instance document. The instance document contains the requested information including the information needs and is send back to the third party.

Let's illustrate this with an example. Let's say a third party requires the value of the current Assets of fictional company "Example Company". This is a simplified example for understanding purposed. The third party sends out its taxonomy, containing its information needs (Assets), to the Example Company. When the Example Company receives the taxonomy, it inputs the taxonomy into its preparation process. Because the company now unambiguous knows which data is requested, it can retrieve the information from its source data. Instance documents are created and send back to the third party.

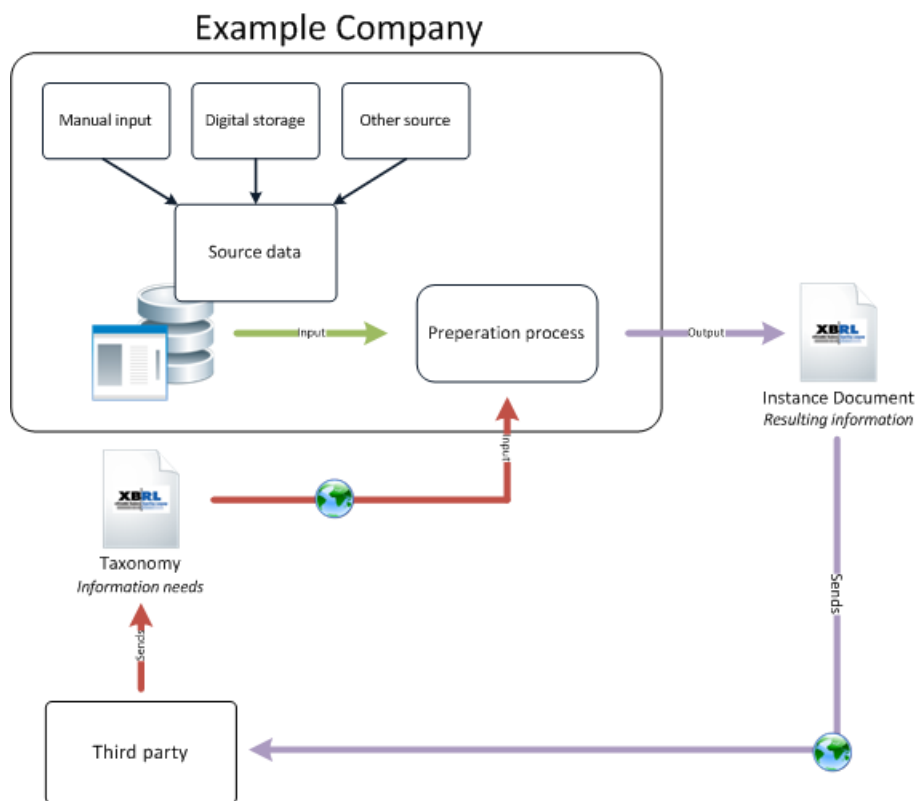


Figure 6. The appliance of XBRL.

This unambiguous exchange of information is only possible if Example Company and the third party company comply with the XBRL specification and standard. This standard should enable the creation of versatile software that can cope with all types of XBRL documents. This should lead to an increase in efficiency, speed and reliability for all parties. This is one of the reasons why standardization and mass adoption is so important.

2.2.4 Stakeholders of XBRL

Below is a graphical representation of the XBRL framework, describing its purposes and its stakeholders. This graphical representation is based upon the schematic presented by Debreceny (2009, p. 38).

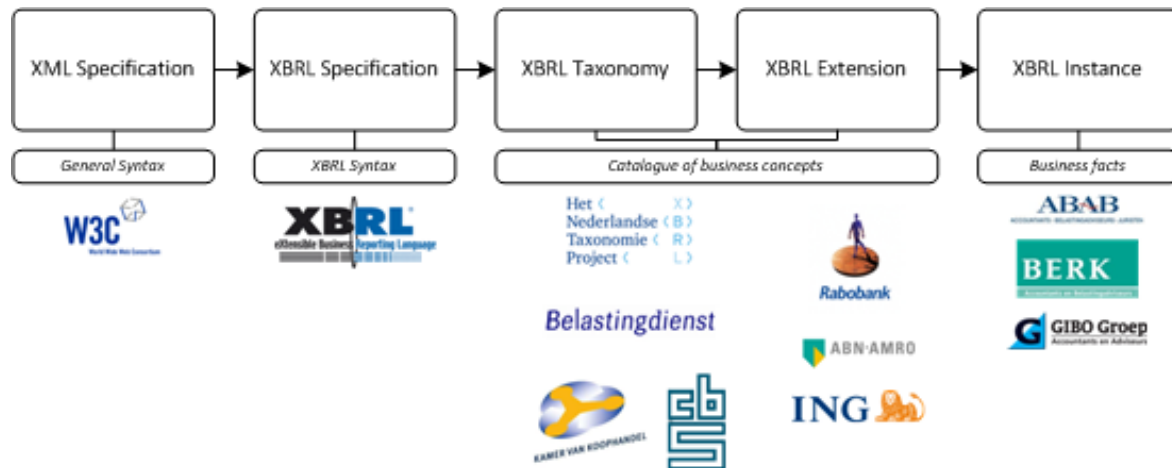


Figure 7. Stakeholders of XBRL. Adapted from Debreceny (2009, p. 39).

From left to right: The XML specification is maintained by W3C international (general syntax). Based on this syntax, XBRL International Inc. builds the XBRL specification to extend XML with the needs for business reporting. Additional parties have the possibility to build their own taxonomies to define their business concepts. Parties can also choose to take an existing taxonomy and extend it with their own information needs. This taxonomy is then sent to the company or intermediary. The financial intermediary creates an instance document by completing the taxonomy with business facts. Note: the list of stakeholders under 'business concepts' and 'business facts' are random (Dutch) examples. This schematic is based on

2.2.5 XBRL and source data

How can XBRL be used in the current practice of preparing financial statements? If the Example Company receives a taxonomy from a third party, it unambiguously knows which information is requested. The taxonomy itself does not know how and where the underlying information is stored within the Example Company. The taxonomy only defines the requested concepts and their structure. The challenge (read problem) here is to connect the taxonomy to its underlying source data. The process of connecting taxonomy elements to its underlying data is called 'tagging'. Gerald (2007) distinguishes between four levels of tagging, as can be seen in the schematic below. This graphical representation is based on Gerald (2007, p. 42) and is translated to the current practice of the preparing of financial statements.

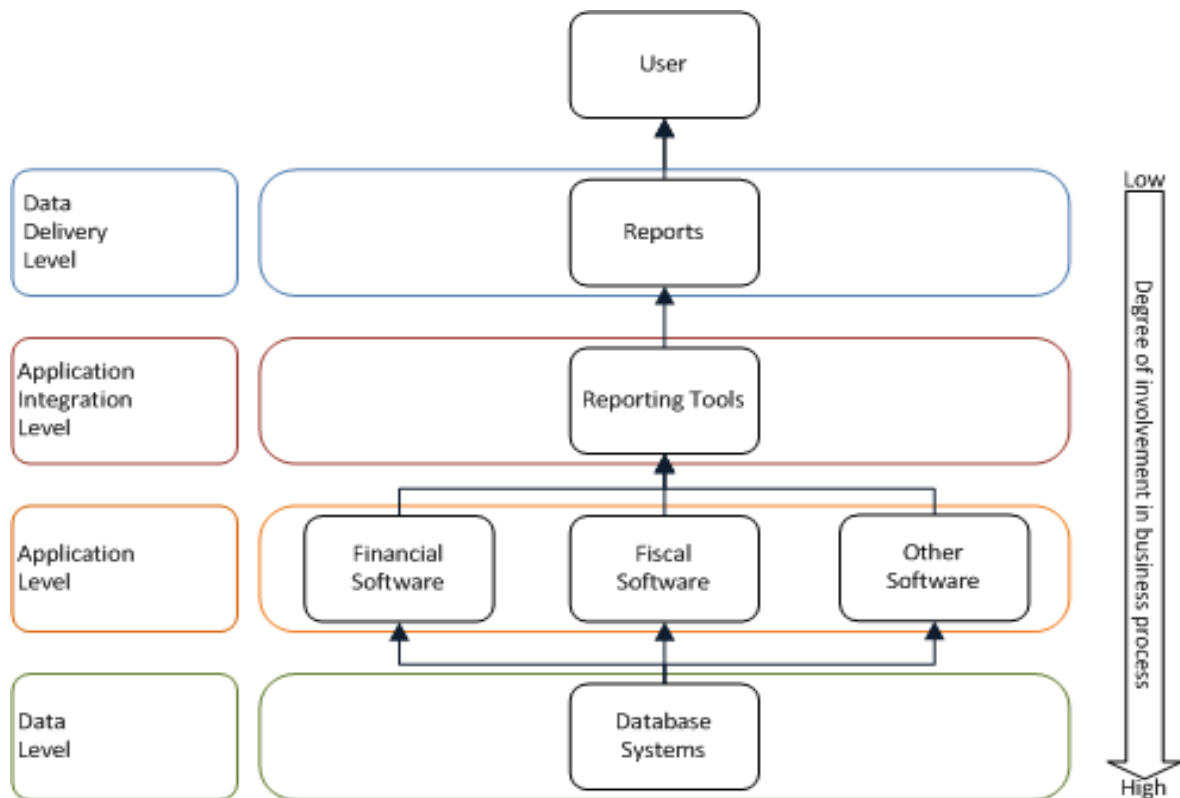


Figure 8. The connection between XBRL and underlying source data. Adapted from Gerald (2007, p. 42) .

- The highest level is the **data delivery level**. This is where existing reports, created by existing business processes, are used to provide the information for the received taxonomy. This is currently the most common and easiest level to produce instance documents. Advantage is the small implication on the underlying business processes and applications. Side effect is that only information that is produced by these existing business processes can be used in the taxonomy. It is questionable if this provides the optimal advantage in the generation of instance documents since normal reports have to be converted to instance documents (additional step). The advantage here lies in the unambiguous reporting to external parties. Currently this is the most applied solution in the process of preparing financial statements. This is the simplest application. However, as was mentioned before, it is not likely that this will yield great benefits (Bisschop & Snijders, 2009).
- The second level is the **application integration level**. This level can be seen as storage for integrated data for reporting purposes. Tagging at this level enables the automatic generation of instance documents and enables the re-usage of data for multiple purposes. Only to the extent of the aggregated data which is available in the repository. Advantage here is automatic generation of instance documents and the small implication on underlying business processes and applications supporting these business processes.

- The third level is the **applications level**. It is believed that this in the future will be the most used level for the appliance of XBRL. It enables the re-use of data to the extent in which the particular application is used. Therefore it provides access to more integrated data. Because of its open standard it also enables the interconnection between applications.
- The last en lowest level is the **data Level**. Every application tends to store its data in its own format and on its own way. Tagging at data level enables the re-use and interconnection of data within the organization. The suitable solution is the appliance of XBRL GL for internal communication and XBRL FR for external reporting. Disadvantage is the major impact on all business processes, applications and IT-infrastructure.

2.3 Production and Logistics

This chapter provides a general introduction to the scientific field of 'Production and Logistics'. This chapter starts from an historical point of view. Hereby shortly describing the events that led to the rise of a, commonly known, system called mass production. From there on it identifies the drivers and changes which drove further developments and eventually led to the rise of mass customization. This research is based on the changes that took place between mass production and mass customization. Therefore this chapter can be used to place the research into context.

2.3.1 General introduction to mass production

Production is defined as *“any transformation process which can be directed by human beings, or which human beings are interested in, viz. a transformation which a certain group of people consider desirable”* (Frisch, 1965, p. 3). This is a more technical definition of production. From an economic point of view transformation should add more value than the original input. As Joseph Pine (1999) stated, economic production was for centuries performed by craftsmen which were also known as artisans. These craftsmen had the materials, tools and, most important, the required skill necessary for production. Production was seen as an art and craftsmen took pride in what they created. Craftsmen united themselves in guilds to share knowledge and expertise, train new members, all to retain a high level of quality.

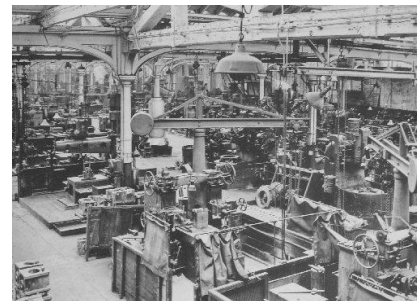


Figure 9. Mechanization as source for production. © Glasgow Digital Library.

The Industrial Revolution from the 18th to 19th century changed their methods of production. The resulting mechanization replaced hand tools as primary source of production. As explained by Piore & Sabel (1984) the introduction of machinery divided production into two different perspectives. The

first perspective was that machinery could be seen as substitution for human skill and manual labor, thus reducing the price of the created goods. The second perspective was that machinery could enhance the craftsman's skill. The use of machinery could be used to support the craftsmen and enable the production of a wider range of products. Therefore the first perspective was focused at production efficiency, while the second perspective was focused at production effectiveness.

The Industrial Revolution led to the rise of the Factory System; a new way to organize labor (Hutt, 1954). The Factory System is defined as *"the grouping of laborers and machinery in buildings for the purpose of production"* (Brisco, 2009, p. 5). This system started out in England around the third part of the 18th century. Proposed reasons for this grouping were that the machinery, which was needed for production,

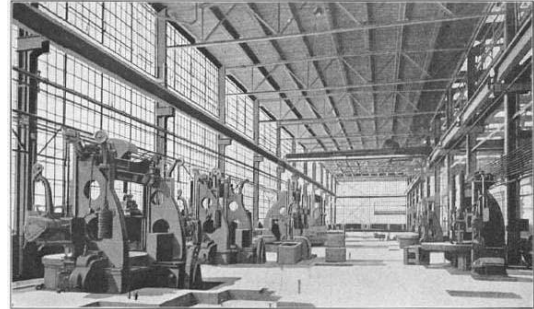


Figure 10. The factory system © The University of Iowa Libraries.

required an unique power source, such as a steam engine or a water source. Another reason was that the entrepreneur could supervise his workers (Mantoux, 1961). This system spread out to the United States and other newly industrialized countries. The Factory System evolved in the United States to the American System of Manufactures. The American System of Manufactures could be seen as another revolutionary way of production. The appliance of the American System of Manufacturers resulted into a growth of the United States as economic power (Joseph Pine, 1999). The American System of Manufactures was based on certain characteristics from the Factory System. However some important changes were made. For example, the focus on the process of production changed. In the Factory System every craftsmen was given the necessary materials for the production. This resulted in quality differences since they worked individually at one product at the time. In the American System of Manufacturers the organization was seen as a whole, it became a functional organization. Another important change was the use of interchangeable parts. In the Factory System every part was unique and had to be fitted individually. This ment that each part had to be processed until sufficient fit was achieved. The use of interchangeable parts saved an enormous amout of labor. This proofed beneficial for the war industry which was now able to easily maintain and replace armory during battle.

The American System of Manufacturers was very successful until the middle of the late nineteenth century. New inventions like steel, electricity, chemicals, the combustion engine and enhanced communication facilities entered the (global) market. The American economy was rapidly growing

and demand was constantly increasing. New industries arose and a new system was found to cope with these changes. This new system was based on American System of Manufacturers and would later be known as Mass Production. Goal of Mass Production was to *“develop, produce, market and deliver goods and services at the prices low enough that nearly everyone can afford them”* (Joseph Pine, 1999, p. 44). Or in other words, *“in the world of Mass Production, consumers accepted standard goods; their acceptance facilitated the extension of the market and the reduction of prices, through increasing economies of scale; and the growing gap between the price of mass-produced goods and that of customized goods further encouraged the clustering of demand around homogeneous products”* (Piore & Sabel, 1984, p. 190). Efficiency was thus the key driver behind mass production.

Mass Production was greatly implemented by Henry Ford and was therefore also called *Fordism*. The Ford Motor Company, founded in 1903, offered a wide range of medium-priced cars. Models included the Ford: A, B, C, F, K, N and R. Henry Ford noticed that *“the greatest need today is a light, low-priced car with an up-to-date engine of ample horse power, and built of the very best material . . . It must be powerful*

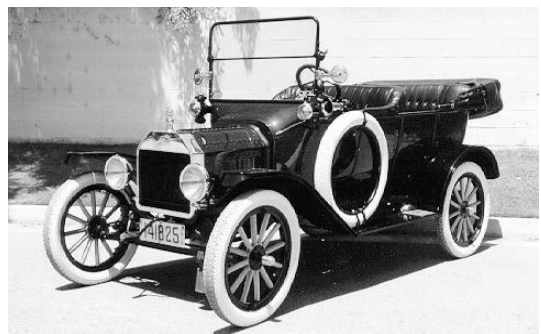


Figure 11. Example of a Ford: model T © Model T Ford Club International.

enough for American roads and capable of carrying its passengers anywhere that a horse-drawn vehicle will go without the driver being afraid of ruining his car.” (Hounshell, 1984, p. 218). The design of this new car was performed by the best engineers available, was based on the Ford N, was completed in 1906 and was named the Ford T. The Ford T consisted of *“a simple block, cast in one piece, provided the foundation for twenty-horsepower, magneto-fired engine. The engine drove a planetary transmission with two forward speeds and reverse, which were operated by foot pedals. A liberal use of vanadium-alloyed steel, along with some common sense structural design, provided the Model T chassis with the desired strength, durability and lightness”* (Hounshell, 1984, p. 218). This was the simple design Henry Ford needed to produce a car for the masses. The production of the Ford T took certain characteristics from the American System of Manufacturers like: interchangeable parts, specialized machinery, focus on the process of production and division of labor (Joseph Pine, 1999). However an important addition was the introduction of flow. Flow is defined as *“the automatic movement of work to the worker”* (Joseph Pine, 1999, p. 15). Flow was a method to *“speed up the slow men and slow down the fast men”* (Joseph Pine, 1999, p. 16). This led to great advantage namely; regularity in production. Ford started to produce the Ford T in 1908. The amount of labor required for the production was 12 hours and 30 minutes. In 1913 the assembly line was introduced.

At the time of introduction the production time dropped to five hours and 50 minutes. A half year later the production time was 93 man-minutes. The Ford T was produced at a rate of over 1000 cars a day (Ford Motor Company). Main driver of mass production was therefore economies of Scale, which can be defined as “*lower unit costs of a single product or service through greater output and faster throughput of the production process*” (Joseph Pine, 1999, p. 48).

2.3.2 Market factors

Mass production may seem very beneficial however mass production does not always work. A successful application of mass production is bound to certain conditions. Joseph Pine (1999) looks primarily at the market place and distinguishes between two types of factors:

Demand factors, indicate “*the degree to which a firm can control, stabilize, and reduce uncertainty within its market*” (Joseph Pine, 1999, p. 55). Joseph Pine (1999) describes the following factors:

- **Stability and predictability of demand levels.** As a result of stable demand the production levels, development cycles and life cycles will become more predictable. This enables smooth production and enables the extended use of economies of scale which are required to operate mass production.
- **Necessities.** With necessities we define products that fulfill basic needs. Necessities tend to be standardized, while luxuries are more distinctive, unique and higher priced. The author gives the example of basic “off-the-rack” clothing compared with a tailor made suit. Standardization, as can be seen from previous points, is a requirement for a smooth operation and thus an enabler of mass production.
- **Easily defined needs/wants.** When customer demand is not exactly defined it is hard to serve the market with just one (standardized) product.
- **Homogeneous desires.** When all the customers in the market share the same desires. It is possible for a company to fulfill them with one standardized and single product.
- **Slowly changing needs/wants.** When needs are slowly developing it is still possible to serve the market with one standardized product maybe resulting in a lower form of economies of scale. When needs and wants do change rapidly, product development and product life cycles become shorter. Therefore production has to be adjusted more often, read high fixed costs, and quantities drop. This has a negative effect on the Economies of Scale.
- **Low price consciousness.** If customers in a market are price conscious it means that they are looking for the best deal around here by focusing on price. This could result in price wars, increasing the turbulence in the market. Resulting in fluctuating demand which is hard to

predict. It is proposed that a solution could be found by switching from standardized to non standardized goods / services.

- **Low quality consciousness.** If customers demand high quality goods this could introduce a new factor of competition instead of the price factor. The focus of mass production is primarily aimed at a low price.
- **Low fashion/style consciousness.** The sense of fashion is coupled with changing needs and wants. High fashion and style consciousness requires companies to be able to switch to different designs quickly. Mass production is not able to cope with this changing demand.
- **Low levels of pre- and post sale service.** Pre- and post sale services can become, besides low price, an alternative factor for competition. The amount of demanded services is connected to their need of customization.

Structural factors are defined as factors that *“reflect the basic nature of an industry and are therefore less subject to manipulation by individual firms”* (Joseph Pine, 1999, p. 61). These factors can be divided into:

- **Buyer power.** *“The greater the power of buyers in an industry, the less companies can control their environment and the more turbulent it becomes”* (Joseph Pine, 1999, p. 61). Companies are forced to respond to the needs and wants of the customer, they become extra dependent on the customer. Another factor is that goods, which are not (highly) valued by consumers, are characterized by price competition. They prefer a low price, rather than product differentiation.
- **Degree of influence of economic cycles.** Economic cycles have influence on the demand in the market. The system of mass production does not work when organizations in recession cannot remain their demand and thus cannot sustain economies of scale.
- **Competitive intensity.** Is determined by a number of factors. The number of competitors, the relationship between competitors and if they battle for market share. If none of the competitors feels the urge to innovate or fight for market share they can form a stable market. This stable market is needed for the successful appliance mass production.
- **Price competition versus product differentiation.** Product differentiation can be seen as a solution to price competition. Generally said, product differentiation is hard to achieve for commodities. Therefore commodities are most suited for price competition and thus mass production.

- **Level of saturation.** If the product is commonly known and well used in the market it could become saturated. Simply said, everyone owns the product. An organization which finds itself in a saturated market has to find ways to differentiate itself.
- **Vulnerability in substitute products.** If it is possible to replace the product by a substitute, an organization has to pay more attention to customer needs. If the organization does not comply to the customer needs it is driven out by other products.
- **Product life cycle length and predictability.** A product life cycle is defined as *“the time from the first shipment of a product to its replacement or withdrawal”* (Joseph Pine, 1999, p. 65). Mass production benefits from long product life cycles. Shortened product life cycles primarily indicate changing needs and demands and thus increasing market turbulence.
- **Rate of product technology change.** When the rate of technology change is very high it has a negative effect on the product life cycle. Products become obsolete more quickly. Hereby increasing market turbulence, see previous point.

Joseph Pine (1999) uses these factors in its market turbulence map. With this market turbulence map it is possible to determine the sustainability of a (mass) production system and indicate whenever a shift to a more flexible production system is required. Generally said, mass production is not sustainable when there is a high degree of market turbulence present. This market turbulence map will be applied in paragraph 3.3.

2.3.3 From mass production to mass customization

Mass Production remained successful until 1960's and 1970's. The first signs of derogation became visible in 1955. The three biggest American mass producing firms were losing their competitive advantage. Mass production had become a common production method in countries all over the world. By that time the automotive industry was viewed as follows: *“As with vigorous domestic producers of radios, television sets, textiles, shoes and a host of other goods a decade or more ago, the automobile industry has entered at last into the mature state of its life cycle. Its products have become standardized, virtually a commodity distinguishable only in terms of cost, and its production processes have been embodied in equipment that is available for purchase by all comers”* (Joseph Pine, 1999, p. 35). Meanwhile in Japan, new methods for production were developed. These developments were driven by the deterioration of Japan caused by World War II. Japan had to be rebuilt. The first focus was on the gain of cost advantages through low wages. This started in labor-intensive industries like textiles, garment manufacturing, shipbuilding and steel. Wages doubled in the 1950 till the 1960's. Japan used low wages and Economics of Scale to gain competitive

advantage, hereby focusing on areas ignored by American Mass Producers. The low wages and Economies of Scale helped to rebuild the Japanese economy. Hereafter Japan focused on manufacturing and improving the “American” system of mass production which resulted in the last stage; mass customization. Some Japanese companies noticed that, if they were able to quickly change production to meet the requirements of the market place, they would be able to gain competitive advantage and outperform the mass producers. As a result they were better able to cope with a changing market. This was especially the case in markets with high turbulence. See previous points, paragraph 2.3.2, on demand and structural factors of the market. This eventually led to mass customization. The goal of mass customization was to *“Develop, produce, market, and deliver affordable goods and services with enough variety and customization that nearly everyone finds exactly what they want”* (Joseph Pine, 1999, p. 44). This combination of affordable and variety may seem remarkable. Or in other words a combination of efficiency and effectiveness was achieved.

The need for mass customization was based on certain market developments. An important driver was the switch from a homogeneous market structure to a heterogeneous market structure. This created niche markets where buyers gained more power. Traditionally in homogenous markets the power was located at the sellers. This power now switched to the buyers. These buyers started to demand high quality products that were cheap but also could satisfy their personal needs. Mass production tried to cope with this demand through postproduction. This meant that mass products were customized through service at the end of production. This was usually an expensive method of customization. Real customization and thus competitive advantage could only be gained by changing the production function. This flexibility could not be achieved in mass production. The production function had to: *“produce a number of different, high-quality products via short production runs, short changeover times, and low work-in-process”* (Joseph Pine, 1999, p. 46). To achieve this kind of production the reliance on highly skilled workers and general-purpose machinery became essential. This kind of production however meant a loss of the so important Economies of Scale which was a driver for mass production. Products produced via mass customization better fitted customer demand. Therefore it became possible to charge an extra premium for these products. This premium compensated for the loss of cost advantage obtained through Economies of Scale. Main driver therefore is Economies of Scope, which can be defined as *“the application of a single process to produce a greater variety of products and services more cheaply and more quickly”* (Magrab, 1997, p. 15). Mass customization managed to achieve both Economies of Scope and Economies of Scale. This is also called Economics of Integration (Noori, 1990). Economies of Scale can be achieved with the production of standardized modular components. These components then form the basis for a wide

range of products (Economies of Scope). Modularity is thus a very important driver in Mass Customization.

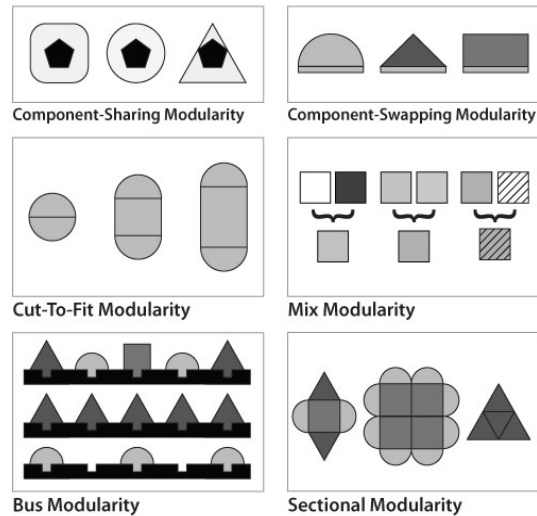
Joseph Pine (1999) defines five methods that can be used to customize products and services:

- **Customize services around standardized products and services.** This type of customization is based on the principle that standard products and services can be customized before they are delivered to the customer. Hereby goods are produced via mass production and customized upon delivery through services. We can find this type of customization in the computer industry where computer systems are configured to the preferences of the client upon receipt. This is a very specific and expensive form of customization. This is also called post production.
- **Create customizable products and services.** In this example customization is performed by the product or customer itself. This way the production function can still mass produce standardized products. An example given by Joseph Pine (1999) is the Sensor shaving system from Gillette which automatically adapt to contours of the face.
- **Provide point-of-delivery customization.** Production in point-of-delivery customization takes also place upon delivery. Standardized products are delivered; the production function customizes the product to the customers need. An example is the one-hour photo service. The centralized production is moved to the retail outlet to better cope with the customers demand and enforce shorter lead-times.
- **Provide quick response throughout the value chain.** Goal is to provide an instant and quick response to customer needs and desires from development to point of delivery. This requires integration of the entire value chain and a reduction in the cycle times for development, production, order processing and delivery. This type of customization is important in industries that are dependent on trends and require a short time to market. An example is the fashion industry.
- **Modularize components to customize end products and services.** This can be seen as the most important method of mass customization: *“the best method for achieving mass customization – minimizing costs while maximizing individual customization - is by creating modular components that can be configured into a wide variety of end products and services. Economies of scale are gained by using the modular components over and over in different products; and customization is gained by the myriad of products that can be configured”* (Joseph Pine, 1999, p. 196). Because of its importance we will further elaborate on the

appliance of modular structures. Ulrich & Tung (1991) distinguishes between six types of modular structures:

- **Component sharing modularity.**

Multiple products share the same component. This type of modularity can be used to reduce the number of parts in a great variety of products and / or services. Hereby providing cost reduction, via mass production for the shared components, and enabling faster product development cycles.



- **Component-swapping modularity.**

Component swapping starts with one basic structure. Different components are connected to this basic product structure to form a new custom product. The amount of variation is hereby limited to the amount of components available. The basic structure can be produced using mass production. Depending on the amount of components it may also be possible to produce the components via mass production. Examples can be found in the car industry.

- **Cut-to-fit modularity.** *“One or more of the components is continually variable within the preset or practical limits”* (Joseph Pine, 1999, p. 203). An example is the processing of raw materials like wood, steel or even soap to portions that add value for the customer. The basic structure can be mass produced. Specialized machinery can be used to provide a cut-to-fit service that yields competitive advantage.

- **Mix modularity.** Here are components combined / mixed together to forms a new product. Components are therefore not recognizable anymore in their old state. An example of mixed modularity is the mixing of paint were a new color is composed out of other colors. By mass producing three colors it becomes possible to supply every possible color of paint.

- **Bus modularity.** The bus forms the common structure between multiple components. Components can be “plugged” into the bus. The bus can be visible like in the use of electrical lightning system. Here, light modules are plugged into a bus in

the form of an electronic circuit. The bus can also be invisible. This is the case with customized experiences like holidays. Here time itself becomes the bus.

- **Sectional modularity.** Within sectional modularity all models share a common interface. The modules can be attached to each other. Hereby providing a great possible variety. The most well known example is the Lego building blocks.

The most important differences between mass production and mass customization are listed below:

	Mass Production	Mass Customization
Focus	Efficiency through stability and control	Variety and customization through flexibility and quick responsiveness
Goal	Developing, producing, marketing and delivering goods and services at prices low enough that nearly everyone can afford them	Developing, producing, marketing, and delivering affordable goods and services with enough variety and customization that nearly everyone finds exactly what they want
Key Features	<ul style="list-style-type: none"> • Stable demand; • Large, homogeneous markets; • Low-cost, consistent quality, standardized goods and services; • Long product development cycles; • Long product life cycles. 	<ul style="list-style-type: none"> • Fragmented demand; • Heterogeneous niches; • Low-cost, high-quality customized goods and services; • Short product development cycles; • Short product life cycles.

Table 2. Differences between mass production and mass customization

2.3.4 The customer order decoupling point

In the previous sections three different production methods were discussed namely; craft production, mass production and a balance between these two; mass customization. To summarize: craft production was aimed at effectiveness. This meant individual heterogeneous goods at high prices, driven by effectiveness. Eventually mass production was developed which produced homogeneous products of acceptable quality at low prices, driven by efficiency. These systems were incorporated in mass customization which was aimed at both efficiency and effectiveness.

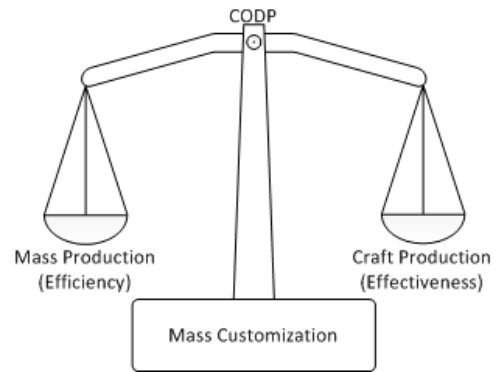


Figure 13. Balance between two production methods.

The extent to which mass customization is used can be expressed with the Customer Order Decoupling point (CODP or DP) or sometimes called Order Penetration Point (OPP). The CODP is defined as “the separation of the part of the organization oriented towards customer orders from the part of the organization based on planning” (Hoekstra & Romme, 1992, p. 6). The schematic below: Figure 14. The customer order decoupling point. Adapted from Hoekstra & Romme represents a production system using such a CODP.

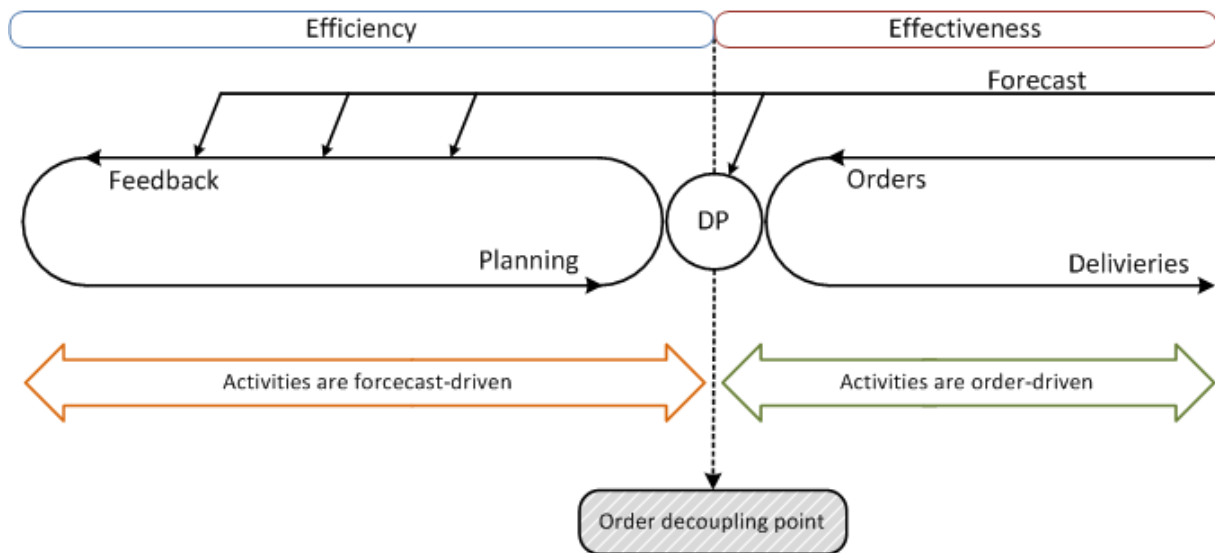


Figure 14. The customer order decoupling point. Adapted from Hoekstra & Romme (1992, p. 6).

The production system is hereby divided into two cycles. Modularity plays a key role in connecting these two cycles. Products produced by this system are primarily composed out of modular components, which is one of the key success factors of mass customization.

2.3.4.1 The left cycle

The left cycle is aimed at the efficient production of modular components. This means that these modular parts have to be produced as cheap as possible. This is a continuous cycle and is indirectly order driven, namely by planning and feedback. It is thus possible that modular components are produced before the exact time or definition of the order is known. Components that are produced are stored in a warehouse. This can be seen as the exchange point between these two cycles.

2.3.4.2 The right cycle

The right cycle is aimed at fulfillment of customer orders. This cycle is directly order driven. Products that are produced in this cycle are built out of components which were produced in the first cycle. Here the modules are assembled according to the order specification. As can be seen from the diagram, effectiveness is a key factor here. Additional craft production is also possible depending on the requirements of the customer thus to achieve a higher degree of effectiveness.

Using modularity and these two cycles it can thus be seen that this system combines both the efficiency from mass production and flexibility of craft production. A more detailed schematic is provided below:

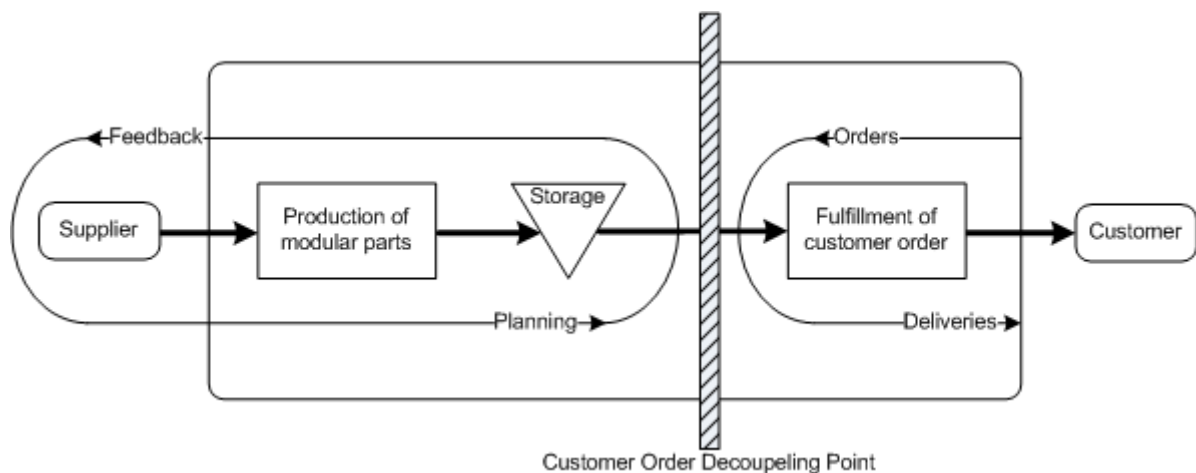


Figure 15. Production system with the CODP. Adapted from Hoekstra & Romme (1992, p. 6).

This could for example be the production system of a car. At the left side we see the supplier which provides the raw materials needed for the first production process. These raw materials are inputted in the process 'production of modular parts'. As was mentioned before, this is a continuous process. These products are stored in a warehouse. This is followed by the customer order decoupling point. This point splits the two cycles. The cycle at the right fulfills customer orders. The previous produced modular parts are taken from storage. Think hereby of chassis, springs and engines. These modules

are assembled and additional order specific work can be added. Think of a custom color. The car is then delivered to the customer. Via this way it is thus possible to create a low priced car which can meet a great variety of customer demand. This car can be seen as a cheap and flexible car for the masses, or in other words an evolved Ford model T.

2.3.4.3 Forces applicable on the Customer Order Decoupling Point

There are certain forces influencing the position of the CODP. At the left side there is the supply perspective. This can be seen as the input phase, starting with raw materials. The production forces tend to push the CODP to the right (downstream). This enables a low cost and efficient production.

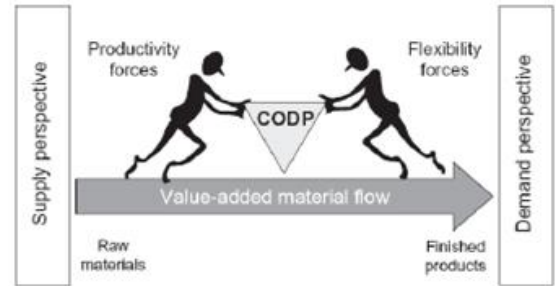


Figure 16. Forces pushing on the Customer Order Decoupling Point (Rudberg & Wikner, 2004).

Downside for this approach is that more and more specifications are locked into modular components and therefore decreasing flexibility. At the right we see the demand perspective purchasing the finished products. Depending on the required amount of flexibility, the flexibility forces tend to push the CODP to the left (upstream). Verdouw, Beulens, Bouwmeester, & Trieneken (2008) states that the selection of the position of the decoupling point is in the first instance a balancing process between market requirements (including delivery times required by customer) and lead times in production and distribution process. The positioning of the CODP has an impact on the whole organization. An overview of possible effects regarding forward and backward shifting is listed below:

	Competitive advantage addressed	Reasons for forward shifting	Negative effects
Forward shifting	<ul style="list-style-type: none"> • Delivery speed • Delivery reliability • Price 	<ul style="list-style-type: none"> • Reduce the customer lead time • Process optimization (improved manufacturing efficiency) 	<ul style="list-style-type: none"> • Rely more on forecasts (risk of obsolescence) • Reduce product customization (to maintain Work in Progress) • Increase work-in-process (due to more items being forecast driven)

Backward shifting	Competitive advantage addressed	Reasons for backward shifting	Negative effects
	<ul style="list-style-type: none"> • Product range • Product mix flexibility • Quality 	<ul style="list-style-type: none"> • Increasing the degree of product customization • Reduce the reliance on forecasts • Reduce or eliminate WIP buffers • Reduce the risk of obsolescence of inventories 	<ul style="list-style-type: none"> • Longer delivery lead times and reduced delivery reliability (if production lead times are not reduced) • Reduced manufacturing efficiency (due to reduced possibilities to process optimization)

Table 3. Back and forward shifting of the Customer Order Decoupling Point (Rudberg & Wikner, 2004)

3. The new way of work

As can be read in paragraph 2.1.1 the analytical branch of accountancy is the most commonly known branch of accountancy. However, during the process of time the scope of services broadened. An important addition was the supportive work for small and medium sized business, this due to the lack of in-house knowledge of these businesses. Examples of supportive work are: designing and maintaining the client's administration and the preparation and interpretation of financial statements (annual report, tax declarations, etc.). The provision of these services even led to the rise of a new group of accountants; the "Accountant Administratie-consulent" (AA), originally specialized in this supportive tasks. Nowadays this preparation of financial statements and related processing of the administration is a very important and common branch of accountancy. Most of the work performed for small and medium sized business includes this preparation of financial statements.

Goal of this thesis is to develop a future work process regarding the preparation of financial statements. Predicting the future is hard, since nobody knows exactly how it looks like. We therefore base the future work in this thesis on a vision. A vision is defined as "*a statement of ideal intention that inspires and motivates the vision's creators and all who are exposed to it. The vision is a picture of how the future might look*" (Jaccaci & Gault, 1999, p. 50). A vision therefore can be seen as an interpretation of requirements, developments and possibilities in the market. The vision regarding the developments in the process of preparing financial statements, which is used throughout the thesis, is based on the vision of AccountView.

AccountView is a Dutch software developer which aims to help accountants and administration offices with an efficient processing of their client's administrations. Clients of AccountView include several top twenty accountancy firms in the Netherlands. To achieve this efficient processing, AccountView offers a series of solutions. One of these solutions enables the entrepreneur to do a part of the administration itself in a simplified manner. Another solution helps the accountant in the process of preparing statements by ensuring the correctness and completeness of the administration. Besides offering the above mentioned products, AccountView likes to challenge accountants and administration offices to think about another design of the process of preparing financial statements.

3.1 The vision of AccountView

This chapter describes the vision of AccountView regarding the future of the process of preparing financial statements.

AccountView promotes a way of work where the focus shifts from standardized products to customized products. AccountView thinks that this variety of products can be achieved by using previous completed work as building blocks for the creation of new products. AccountView currently sees a direct relation between performed work and the information request. Their expectation is that there will be a situation where the accountant performs certain activities before the exact time and definition of the information request is known. According to their expectation this change would imply a shift from the production of standardized products to a process that can create a variety of products. This change is needed because society is starting to demand custom, fast and accurate information, partly driven by the need for transparency. AccountView sees technological changes as an enabler for this demand. From their point of view an accountant must be able to choose in which extent he wishes to perform this amount of 'pre-processing'. This could be dependent on its market and / or chosen strategy.

Driven by the scientific standing on the shoulder of giants, which can be defined as *"building on knowledge which was gathered by other researchers and theorists in the same field, to be able 'to stand on their shoulders' and look just a little further"* (Smit, 1999, p. 16), we looked for similarities with other fields of study.



Figure 17. Standing on the shoulder of giants
© Nicolas Poussin (1658).

We found the most similarities with the scientific field of 'Production and Logistics', which has been a field of study for quite some time. Therefore the theories from this scientific field are well established and developed. As can be seen from chapter 2.3, changes in the market forced 'Production and Logistics' to come up with new ideas and to continuously develop itself. We therefore looked if we could identify the similar driving forces in our current situation, regarding the preparation of financial statement, and compare these to what happened in 'Production and Logistics'. Based on these possible resemblances, we could see if it is possible to use the knowledge as was applied in 'Production and Logistics'.

3.2 The market turbulence map

One of the tools, developed by the scientific field of 'Production and Logistics', was the market turbulence map. This market turbulence map can be seen as a tool to identify driving forces in a market to determine the sustainability of a production system. Sustainability can be seen as the ability to cope with customer demands. This tool was developed by Joseph Pine and was presented in: *Mass customization:*

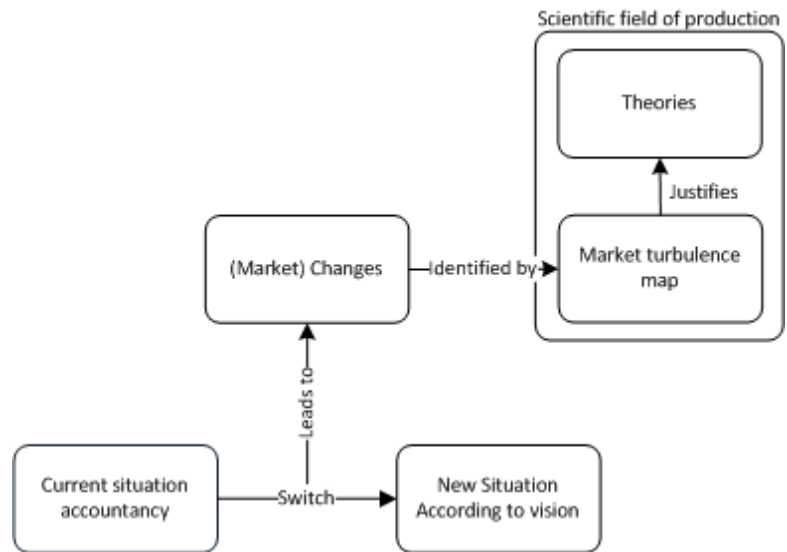


Figure 18. Theoretical justification.

the new frontier in business competition. He defined the market turbulence map as: “the number and magnitude of market events requiring a company’s attention per unit of time” (Joseph Pine, 1999, p. 55). In other words, the market turbulence map can be seen as an ‘identification and selection’ tool for underlying theories and models regarding the organization of production systems. This map was developed with the introduction of a production system called: mass customization.

The market turbulence map is based on series shifts that happened in production and forced production to adapt to new situations. The market turbulence map distinguishes between two types of market factors. The first type is demand factors. These factors are defined by Joseph Pine (1999) as: “factors that indicate the degree, to which a firm can control, stabilize and reduce uncertainty within its markets”. The second type is structural factors, which are defined as: “factors that reflect the basic nature of an industry and there are therefore less subject to manipulation by individual firms”. For more information about the market turbulence map see paragraph 2.3.2.

In the next section, we are going to see if it is possible to compare the changes that happened in Production and Logistics to the changes we see between the current situation and vision regarding the preparation of financial statements. Based on these similarities we could use the knowledge applied by Production and Logistics to cope with these changes and see if it is possible to apply these in production.

3.3 The appliance of the market turbulence map in accountancy

This chapter describes our elaboration of the market turbulence map applied for accountancy. The following structure will be used; each bullet point describes the change as was noticed in Production

and Logistics. For each observed change is explained if it matches the upcoming change between the current situation and our vision.

3.3.1 Demand factors

- **Necessities shifted to luxuries.** In the current situation the clients of the financial intermediary are obligated by law to deliver certain financial statements (think of the annual report and tax declarations). The scope of these obligations is determined by certain characteristics of the client's organization, like legal form, number of employees and turn over. Larger companies tend to have more obligations due to their social interest. If companies do not comply with these obligations they risk the possibility of a fine or even prosecution. For this group financial statements are a necessity. Non obligated financial statements are, for example, required for the acquisition of a product or service. Think of a loan at the bank. Because of its enabling factor these financial statements are also a necessity. In the new situation financial statements could be seen as luxuries. Therefore moving away from (legal) necessities to more non obligated financial statements, for example for the purpose of management control or benchmarking. We expect that therefore these statements will add more values and better suit customer needs than was the case with obligated financial statements.
- **Stable and predictable demand levels shifted to unstable and unpredictable demand levels.** This factor is closely related with product necessity. In the current situation demand for financial statements is stable because companies are obligated by law to deliver them. Demand for obligated statements is predictable because the deadlines for submission are known long in advance. For example, an annual report has to be created yearly and has to be submitted before the 31th of July to the Chamber of Commerce. The stability and predictability of non obligated financial statements is harder to determine. However, this is still a smaller group. In the new situation the necessity for certain financial statements will continue to exist. Since financial statements are considered more useful (read: deliver more added value, due to tailored information), we think parties are going to request these financial statements whenever they need them. This would result in unpredictable up and down swings in demand.
- **Easily defined needs/wants shifted to uncertain needs/wants.** These 'needs and wants' can be viewed from multiple perspectives. In the current situation clients of the financial intermediary want to meet their (lawful) obligations. The third party demands correct and tailored information. Every requesting party has its own information needs. Yet they share a

great amount of information elements. All the elements for obligated financial statements are defined in law and regulation. Information elements for non obligated financial statements are usually set in guidelines by the requesting party. The vision predicts that different parties are going to require more and more tailored information for various purposes, other than necessities. This is going to broaden the scope of possible requested information elements and hereby increasing the uncertainty in needs and wants.

- **Homogeneous desires shifted to heterogeneous desires.** In the current situation, clients of the financial intermediary have homogenous desires. They want to meet their (legal) obligations. The desires of the requesting third parties are somewhat heterogeneous since they require specific and tailored information. They are “somewhat” heterogeneous because they share a great amount of information elements. In the new situation, external parties will still require custom and tailored information. The scope of this requested information will broaden (see previous point), therefore also increasing heterogeneous desires. If we look to the clients of the financial intermediary we could argue that their desires could also shift to heterogeneity. This may be enhanced if the client could clearly identify the added value of financial statements. Therefore going to request information that suits their needs. This could be for example in the form of benchmarks or providing extra information of additional information for management control.
- **Slowly rate of change in customer needs and wants shifted to quickly rate of change in customer needs and wants.** In the current situation, we argue that the definition of the information elements in obligated financial statements changes slowly, partly because these changes have to be assured in law and regulation. Changes are therefore well documented. The rate of change for non obligated financial statements is much harder to predict but this is still a smaller group. In the new situation more parties, without legal authority, are going to request information of the financial intermediary. These needs and wants are subject to change, because they are driven by heterogeneous desires (see previous point). For example, a branch organization would like to know about certain elements at one period of time. Developments in the market could change these ‘information needs’. This could happen from one day to another.
- **Low price consciousness shifted to high price consciousness.** In the current situation price could be an import factor especially if there is no visible relation between price and the added value. For example, the added value of the preparation of a tax declaration can be perceived as low, more as necessary evil. Quality could be seen as a fixed requirement since

this is assured in law and regulation. Price could therefore become an important selection criterion. We predict that in the new situation price will become even more important. We argue that clients are not willing to pay high premiums for an increasing amount of (none obligated) financial statements.

- **Low quality consciousness shifted to high quality consciousness**, quality is an important all-round requirement. This applies for both the current and the new situation. As was mentioned before, the requirements for obligated financial statements are assured in law and regulation. In other words, it has to comply with pre defined standards. Low quality is therefore not an option. Even financial statements without legal obligation are prepared using the same quality system. This quality system can be seen as the added value by the financial intermediary. For information see paragraph 6.3.
- **Low levels of pre- and post sale services shifted to high levels of pre- and post sale services.** In the current situation, pre and post sale service is often seen as an additional service with another, usually higher, tariff structure. The processing of the administration and the preparation of the obligated financial statements is based on a standard price. We argue that, in the new situation, pre- and post sale services become more important. The accountant has to build a better relationship with its client. This is partly needed for the acquisition of necessary (non financial) information to operate in a continuous environment.

3.3.2 Structural factors

- **Low competitive intensity shifted to high competitive intensity.** In the current situation we see high competitive intensity between financial intermediaries. We argue that this high competitive intensity originated from the fact that financial statements became standardized high commodity products. In other words, a large group of financial intermediaries is able to produce these pre-defined financial statements. The digitalization of the administration also enabled easy switching of financial intermediary. We argue that in the new situation this competition will remain. We predict that accountants can gain competitive advantage by achieving high flexibility at low costs.
- **Low buyer power shifted to high buyer power.** In the current situation we see a low amount of buyer power because of a large market, consisting of many small customers demanding a standardized product. We think that in the new situation the power shifts to the buyer. This because given the option, for almost the same price, the client is only willing and going to pay for customized and tailored services.

- **Low levels of saturation shifted to high levels of saturation.** In the current situation we see a high level of saturation due to many suppliers producing the same obligated financial statements. In the new situation the saturation level could be lowered among the different suppliers because of the possibility to differentiate. In other words: provide customized, tailored and therefore unique financial statements.
- **Few substitute shifted to many substitutes services.** The degree of involvement of the financial intermediary, with the administration of a client, can differ. A client can even choose to do a part or parts of the administration them self. This could enable the client to prepare its own financial statements and thus create a substitute. We predict that in the new situation more and more of these substitutes become available, partly due to technological developments. Think hereby of tools like (simplified) online bookkeeping.
- **Low rate of product technology change shifted to a high rate of product technology change.** Since our product is a representation of financial data it is hard to define technological change. An important change is the shift from the presentation on paper to a presentation in a digital form. This digitalization is going to play a greater role in the new situation.
- **Long predictable product life cycles shifted to short unpredictable product life cycles.** In the current situation, the life cycles of financial statements can vary. An annual report for example has a life cycle of one year while other financial statements, for example tax declarations, have to be renewed each quarter. Although the definition of short or long depends on interpretation we could argue that in the new situation life cycles will become shorter and unpredictable due to constant changing needs and wants. Some parties may be satisfied with information that has a life cycle of one year while other parties require a life cycle of months or even weeks.
- **Dependent on economic cycles shifted to independent of economic cycles.** In the current and new situation companies are required to deliver obligated financial statements, even in times of recession. This part of the process of the preparation of financial statements is therefore independent of economic cycles. We cannot predict what is going to happen in our new situation because both the following scenarios are arguable. Recession could lead to a downswing in demand to save costs or an upswing due to the need for extra information for management control purposes.
- **Price competition shifted to product differentiation.** In the current situation product differentiation is almost impossible because the delivered product, the financial statement,

has to comply with pre defined standards. This makes price competition, in the current situation, a candidate for competitive advantage. In the new situation product differentiation could become a source for competitive advantage. This could be enabled by delivering a great variety of products.

The outcome of the market turbulence map is summarized below:

<u>Production shifted</u>		<u>Accountancy</u>
From	To	Upcoming change
<i>Demand factors</i>		
Necessities	Luxuries	<i>Match</i>
Stable and predictable demand levels	Unstable and unpredictable demand levels	<i>Match</i>
Easily defined needs/wants	Uncertain needs/wants	<i>Match</i>
Homogeneous desires	Heterogeneous desires	<i>Match</i>
Slowly rate of change in customer needs and wants	Quickly rate of change in customer needs and wants	<i>Match</i>
Low price consciousness	High price consciousness	<i>Match</i>
Low quality consciousness	High quality consciousness	<i>No Match</i>
Low levels of pre- and post sale services	High levels of pre- and post sale services	<i>Match</i>
<i>Structural factors</i>		
Low competitive intensity	High competitive intensity	<i>No Match</i>
Low buyer power	High buyer power	<i>Match</i>
Low levels of saturation	High levels of saturation	<i>No Match</i>
Few substitutes products	Many substitutes products	<i>Match</i>
Low rate of product technology change	High rate of product technology change	<i>Match</i>
Long predictable life cycles	Short unpredictable life cycles	<i>Match</i>
Independent of economic cycles	Dependent on economic cycles	<i>No Match</i>
Price competition	Product differentiation	<i>Match</i>

Table 4. Elaboration of the market turbulence map

Based on the outcome of the market turbulence map we see enough similarities between the developments in 'Production and Logistics' and our current / future situation regarding the practice of the preparation of financial statements. Therefore we would like to see if there is a possibility to apply and translate this knowledge to the practice of accountancy.

3.4 Key success factors of the appliance of mass customization in accountancy

Based on the outcome of the market turbulence map we also identify a high amount of upcoming market turbulence. Mass customization was a production system developed to cope with market turbulence. To see if the techniques used in mass customization could be used in accountancy we looked at the key success factors for mass customization, in other words, the conditions that have to be met in order to successfully implement mass customization. We tried to translate and fulfill these key success factors for the practice of accountancy. The key success factors for mass customization are described by Pollard, Chuo, & Lee (2008).

3.4.1 Modular product design

Modularity is an important driver for mass customization. See paragraph 2.3.3 about modularity. Since the preparation of financial statements is a service, it seems hard to define a tangible modular product design. The end product of this service is a report or overview containing financial information. How then can we divide this end product, a financial report, into a modular product design?

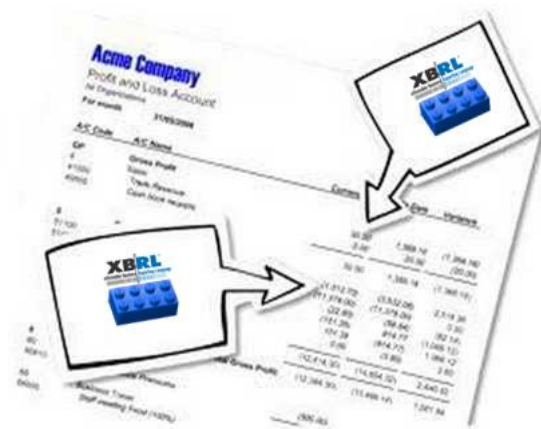


Figure 19. (Annual) report modularity.

Some recent technological developments enabled us to define this modularity. This technique is called: eXtensible Business Reporting Language or abbreviated XBRL. You can read more details about XBRL in paragraph 2.2. XBRL enables us to unambiguously define and label (financial) data. The addition of “unambiguous” plays a very important role. It enables data to have the same meaning for the client, financial intermediary and the third party. In the world of XBRL, financial overviews are basically a collection of XBRL elements. From a modular product design perspective we view these XBRL elements as starting point for our modular product design, read building blocks, see schematic Figure 19. (Annual) report *modularity*

Our definition of a building block is more than just a piece of financial data ‘tagged’ with a XBRL label. We reckon that data becomes more meaningful when it contains some level of certainty. The provision of certainty to third parties should, to some extent, be the added value of a financial intermediary. Providing certainty for data can be, for some elements, a very time consuming and

costly process. We therefore aim to incorporate a part of this certainty in our building blocks. See Figure 20. *Modular component*. for our definition of a building block.

How does this relate to the current situation? The use of standard checklists is a commonly used practice in the current situation regarding the preparation of financial statements. These checklists are step by step instructions on how to gather, prepare, assure and report the necessary data. The end product is a financial overview with certain data. It is general practice that every product / financial statement has its own checklist. More information about work programs, or checklists can be read in paragraph 2.1.3.

Generally said we enforce a shift to focus from the production of financial statements to the production of building blocks. By applying this modular product design it is reckoned that re-use becomes possible. In other words, building blocks can be used in various financial statements. This creates variety, and thus reduces the duplication of effort.



Figure 20. Modular component.

3.4.1.1 The importance of re-usage

This re-usage is an important driver and advantage in our new situation. To illustrate this, we developed an application that can measure this re-usage.

This application is able to compare two different XBRL-taxonomies and see how many resemblances there are between these taxonomies. Resemblance is defined as the amount of XBRL elements which share the same namespace and element name. Below is a screenshot of this application.

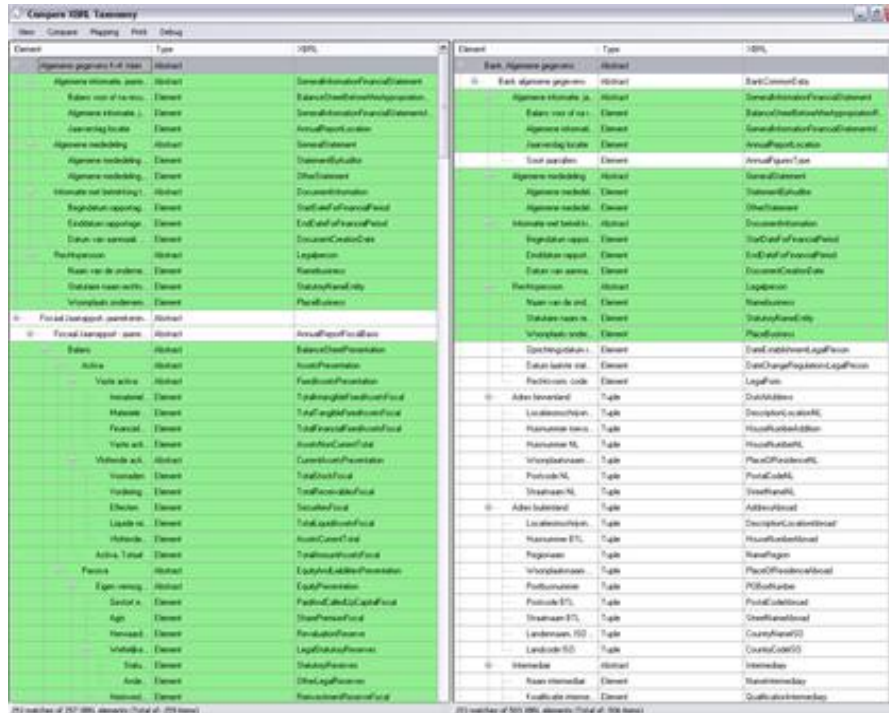


Figure 21. Screenshot of the compare application.

In Figure 21. *Screenshot of the compare application* the banking taxonomy (rpt-bank-krediet-klein-2008.xsd) is compared to the annual report on fiscal basis (rpt-fjr-jrklein-2008.xsd). The banking taxonomy has 503 XBRL elements while the annual report on fiscal basis has 257 XBRL elements. The outcome of this comparison is graphically displayed below in Figure 22. *Banking taxonomy compared to taxonomy annual report on fiscal basis*. The detailed results can be found in Appendix C - Reusability of the banking taxonomy.

rpt-bank-krediet-klein-2008.xsd

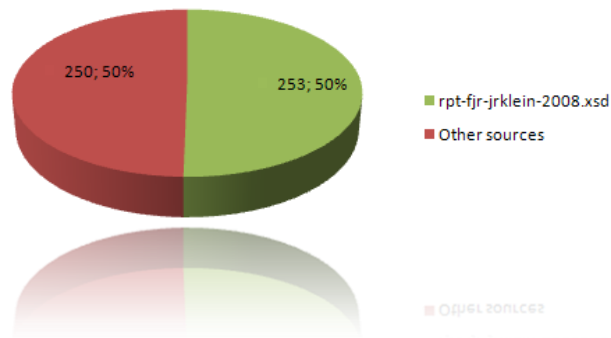


Figure 22. Banking taxonomy compared to taxonomy annual report on fiscal basis.

This figure shows how many XBRL elements, needed for the banking taxonomy (rpt-bank-krediet-klein-2008.xsd), can be obtained from annual report on fiscal basis (rpt-fjr-jrklein-2008.xsd). This is a bit more than 50 percent (253 elements). In other words, approximately the half of the necessary data needed for the banking taxonomy can be obtained from the annual report on fiscal basis. This also works the other way around, see Figure 23. *Annual report on fiscal basis compared to banking taxonomy.*

rpt-fjr-jrklein-2008.xsd

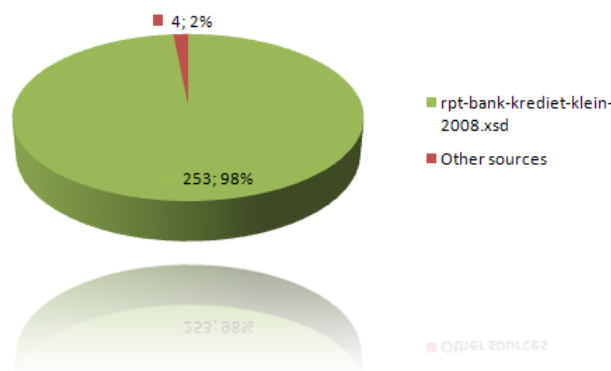


Figure 23. Annual report on fiscal basis compared to banking taxonomy.

Almost 98 percent (253) of the XBRL elements needed for the annual report on fiscal basis can be obtained from the banking taxonomy (rpt-bank-krediet-klein-2008.xsd). Let's assume that all the XBRL elements from the annual report were modular components. This would mean that almost the whole annual report could be re-used in the banking taxonomy. We therefore tried to demonstrate that this modularity is an important advantage.

3.4.2 Flexible manufacturing process

Because of the great variety of products the manufacturing process in mass customization has to be flexible. A flexible manufacturing process is closely related to a good modular product design.

The current process of the preparation of financial statements is greatly supported by software tools. Think hereby of software to process the financial administration and software tools that assists with the preparation of reports. As was mentioned in the definition, this factor is closely related to modular product design. In other words, the manufacturing process must be able to cope with modular products. Driving force behind this modular product design in this way of work is XBRL. In order to fulfill this key success factor, the accountant thus needs software that is able to flexible interpret, capture and communicate XBRL related data, our modular components.

Since every customer order is unique, a clear definition of the order is essential. Therefore sophisticated order management is needed. This created the need for a system that could keep track of the different (unique) customer orders. This was a great problem in 'Production and Logistics'. One of the solutions proposed by 'Production and Logistics' was the placement of computer terminals or order systems in shops. Customers were now able, under supervision of a sales person, to select and customize their final product. This final order was then sent to the factory where it was produced.

A clear definition of customer needs is also a problem in the preparation of financial statements. The problem here lies within interpretation. The definition of '*profit*' or '*asset*' could differ among parties. As was mentioned before, XBRL enables an unambiguous definition of data using so called taxonomies (*Taxonomies define the specific tags that are used for individual items of data (such as "net profit"), their attributes and their interrelationships*). If we translate the original 'systems that can keep track of these orders' from 'Production and Logistics' to the practice of accountancy, we could say that we are in need of software that is able to manage and process these XBRL taxonomies.

3.4.3 Integrated information systems

In production a smooth and accurate flow of information is mainly important for decision support. Minute to minute decisions have to be made to cope with uncertainty and changes in demand. Think for example of up-to-date sales figures. Integration of information systems in production helps by grouping all information from different participants together to form a complete and up-to-date representation.

If we look at the practice of the preparation of financial statements, we see that this factor is critical. Accountancy relies heavily on information systems. These systems are not only important for decision support; these information systems are also part of the primary process. Almost all data within the organization of a financial intermediary is stored and processed using software tools.

Integrated, thus coupling with the client, for the retrieval of information and coupled with the third party for the submission of information becomes crucial for a fast, flexible and agile “production process”. This interconnection sets thus requirements for software and IT infrastructure at the client, the financial intermediary and the third party.

3.4.4 Postponement of assembly

Traditional production systems had trouble with up- and downscaling of their production capacity. This was driven by a high degree of fixed costs, primary in fixed assets and maintenance. Due to demand flexibility, companies had to be able to cope with these changes. ‘Production and Logistics’ found a solution by outsourcing certain parts of the production capacity when needed. We predict that this problem is also available within the preparation of financial statements. The amount of work at the left side of the Customer Order Decoupling Point is continuous and certain. The amount of work at the right side of the Customer Order Decoupling Point is not certain. This could lead to variable occupancy at the right (customer order driven) side of the Decoupling Point. Organizations have to find solutions to cope with these variable occupancy levels. We will discuss this in chapter 7.

3.5 The first combination of mass customization and the process of preparing financial statements

Summarizing, we see that XBRL is an important enabling factor for the appliance of mass customization in the process of preparing financial statements. The schematic below in Figure 24. *The CODP translated to the preparation of financial statements* is the first combination of the Customer Order Decoupling Point model combined with the practice of accountancy.

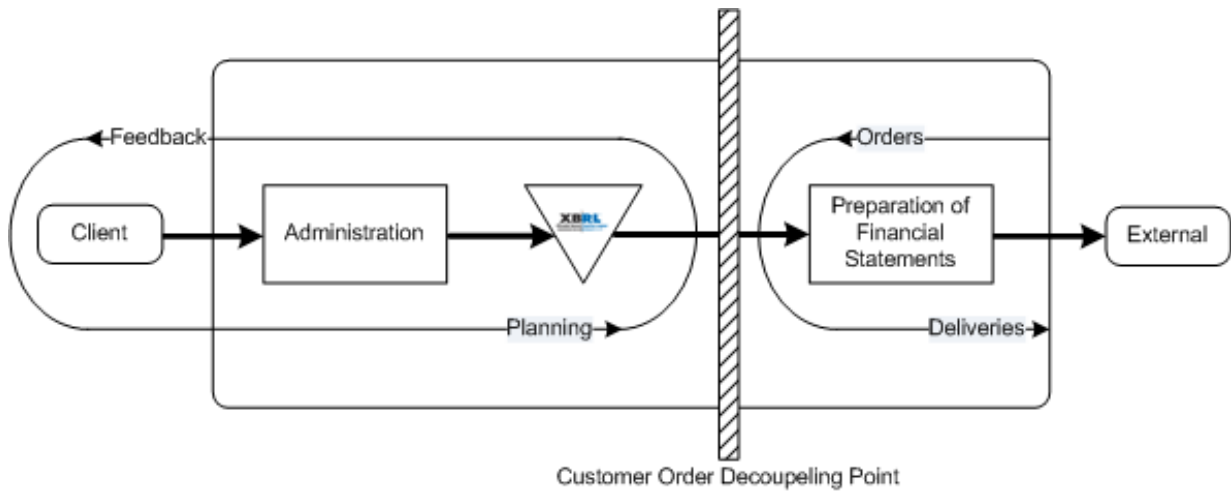


Figure 24. The CODP translated to the preparation of financial statements.

At the left side we see a continuous loop of processing the clients administration. Parts that are processed are gathered, assured and stored (tagged) with a XBRL label. This means that the definition and the degree of certainty, of the processed information, is unambiguous recorded. When an external party sends a request for information to the accountant, the accountant takes the already processed and assured (XBRL-tagged) information and assembles it to the needs of the external party.

The position of the Customer Order Decoupling Point determines the amount of work that can be done on forehand and the amount of work that has to be done when the information request is received. The position of the Customer Order Decoupling Point is flexible. Shifting the Customer Order Decoupling Point to the left means that an account is more effective. This because less specifications are defined in modular parts. Moving the Customer Order Decoupling Point to the right enables an accountant to focus more on efficiency. More specifications are captured in modular parts. These parts can be produced under planning and optimized conditions. You can read more about the shifting of the Customer Order Decoupling Point in paragraph 2.3.4.3. This way of work is further translated in Figure 25. *The CODP used within the organization of a financial intermediary.*

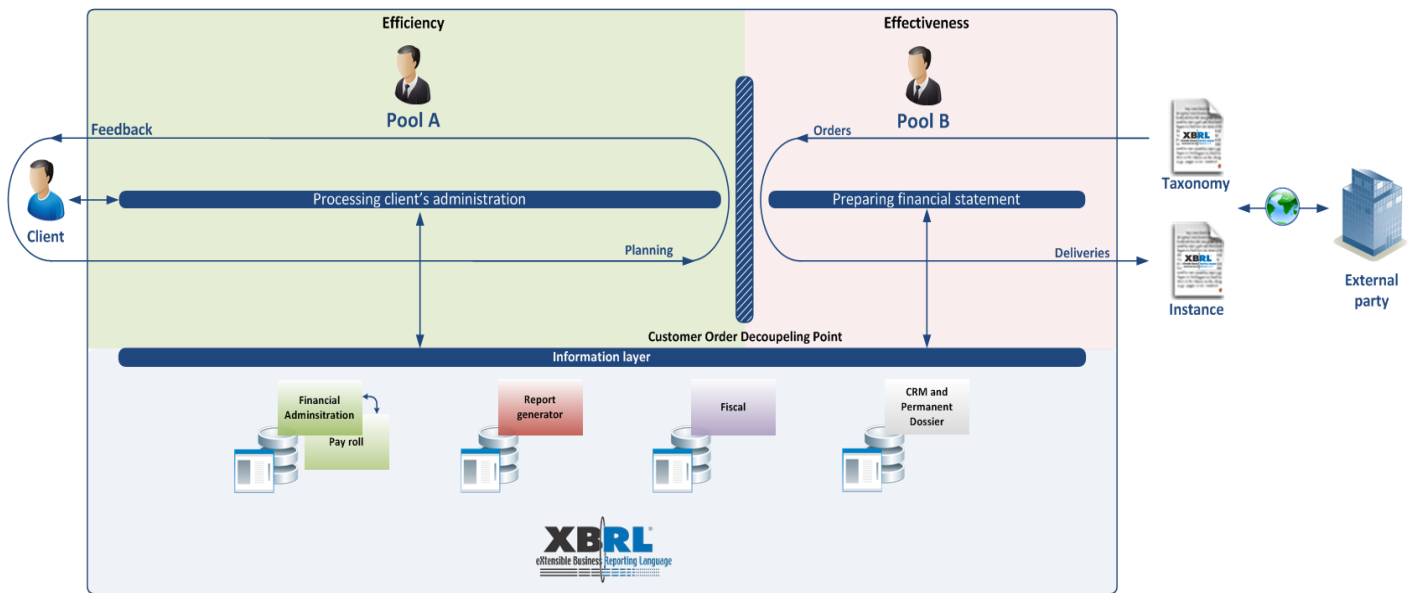


Figure 25. The CODP used within the organization of a financial intermediary.

The goal of the processes at the left side of the Customer Order Decoupling Point is the efficient processing of the client's administration. These are continuous and optimized processes. We define 'processing of the client's administration' as gathering, adding certainty and storing information from the client. Information that is processed from the client is stored in the information layer. This layer can be seen as a series of software programs and databases. These software tools are already known in the current situation, see paragraph 2.1.3. 'Production and Logistics' used a warehouse to store their tangible pre-fabricated products. The information layer can be seen as a storage / warehouse for the in the process created pre-fabricated modular parts.

The goal of the processes at the right side of the Customer Order Decoupling Point is the achievement of effectiveness. Processes at the right side are executed when the information request, in the form of a XBRL taxonomy, is received. They are thus order driven. The accountant loads the taxonomy into its software system and matches the available building blocks, created by the processes left of the Customer Order Decoupling Point. It could be possible that the information requested by the external party is not available in building blocks. When this is the case, the accountant should perform additional processes to produce and / or add certainty to the missing information. The building blocks, together with these additional activities, are used to create the financial overview, read: instance document. The XBRL instance document is sent back, via the internet, to the external party.

Using this structure it becomes possible to achieve both efficiency and effectiveness at the same time in one organization. Modularity is a driving force for this achievement. The creation of these modular components is further explored in the next chapter.

4. The design of modular components

In the previous paragraph (3.4.1.1) the advantages of modularity were demonstrated. This chapter focuses on the design and production of these modular components. Not all XBRL elements can be incorporated into modular components because of several reasons. To support this design activity of possible modular components a (classification) model was developed. The usage of this model is displayed in Figure 26. *The role of the classification model.*

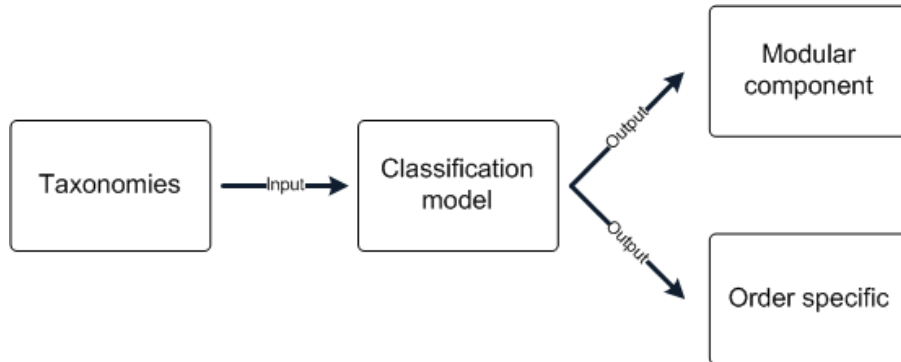


Figure 26. The role of the classification model.

This classification model answers the question if it is possible to incorporate a certain XBRL element into a modular component. The input of this classification model is a random XBRL taxonomy. The XBRL elements from this taxonomy are divided into modular components (left of the CODP) or order specific work (right of the CODP). Processes that create these modular components, read: all processes to the left to the customer order decoupling point, are bound to certain conditions. These boundaries are set by the continuous or repetitive nature of the production of these components. The continuous nature implies for example that the source of the data must be access each time the component is produced. This could form an obstacle if the source data is stored externally. For the development of this model we looked at the whole production process, see Figure 27. *Foundation of the classification model.*

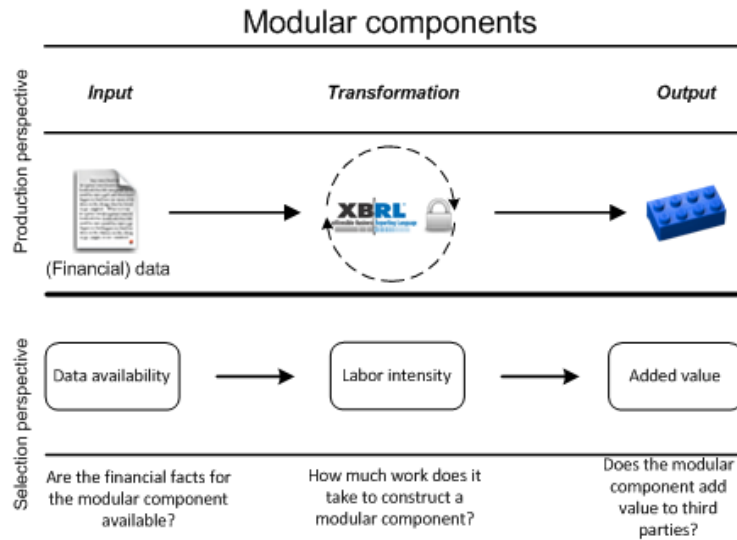


Figure 27. Foundation of the classification model.

The input of a building block is (plain) financial data, which can come from various sources. This data is processed and certainty is added in the transformation phase. The output of the production process is the modular component (which was defined as processed, assured and tagged XBRL data). This component can be used for the construction of new financial statements.

Based on this knowledge and the conditions necessary to sustain in a continuous environment we created three different core values that must be met in order to incorporate financial data into a building block.

- The core value for the input phase is **data availability**. In other words, is the financial data needed for the production of the building block (easily) available? Retrieving ‘hard to gather’ data on a continuous nature may not prove beneficial and may even cause extra work, whether this is actually the case is determined by the two other factors.
- Regarding the transformation process we looked at the **labor intensity**. Or in other words, how much work does it take to construct a building block? If the time consumed to construct the building block is very large it may be wiser to construct the data only when an information request is received. This also depends on the two other core values.
- Regarding the output we look at the **added value** of the building block. Or in other words, is it likely that this information is requested by a third party? We do not want to create building blocks that are useless to third parties. That would be a waste of work.

It is important to notice that even when an XBRL element scores low on one criterion it nevertheless may be useful to incorporate the element into a building block. See the following example: A building

block based on data that is easily retrieved but requires a great amount of labor and is requested by a large amount of parties may be beneficial to incorporate into a building block. Even when it scores low on labor intensity, it requires much labor, it may still be useful and wise to incorporate this element into a building block. In this case the financial intermediary could also perform additional efficiency steps to reduce throughput time and thus gain a higher score for this criterion. Think of digitalization.

4.1 The measurement of core values

This chapter further elaborates on the classification model. Each core value, as was mentioned above, is measured using an amount of sub criteria. For each core value the sub criteria are given, including a description, their possible answers, their weights and their possible relations to other criteria.

4.1.1 Data availability

We measure the core value ‘data availability’ using the criteria: origin of data, data format and data extraction time.

Criteria	Origin of data
Description	Goal of this criterion is to answer the question: where is data, needed for fulfillment of this XBRL element, stored? The required data can already be available within the organization or could only be available externally. We assume the financial intermediary has complete financial administration of its client. However there will be some data that is not stored within this financial administration. External stored data is harder to retrieve than internal stored data. Due to the continuous nature, this could form a “possible” obstacle. The scale of the obstacle depends on other factors like: ‘data format’ and ‘extraction time’. Data which is digitally stored can, for example, be extracted very rapidly.
Possible answers	<ul style="list-style-type: none"> • Stored internal, data for this task is already available within the organization and does not have to be retrieved from an external source upon execution of the task; • Stored external, data for this task is stored outside the organization and has to be retrieved each time the task is executed.
Weight distribution	<ul style="list-style-type: none"> • Stored internal (+2); • Stored external (-5). Note: If data format is digital then -2

Table 5. Origin of data

Criteria	Data format
Description	Goal of this criterion is to answer the question: in what format is the data, needed for this task, stored? The format of data is important because it has influence on both the extraction and processing time. Digital formatted data is generally faster to retrieve and process than data which resides on paper. Think for example of 'sales invoices'. Sales invoices that flow in a digital form from the client to the financial intermediary are generally faster to process by the financial intermediary than when they are in textual form, due to process of rekeying. If we look from the continuous point of view we would like to have as much of digital information as possible.
Possible answers	<ul style="list-style-type: none"> • Digital, the original data for this task is already stored in an electronic, database like, environment; • Textual, the original data for this task is only available on paper; • Mental, the original data for this task is only is stored in the mind of an external source; for example the client.
Weight distribution	<ul style="list-style-type: none"> • Digital (+2); • Textual (+1); • Mental (0).

Table 6. Data format

Criteria:	Data extraction time
Description:	Goal of this criterion is to answer the question: how long does it take to extract the data from its original source? The data extraction time is partly determined by the previous two factors. However this could be inconclusive. Digitally stored data is not always fast to retrieve. For example if certain conversion or reformatting is required.
Possible answers:	<ul style="list-style-type: none"> • Short extraction time, data needed for this task can easily be retrieved and does not require additional transformation steps; • Medium extraction time, data needed for this task can be retrieved without too much hassle. Additional transformation steps may be necessary before the data can be inserted into the process; • Long extraction time, data needed for this task is difficult to retrieve. Many additional transformation steps are necessary before the data can be inserted into the process.
Weight distribution:	<ul style="list-style-type: none"> • Short extraction time (+2); • Medium extraction time (+1); • Long extraction time (0).

Table 7. Data extraction time

4.1.2 Labor intensity

Criteria	Size of data
Description:	This criterion describes the amount of data that is inputted into the process. We assume that large chunks of data need more processing and thus labor, than smaller chunks of data. However this is not always the case. The 'size of data' forms a small part of the prediction of labor intensity. This also depends on the other criteria.
Possible answers:	<ul style="list-style-type: none"> • Small, the data needed for this task is relatively small; • Medium, the data needed for this task has an average size; • Large, the data needed for this task is relatively large.
Weight distribution:	<ul style="list-style-type: none"> • Small (+2); • Medium (+1); • Large (0).

Table 8. Labor intensity

Criteria	Operations
Description:	This criterion represents the amount of actions and operations that are required to convert data from input into necessary output.
Possible Answers:	<ul style="list-style-type: none"> • Few operations, the amount of operations for this task are relatively small; • Average amount of operations, the amount of operations for this task are relatively average; • Many operations, the amount of operations for this task are relatively large.
Weight distribution:	<ul style="list-style-type: none"> • Few operations (+2); • Average amount of operations (+1); • Many operations (0).

Table 9. Operations

Criteria	Content change over time
Description	'Content change over time' refers to the time dependency of data (ageing). Some data may be more subject to change than others. The business address of a client is unlikely to change at a regular interval. The stock level for example is more likely to change, for example on a daily basis. When the processed data changes on a very regular interval it may not seem wise to use it as a modular component. If the underlying data changes too fast, the prefabricated product may contain an outdated, and therefore not faithful representation.
Possible Answers	<p>The data produced by this task changes:</p> <ul style="list-style-type: none"> • Never; • Yearly;

Weight distribution	<ul style="list-style-type: none"> • Monthly; • Weekly; • Daily; • Never (+10); • Yearly (+4); • Monthly (+2); • Weekly (+1); • Daily (0).
---------------------	---

Table 10. Content change over time

4.1.2.1 Additional options 'Labor Intensity'

Criteria	Digital support for task
Description:	This criterion measures if there is digital support available for this operation. The 'size of the data' and the 'amount of operations' alone are not conclusive. The duration of the operations is also important. Operations that are supported by digital tools tend to have a shorter throughput than those who are not. For example purchase orders. When there is a possibility to scan all these orders it enables digital processing which speeds up the required operations. The availability of these tools is therefore important for a complete image regarding labor intensity.
Possible answers:	<ul style="list-style-type: none"> • Yes, there is digital support available for this task, hereby decreasing throughput time; • No, there is no digital support available for this task.
Weight distribution:	<ul style="list-style-type: none"> • Yes (+1); • No (0).

Table 11. Digital support for operation

External trigger	
Trigger	In some cases there is a trigger available which notifies the financial intermediary when (extra) work, regarding the provision of certainty, is necessary. It is helpful, in a continuous environment, to know when certainty expires. An example of such a trigger is available with fixed assets. A financial booking regarding a fixed asset (for example the purchase of an office) notifies the financial intermediary that extra actions have to be taken. This to provide (extra) certainty for these new or changed fixed assets.
Possible Answers	<p>Is there a trigger available?</p> <ul style="list-style-type: none"> • Yes, there is an external trigger available; • No, there is no external trigger available;

Weight distribution	<ul style="list-style-type: none"> • Yes (+10); • No (0);
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Table 12. External trigger

Criteria name:	Predefined interval
Description:	Pre-defined intervals are the solution for fast changing data. An example of fast changing data is the total inventory. This systems works by comparing historical data, pre-defined periods, to current developments. This system is further explained in paragraph 6.5.3
Possible Answers:	<ul style="list-style-type: none"> • Yes, it is possible to capture this data using predefined intervals • No, it is not possible to capture this data using predefined intervals
Weight distribution:	<ul style="list-style-type: none"> • Yes (+10); • No (+0);

Table 13. Predefined interval

4.1.3 Added value

Criteria name:	Contribution
Description:	The outcome of every performed task should add value. We assume that not all tasks add value in the same way. We view the added value from third party perspective.
Possible Answers:	<ul style="list-style-type: none"> • Relevant, the outcome of this task is relevant for external parties; • May be relevant, the outcome of this task may be relevant for external parties; • Quality, this task provides a level of certainty for the third party; • Not relevant, the outcome of this task is not relevant for external parties; • Nothing, it could be possible that a task does not provide direct value.
Weight distribution:	<ul style="list-style-type: none"> • Relevant (+3); • May be relevant (+2); • Quality (+1); • Not relevant (-100); • Nothing (-100).

Table 14. Added value

Criteria name:	Requested by amount of parties
Description:	We assume that not all data is going to be requested by external parties. Some data may be more relevant for external parties than others. If we incorporate this non relevant data into our building blocks we may end up with non-useable modular components. Due to the continuous nature of these tasks, this would be

Possible Answers:	<p>a “continuous” waste of work.</p> <ul style="list-style-type: none"> • Large, it is expected that the data produced by this task is going to be requested by external parties; • Average, it is possible that the data produced by this task is going to be requested by external parties; • Small, it is not likely that the data produced by this task is going to be requested by external parties.
Weight distribution:	<ul style="list-style-type: none"> • Yes (+10); • No (+0);

Table 15. Requested by amount of parties

Criteria name:	Certainty of processed data
Description:	<p>Certainty is an important driver to determine the added value. Some tasks produce data with a high degree of certainty while other tasks need additional quality processes to provide this certainty. We assume that data with a high degree of certainty adds more value than data with a low degree of certainty.</p>
Possible Answers:	<ul style="list-style-type: none"> • Certain, the data produced by this task is certain; • Estimate, the data produced by this is task is an estimate which provides enough added value for third parties; • Uncertain, the data produced by this task is uncertain.
Weight distribution:	<ul style="list-style-type: none"> • Certain (+3); • Estimate (+2); • Uncertain (-100).

Table 16. Certainty of processed data

A schematic overview of this classification model can be found in Appendix B - Schematic overview of the classification model.

5. The classification model applied to the banking taxonomy

In this chapter the classification model, as was presented in previous chapter, is applied to the banking taxonomy. The banking taxonomy defines the necessary data a business has to provide to its bank for credit approval.

The banking taxonomy used in this classification is the Beta version *bankentaxonomie* (version February 2009). This banking taxonomy can be obtained from the following website: <http://www.xbrl-ntp.nl/Taxonomie/bversiebankentaxonomie>

To support this classification the following application was developed, see Figure 28. *Screenshot of classification application*. With the use of this application it is possible to open and parse any existing XBRL taxonomy and classify each element using the criteria from the classification model. The application will color each element according to the outcome. For more information about this application see: Appendix A - A short guide to the classification program.

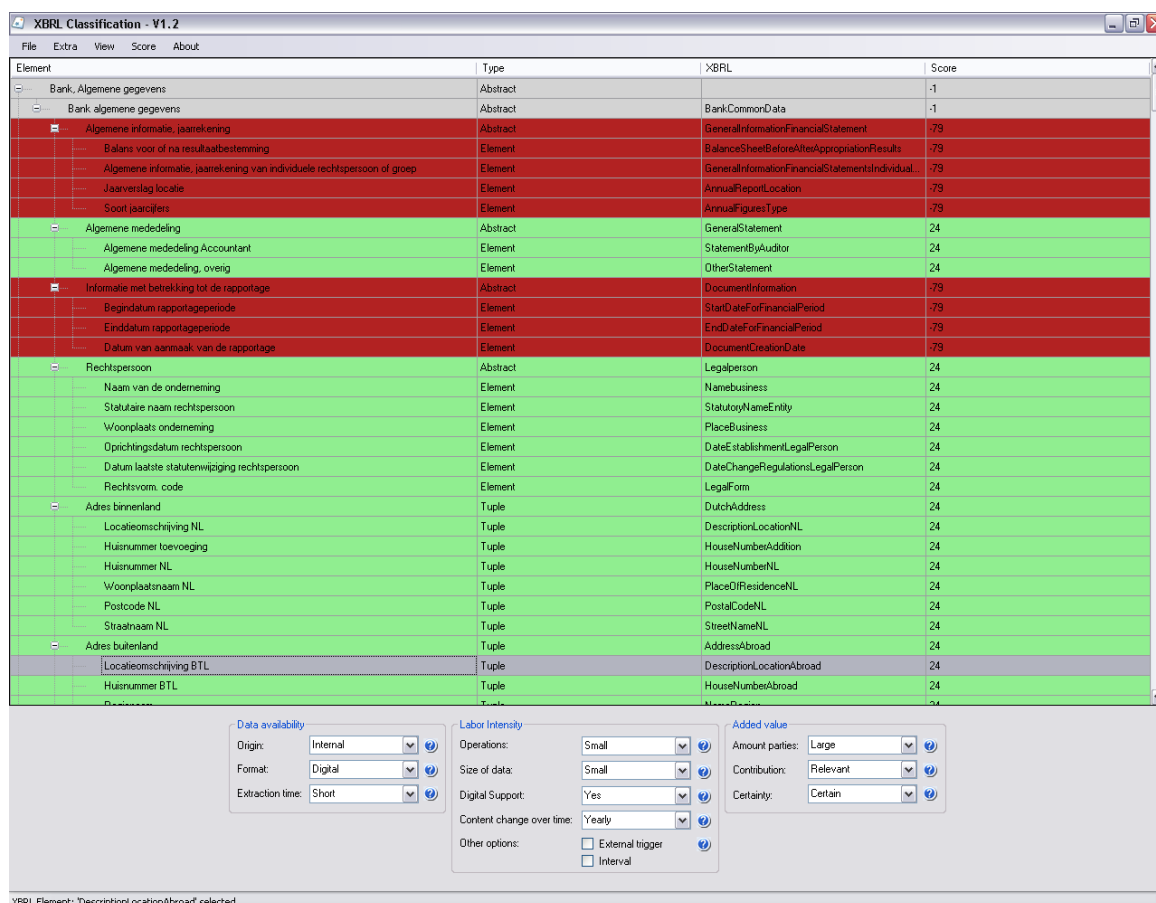


Figure 28. Screenshot of classification application.

The criteria for each element within the banking taxonomy were set with the help of a field expert from AccountView; Han Wurtz. The preliminary outcome of this classification is summarized in Figure 29. Outcome of the classification of the banking taxonomy.

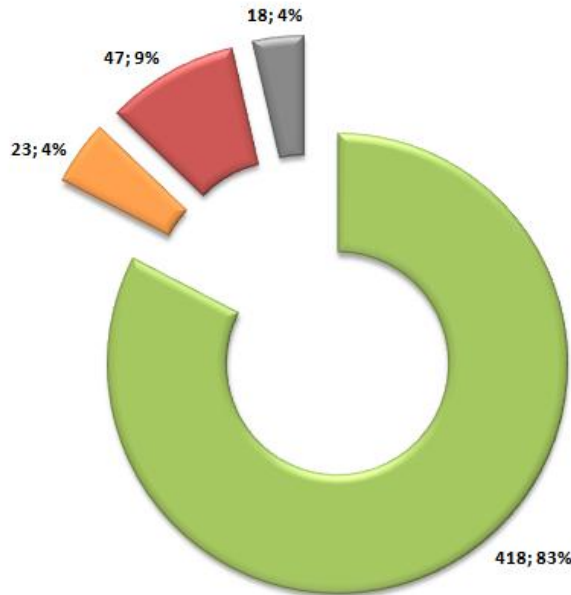


Figure 29. Outcome of the classification of the banking taxonomy.

As can be seen from this figure about 418 elements (83%) could be incorporated as modular part and can therefore be placed at the left side of the Customer Order Decoupling Point. For 47 (9%) elements this is not possible because the exact content can only be determined upon creation of the (financial) statement. 23 (4%) elements could be modular or order specific depending on the judgment of the financial intermediary. 18 Elements were unranked, mainly because these elements are there for presentational purposes and do not contain data.

To understand why some parts within this taxonomy are modular and why some parts are order specific we discuss our most important outcomes and decisions using the banking taxonomy hierarchy. This hierarchy is displayed in Figure 30. *Hierarchy of the banking taxonomy.*

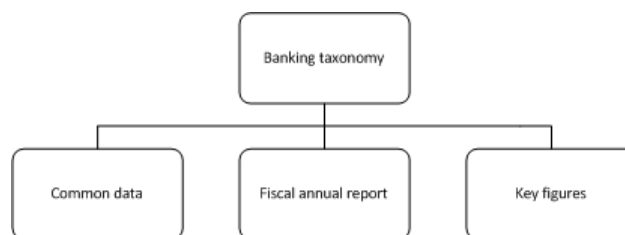


Figure 30. Hierarchy of the banking taxonomy.

The First branch is *Common data*. This data can be perceived as static and slowly changing. Examples in this branch include the name and address of the client's business. Exceptions are *general information* and *document Information*. These elements can only be filled upon creation of the financial statement and cannot be incorporated as a modular part.

The second branch is the most extensive one and contains the fiscal annual report. The *fiscal annual report* has its own hierarchy.

The First branches of the fiscal annual report are the balance sheet and the income statement. This is primarily financial data. We argue that all the elements in these categories can become a modular component. Here we distinguish between financial data that changes (very) regularly for example *Total Stock Fiscal* and long term changing values, for example *Accruals Deferred Income Non Current*.

For slowly changing values we argue that it is possible to update them upon change. In most cases there is a trigger available, in the form of an underlying financial booking. This notifies the financial intermediary when extra work, regarding the certainty of this element, is necessary.

For fast changing values it may seem impossible to incorporate these as a modular component. Because of their fast changing nature. We therefore came up with a method which uses pre-defined intervals. This enables the financial intermediary to incorporate fast changing data as modular parts. This method is further explained in paragraph 6.5.3.

The second part of the fiscal annual report is the general disclosures and accounting policies. These can be modular because these disclosures and policies also change irregularly.

The disclosures for the balance sheet and income statement tell something about financial data. This financial data is included in the first part of the fiscal annual report. Because of this coupling, changes in the underlying financial data also mean changes in the coupled disclosures.

It is not possible to create all disclosures on forehand. An example is the *Contingent Liabilities Disclosures*. It may be hard to do this in a continuous environment. This is mainly because the exact definition of these disclosures is unknown and can change on a daily basis without any prior notification.

The exact classification scheme, including all criteria for each element, can be downloaded from: <http://xbrl.reinsteens.nl>.

5.1 Elaboration of the banking taxonomy

This chapter provides a detailed overview of the outcome of the classification of the banking taxonomy per element. Green items are modular components, red items are order specific work while orange items could be both depending on the judgment of the financial intermediary. Gray items are not ranked.

Bank, Algemene gegevens ()

Bank algemene gegevens (BankCommonData)

Algemene informatie, jaarrekening (GeneralInformationFinancialStatement)

Balans voor of na resultaatbestemming (BalanceSheetBeforeAfterAppropriationResults)

Algemene informatie, jaarrekening van individuele rechtspers [...] (GeneralInformationFinancialStatementsIndividualEnt [...])

Jaarverslag locatie (AnnualReportLocation)

Soort jaarcijfers (AnnualFiguresType)

Algemene mededeling (GeneralStatement)

Algemene mededeling Accountant (StatementByAuditor)

Algemene mededeling, overig (OtherStatement)

Informatie met betrekking tot de rapportage (DocumentInformation)

Begindatum rapportageperiode (StartDateForFinancialPeriod)

Einddatum rapportageperiode (EndDateForFinancialPeriod)

Datum van aanmaak van de rapportage (DocumentCreationDate)

Rechtspersoon (Legalperson)

Naam van de onderneming (Namebusiness)

Statutaire naam rechtspersoon (StatutoryNameEntity)

Woonplaats onderneming (PlaceBusiness)

Oprichtingsdatum rechtspersoon (DateEstablishmentLegalPerson)

Datum laatste statutenwijziging rechtspersoon (DateChangeRegulationsLegalPerson)

Rechtsvorm. code (LegalForm)

Adres binnenland (DutchAddress)

Locatieomschrijving NL (DescriptionLocationNL)

Huisnummer toevoeging (HouseNumberAddition)

Huisnummer NL (HouseNumberNL)

Woonplaatsnaam NL (PlaceOfResidenceNL)

Postcode NL (PostalCodeNL)

Straatnaam NL (StreetNameNL)

Adres buitenland (AddressAbroad)

Locatieomschrijving BTL (DescriptionLocationAbroad)

Huisnummer BTL (HouseNumberAbroad)

Regionaam (NameRegion)

Woonplaatsnaam BTL (PlaceOfResidenceAbroad)

Postbusnummer (POBoxNumber)

Postcode BTL (PostalCodeAbroad)

Straatnaam BTL (StreetNameAbroad)

Landennaam, ISO code (CountryNameISO)

Landcode ISO (CountryCodeISO)

Intermediair (Intermediary)

Naam intermediair (NameIntermediary)

Kwalificatie intermediair (QualificationIntermediary)

Vestigingsplaats intermediair (DomicileIntermediary)

Telefoonnummer intermediair (TelephoneNumberIntermediary)

Naam opsteller (NameCompiler)

Bank (Bank)

Rekeningnummer (AccountNumberBank)

Klantcode (ClientCodeBank)

Bank, Fiscaal Jaarrapport, Krediet ()

Bank - fiscaal jaarrapport - krediet (BankFiscalBaseSmallEntity)

Balans (BalanceSheetPresentation)

Activa (AssetsPresentation)

Vaste activa (FixedAssetsPresentation)

Totaal immateriele vaste activa fiscaal (TotalIntangibleFixedAssetsFiscal)

Goodwill fiscaal einde boekjaar (GoodwillFiscal)

Kosten onderzoek en ontwikkeling (CostsResearchAndDevelopment)

Concessies, vergunningen etc. fiscaal (ConcessionsLicensesEtcFiscal)

Vooruitbetaald op immateriële vaste activa fiscaal (PaidInAdvanceInRelationToIntangibleFixedAssetsFisc [...])

Productierechten fiscaal (ProductionRightsFiscal)

Overige immateriele vaste activa (OtherIntangibleFixedAssets)

Totale materiele vaste activa fiscaal (TotalTangibleFixedAssetsFiscal)

Bedrijfsgebouwen met ondergrond (BusinessPremisesWithSoil)

Onroerend goed (BusinessPremisesWithSoilSpecification)

Registernummer (RegistryNumberRegisterBoundGood)

WOZ-waarde (ValuePurposesValuationOfImmovablePropertyActRegist [...])

Boekwaarde (BalanceSheetValueRegisterBoundGood)

Afschrijvingsmethode (AmortisationMethodRegisterBoundGood)

Boekwaarde vliegtuigen (AircraftBalanceSheetValue)

Vliegtuigen (Aircraft)

Registernummer (RegistryNumberRegisterBoundGood)

Boekwaarde (BalanceSheetValueRegisterBoundGood)

Afschrijvingsmethode (AmortisationMethodRegisterBoundGood)

Boekwaarde schepen (ShipsBalanceSheetValue)

Schepen (Ships)

Registernummer (RegistryNumberRegisterBoundGood)

Boekwaarde (BalanceSheetValueRegisterBoundGood)

Afschrijvingsmethode (AmortisationMethodRegisterBoundGood)

Machines fiscaal (MachineryFiscal)

Inventaris fiscaal (FurnitureAndFixturesFiscal)

Automobielen en overige transportmiddelen fiscaal (CarsAndOtherTransportMeansFiscal)

Vaste bedrijfsmiddelen in uitvoering etc. fiscaal (FixedBusinessAssetsInDevelopmentEtcFiscal)

Dieren fiscaal (AnimalsFiscal)

Overige materiele vaste activa landbouw (OtherAgriculturalTangibleFixedAssets)

Overige materiele vaste activa (OtherTangibleFixedAssets)

Totaal financiële vaste activa fiscaal (TotalFinancialFixedAssetsFiscal)

Langlopende vorderingen op aandeelhouders en participanten (LongTermReceivablesFromShareholdersParticipants)

Langlopende vorderingen op aandeelhouders en participanten (LongTermReceivablesShareholdersParticipantsSpecifi [...])

- Identificatienummer (IdentificationNumberReceivables)
- Boekwaarde (BalanceSheetValueReceivables)
- Aflossing (bedrag p.j.) (RedemptionYearlyReceivables)
- Rentevoet (% p.j.) (InterestRateYearlyReceivables)
- Indicatie achterstelling (IndicationSubordinationReceivables)
- Zekerheid (SecurityReceivables)

Langlopende vorderingen op deelnemingen en gelieerde bedrijf [...] (LongTermReceivablesParticipatingInterestsAffiliate [...])

Langlopende vorderingen op deelnemingen en gelieerde bedrijf [...] (LongTermReceivablesParticipatingInterestsAffiliate [...])

- Identificatienummer (IdentificationNumberReceivables)
- Boekwaarde (BalanceSheetValueReceivables)
- Aflossing (bedrag p.j.) (RedemptionYearlyReceivables)
- Rentevoet (% p.j.) (InterestRateYearlyReceivables)
- Indicatie achterstelling (IndicationSubordinationReceivables)
- Zekerheid (SecurityReceivables)

Langlopende vorderingen op onderhandse leningen (LongTermReceivablesPrivateLoans)

Langlopende vorderingen op onderhandse leningen (LongTermReceivablesPrivateLoansSpecification)

- Identificatienummer (IdentificationNumberReceivables)
- Boekwaarde (BalanceSheetValueReceivables)
- Aflossing (bedrag p.j.) (RedemptionYearlyReceivables)
- Rentevoet (% p.j.) (InterestRateYearlyReceivables)
- Indicatie achterstelling (IndicationSubordinationReceivables)
- Zekerheid (SecurityReceivables)

Overige financiële vaste activa (OtherFinancialFixedAssets)

Activa, Vast, Totaal (AssetsNonCurrentTotal)

Vlottende activa (CurrentAssetsPresentation)

Totaal voorraden fiscaal (TotalStockFiscal)

- Onderhanden werk fiscaal (WorkInProgressFiscal)
- Aanbetaling op onderhanden werk (DepositWorkInProgress)
- Grond- en hulpstoffen fiscaal (RawAndAncillaryMaterialsFiscal)
- Voorraad dieren fiscaal (StockAnimalsFiscal)
- Gereed product en handelsgoederen fiscaal (FinishedProductsAndCommercialGoodsFiscal)
- Overige voorraad (OtherInventories)

Totaal vorderingen fiscaal (TotalReceivablesFiscal)

Handelsvorderingen fiscaal (TradeReceivablesFiscal)

- 30 dagen (TradeReceivablesThirtyDays)
- 60 dagen (TradeReceivablesSixtyDays)
- 90 dagen (TradeReceivablesNinetyDays)
- 90+ dagen (TradeReceivablesAboveNinetyDays)

Kortlopende vorderingen op aandeelhouders en participanten (ShortTermReceivablesShareholdersParticipants)

Kortlopende vorderingen op aandeelhouders en participanten (ShortTermReceivablesShareholdersParticipantsSpecif [...])

- Identificatienummer (IdentificationNumberReceivables)
- Boekwaarde (BalanceSheetValueReceivables)
- Aflossing (bedrag p.j.) (RedemptionYearlyReceivables)
- Rentevoet (% p.j.) (InterestRateYearlyReceivables)

Indicatie achterstelling (IndicationSubordinationReceivables)
Zekerheid (SecurityReceivables)
Kortlopende vorderingen op deelnemingen en gelieerde bedrijf [...] (ShortTermReceivablesParticipatingInterestsAffiliat [...])
Kortlopende vorderingen op deelnemingen en gelieerde bedrijf [...] (ShortTermReceivablesParticipatingInterestsAffiliat [...])
Identificatienummer (IdentificationNumberReceivables)
Boekwaarde (BalanceSheetValueReceivables)
Aflossing (bedrag p.j.) (RedemptionYearlyReceivables)
Rentevoet (% p.j.) (InterestRateYearlyReceivables)
Indicatie achterstelling (IndicationSubordinationReceivables)
Zekerheid (SecurityReceivables)
Kortlopende vorderingen op onderhandse leningen (ShortTermReceivablesPrivateLoans)
Kortlopende vorderingen op onderhandse leningen (ShortTermReceivablesPrivateLoansSpecification)
Identificatienummer (IdentificationNumberReceivables)
Boekwaarde (BalanceSheetValueReceivables)
Aflossing (bedrag p.j.) (RedemptionYearlyReceivables)
Rentevoet (% p.j.) (InterestRateYearlyReceivables)
Indicatie achterstelling (IndicationSubordinationReceivables)
Zekerheid (SecurityReceivables)
Overlopende activa fiscaal (AccruedIncomeFiscal)
Overige vorderingen (OtherReceivables)
Effecten fiscaal (SecuritiesFiscal)
Totaal liquide middelen fiscaal (TotalLiquidAssetsFiscal)
Banktegoeden fiscaal (BankCreditsFiscal)
Saldo G-rekeningen (BalanceGBankAccounts)
Overige liquide middelen (OtherLiquidAssets)
Activa, Vlottend, Totaal (AssetsCurrentTotal)
Totaal activa fiscaal (TotalAmountAssetsFiscal)
Passiva (EquityAndLiabilitiesPresentation)
Eigen vermogen (EquityPresentation)
Gestort en opgevraagd kapitaal fiscaal (PaidAndCalledUpCapitalFiscal)
Agio fiscaal (SharePremiumFiscal)
Herwaarderingsreserve (RevaluationReserve)
Wettelijke en statutaire reserves (LegalStatutoryReserves)
Statutaire reserves (StatutoryReserves)
Andere wettelijke reserves (OtherLegalReserves)
Herinvesteringsreserve fiscaal (ReinvestmentReserveFiscal)
Overige fiscale reserves (OtherFiscalReserves)
Overige reserves (OtherReserves)
Onverdeelde winst (verlies) (ResultForTheYear)
Eigen vermogen, Totaal (EquityTotal)
Totaal voorzieningen fiscaal (TotalProvisionsFiscal)
Garantievoorziening fiscaal (WarrantyProvisionFiscal)
Lijfrentevoorziening fiscaal einde boekjaar (AnnuityReserveFiscal)
Pensioenvoorziening fiscaal (PensionProvisionFiscal)
Overige voorzieningen (OtherProvisions)
Langlopende schulden (AccrualsDeferredIncomeNonCurrent)

Langlopende verplichtingen aan aandeelhouders en participant [...] (LongTermPayablesShareholdersParticipants)

Langlopende verplichtingen aan aandeelhouders en participant [...] (LongTermPayablesShareholdersParticipantsSpecificat [...])

Identificatienummer (IdentificationNumberPayables)

Boekwaarde (BalanceSheetValuePayables)

Aflossing (bedrag p.j.) (RedemptionYearlyPayables)

Rentevoet (% p.j.) (InterestRateYearlyPayables)

Indicatie achterstelling (IndicationSubordinationPayables)

Zekerheid (SecurityPayables)

Langlopende verplichtingen aan deelnemingen en gelieerde bed [...] (LongTermPayablesParticipatingInterestsAffiliatedCo [...])

Langlopende verplichtingen aan deelnemingen en gelieerde bed [...] (LongTermPayablesParticipatingInterestsAffiliatedCo [...])

Identificatienummer (IdentificationNumberPayables)

Boekwaarde (BalanceSheetValuePayables)

Aflossing (bedrag p.j.) (RedemptionYearlyPayables)

Rentevoet (% p.j.) (InterestRateYearlyPayables)

Indicatie achterstelling (IndicationSubordinationPayables)

Zekerheid (SecurityPayables)

Langlopende verplichtingen aan kredietinstellingen (LongTermPayablesCreditInstitution)

Langlopende verplichtingen aan kredietinstellingen (LongTermPayablesCreditInstitutionSpecification)

Identificatienummer (IdentificationNumberPayables)

Boekwaarde (BalanceSheetValuePayables)

Aflossing (bedrag p.j.) (RedemptionYearlyPayables)

Rentevoet (% p.j.) (InterestRateYearlyPayables)

Indicatie achterstelling (IndicationSubordinationPayables)

Zekerheid (SecurityPayables)

Langlopende verplichtingen op onderhandse leningen (LongTermPayablesPrivateLoans)

Langlopende verplichtingen op onderhandse leningen (LongTermPayablesPrivateLoansSpecification)

Identificatienummer (IdentificationNumberPayables)

Boekwaarde (BalanceSheetValuePayables)

Aflossing (bedrag p.j.) (RedemptionYearlyPayables)

Rentevoet (% p.j.) (InterestRateYearlyPayables)

Indicatie achterstelling (IndicationSubordinationPayables)

Zekerheid (SecurityPayables)

Kortlopende schulden en overlopende passiva (AccrualsDeferredIncomeCurrent)

Handelscrediteuren fiscaal (TradePayablesFiscal)

30 dagen (TradePayablesThirtyDays)

60 dagen (TradePayablesSixtyDays)

90 dagen (TradePayablesNinetyDays)

90+ dagen (TradePayablesAboveNinetyDays)

Kortlopende verplichtingen aan aandeelhouders en participant [...] (ShortTermPayablesShareholdersParticipants)

Kortlopende verplichtingen aan aandeelhouders en participant [...] (ShortTermPayablesShareholdersParticipantsSpecificat [...])

Identificatienummer (IdentificationNumberPayables)

Boekwaarde (BalanceSheetValuePayables)

Aflossing (bedrag p.j.) (RedemptionYearlyPayables)

Rentevoet (% p.j.) (InterestRateYearlyPayables)

Indicatie achterstelling (IndicationSubordinationPayables)

Zekerheid (SecurityPayables)

Kortlopende verplichtingen aan deelnemingen en gelieerde bed [...] (ShortTermPayablesParticipatingInterestsAffiliatedC [...])

Kortlopende verplichtingen aan deelnemingen en gelieerde bed [...] (ShortTermPayablesParticipatingInterestsAffiliatedC [...])

Identificatienummer (IdentificationNumberPayables)

Boekwaarde (BalanceSheetValuePayables)

Aflossing (bedrag p.j.) (RedemptionYearlyPayables)

Rentevoet (% p.j.) (InterestRateYearlyPayables)

Indicatie achterstelling (IndicationSubordinationPayables)

Zekerheid (SecurityPayables)

Kortlopende verplichtingen aan kredietinstellingen (ShortTermPayablesCreditInstitutions)

Kortlopende verplichtingen aan kredietinstellingen (ShortTermPayablesCreditInstitutionsSpecification)

Identificatienummer (IdentificationNumberPayables)

Boekwaarde (BalanceSheetValuePayables)

Aflossing (bedrag p.j.) (RedemptionYearlyPayables)

Rentevoet (% p.j.) (InterestRateYearlyPayables)

Indicatie achterstelling (IndicationSubordinationPayables)

Zekerheid (SecurityPayables)

Kortlopende verplichtingen op onderhandse leningen (ShortTermPayablesPrivateLoans)

Kortlopende verplichtingen op onderhandse leningen (ShortTermPayablesPrivateLoansSpecification)

Identificatienummer (IdentificationNumberPayables)

Boekwaarde (BalanceSheetValuePayables)

Aflossing (bedrag p.j.) (RedemptionYearlyPayables)

Rentevoet (% p.j.) (InterestRateYearlyPayables)

Indicatie achterstelling (IndicationSubordinationPayables)

Zekerheid (SecurityPayables)

Vorderingen omzetbelasting fiscaal (PayablesAndReceivablesValueAddedTaxFiscal)

Loonbelasting en premies volksverzekeringen (WageTaxAndSocialSecurityCosts)

Premies werknemersverzekeringen (EmployeeInsuranceContributions)

Overlopende passiva fiscaal (AccruedLiabilitiesFiscal)

Overige verplichtingen (OtherPayables)

Totaal passiva fiscaal (TotalLiabilitiesFiscal)

Winst- en verliesrekening (IncomeStatementPresentation)

Resultaat na belastingen (NetResultAfterTax)

Resultaat uit gewone bedrijfsuitoefening na belastingen (NetProfitLossOrdinaryActivities)

Winst (Verlies) vóór belasting (ProfitLossBeforeTax)

Brutomarge (GrossMargin)

Som der kosten (TotalBusinessCosts)

Lonen en salarissen [categoriale verdeling] (SalariesWagesByNature)

Sociale lasten [categoriale verdeling] (SocialSecurityContributionsByNature)

Afschrijvingen op materiele en immateriele vaste activa (TotalDepreciations)

Overige waardeverandering immateriële en materiële vast [...] (ValuationChangeTangibleAndIntangibleFixedAssets)

Bijzondere waardevermindering van vlottende activa (ImpairmentNonCurrentAssets)

Overige bedrijfskosten (OtherBusinessCosts)

Opbrengsten vorderingen vaste activa en effecten (RevenuesReceivablesTotal)

Andere rentebaten en soortgelijke opbrengsten (InterestSimilarIncome)

Waardeveranderingen vorderingen vaste activa en effecten (ValuationReceivables)

Rentelasten en soortgelijke kosten (InterestSimilarExpenses)

Belastingen resultaat uit gewone bedrijfsuitoefening (IncomeTaxExpenseIncomeOrdinaryActivities)
Aandeel resultaat deelneming (ShareResultsSubsidiariesTotal)
Buitengewoon resultaat na belastingen (ExtraordinaryItemsIncomeExpenseAfterTax)
Totaal buitengewone baten fiscaal (TotalExtraordinaryIncomeFiscal)
Totaal buitengewone lasten fiscaal (TotalExtraordinaryExpenditureFiscal)
Belastingen buitengewoon resultaat (TaxExpenseIncomeAttributableExtraordinaryItemsInco [...])

Algemene toelichting (GeneralDisclosuresPresentation)
Beschrijving van belangrijkste activiteiten van rechtspersoo [...] (DescriptionMostImportantActivitiesLegalEntity)
Naam van hoofdmaatschappij van de groep (NameOfUltimateParentEntityOfGroup)
Hoofd van de groep, woonplaats (incl. land van herkomst) (UltimateParentGroupLocation)
Transacties met verbonden partij, toelichting (RelatedPartiesTransactionsRelatedParty)
Fusies en overnames, toelichting (DisclosuresMergersAcquisitions)
Beëindigde bedrijfsactiviteiten, Toelichting (DiscontinuedOperationsDisclosures)

Grondslagen voor financiële verslaggeving (AccountingPoliciesPresentation)
Algemene grondslagen (GeneralPolicies)
Algemene grondslagen voor de opstelling van de jaarrekening (GeneralPoliciesAnnualReport)
Grondslagen gehanteerd bij opstelling van jaarrekening indie [...] (BasisOfPresentationIfNotOnGoingConcernBasis)
Stelselwijzigingen (ChangeAccountingPolicies)
Stelselwijzigingen, effect op eigen vermogen (ChangeAccountingPoliciesFinancialImpactChangesAcco [...])
Stelselwijzigingen, effect op resultaat (ChangeAccountingPoliciesFinancialImpactChangeAccou [...])
Reden voor wijziging in de grondslagen voor financiële versl [...] (ReasonForChangeInAccountingPolicy)
Omrekening van vreemde valuta, Grondslag (ForeignCurrencyTranslationPolicy)

Activa, Grondslagen (AssetsPolicies)
Immateriële activa, Grondslag (IntangibleAssetsPolicy)
Afschrijvingsmethoden voor identificeerbare immateriële acti [...] (AmortisationMethodsForIdentifiableIntangibleAssets)
Goodwill, positief, afschrijvingsmethode (AmortisationMethodPositiveGoodwill)
Afschrijvingstermijn goodwill meer dan vijf jaar, toelichtin [...] (GoodwillAmortizedMoreThanFiveYears)

Materiële vaste activa, Grondslag (PropertyPlantAndEquipmentPolicy)
Waarderingsgrondslag voor materiële vaste activa (MeasurementBasisForPropertyPlantAndEquipment)
Afschrijvingsmethoden voor materiële vaste activa (DepreciationMethodsForPropertyPlantAndEquipment)
Willekeurige afschrijving, toelichting (RandomDepreciationInFinancialYearDisclosures)

Financiële vaste activa, grondslag (FinancialFixedAssetsPolicy)
Vorraden, Grondslag (InventoriesPolicy)
Vorderingen en overlopende activa, grondslag (ReceivablesPolicy)
Effecten, grondslag (SecuritiesPolicy)
Geldmiddelen en kasequivalenten, Grondslag (CashAndCashEquivalentPolicy)

Eigen vermogen en verplichtingen, Grondslagen (EquityAndLiabilitiesPolicies)
Voorzieningen, Grondslag (ProvisionsPolicy)
Schulden, grondslagen voor verslaggeving (LiabilitiesPolicy)

Winst- en verliesrekening, Grondslagen (IncomeStatementPolicies)
Grondslag voor opname van opbrengsten (RevenueRecognitionPolicy)
Brutomarge, grondslag (GrossMarginPolicy)
Aandeel resultaat deelneming, grondslag (ShareResultsSubsidiariesPolicy)
Winstbelastingen, Grondslag (IncomeTaxesPolicy)
Buitengewone baten en lasten, grondslag (ExtraordinaryIncomeExpensePolicy)

Toelichting op de balans (ExplanatoryDisclosuresBalanceSheetPresentation)

Activa, toelichting (AssetsDisclosures)

Immateriële activa, Toelichting (IntangibleAssetsDisclosures)

Materiële vaste activa, Toelichting (PropertyPlantAndEquipmentDisclosures)

Geactiveerde financieringskosten, materiële vaste activa (BorrowingCostsCapitalisedPropertyPlantAndEquipment)

Financiële vaste activa, toelichting (FinancialFixedAssetsDisclosures)

Deelnemingen, toelichting (ParticipatingInterestDisclosures)

Deelnemingen waarin moeder volledig aansprakelijk vennoot is (ParticipatingInterestParentCompanyFullyLiablePrese [...])

Deelneming waarin moeder volledig aansprakelijk vennoot is, [...] (ParticipatingInterestParentCompanyFullyLiablePartn [...])

Deelneming waarin moeder volledig aansprakelijk vennoot is, [...] (ParticipatingInterestParentCompanyFullyLiablePartn [...])

Deelneming waarin moeder volledig aansprakelijk vennoot is, [...] (ParticipatingInterestParentCompanyFullyLiablePartn [...])

Deelneming waarin moeder volledig aansprakelijk vennoot is, [...] (ParticipatingInterestParentCompanyFullyLiablePartn [...])

Deelneming waarin moeder volledig aansprakelijk vennoot is, [...] (ParticipatingInterestParentCompanyFullyLiablePartn [...])

Deelneming waarin moeder volledig aansprakelijk vennoot is, [...] (ParticipatingInterestParentCompanyFullyLiablePartn [...])

Deelneming waarin moeder alleen of samen met een of meer doc [...] (ParticipatingInterestsParentCompanyAloneJointlyOne [...])

Deelneming waarin moeder alleen of samen met een of meer doc [...] (ParticipatingInterestParentCompanyAloneJointlyOneM [...])

Deelneming waarin moeder alleen of samen met een of meer doc [...] (ParticipatingInterestParentCompanyAloneJointlyOneM [...])

Deelneming waarin moeder alleen of samen met een of meer doc [...] (ParticipatingInterestParentCompanyAloneJointlyOneM [...])

Deelneming waarin moeder alleen of samen met een of meer doc [...] (ParticipatingInterestParentCompanyAloneJointlyOneM [...])

Deelneming waarin moeder alleen of samen met een of meer doc [...] (ParticipatingInterestParentCompanyAloneJointlyOneM [...])

Deelneming waarin moeder alleen of samen met een of meer doc [...] (ParticipatingInterestParentCompanyAloneJointlyOneM [...])

Gegevens over geassocieerde deelnemingen niet verwerkt volge [...] (DetailOfAssociatesNotAccountedForUsingEquityMethod)

Voorraden, Toelichting (InventoriesDisclosures)

Voorraden, bedrag aan rente dat gedurende verslagperiode is [...] (InventoriesYearlyAmountInterestCapitalised)

Vorderingen en overlopende activa, toelichting (ReceivablesDisclosures)

Totaal vorderingen en overlopende activa met een looptijd la [...] (AmountOfReceivablesExposedToMaturitiesForMoreThanO [...])

Effecten, toelichting (SecuritiesDisclosures)

Passiva, toelichting (EquityAndLiabilitiesDisclosuresPresentation)

Eigen vermogen, Toelichting (EquityDisclosures)

Geplaatst kapitaal, Toelichting (IssuedCapitalDisclosures)

Aandelenkapitaal, prioriteitsaandelen (ShareCapitalPriorityShares)

Aandelenkapitaal voor categorie gewoon aandelenkapitaal, Bed [...] (AmountOfShareCapitalForClassOfOrdinaryShareCapital)

Aandelenkapitaal voor categorie preferent aandelenkapitaal, [...] (AmountOfShareCapitalForClassOfPreferenceShareCapit [...])

Inkoop (Verkoop) van eigen aandelen, Ingekochte eigen aandel [...] (PurchaseSaleOfTreasurySharesTreasuryShares)

Inkoop (verkoop) van eigen aandelen, toelichting (PurchaseSaleOfTreasurySharesDisclosures)

Niet-uitgegeven, gestort kapitaal, Toelichting (SubscribedCapitalDisclosures)

Wijzigingen in aandelenkapitaal, Gewone aandelen (ChangesInShareCapitalOrdinaryShares)

Wijzigingen in aandelenkapitaal, Preferente aandelen (ChangesInShareCapitalPreferenceShares)

Aandelenkapitaal, prioriteitaandelen, mutaties, totaal (ShareCapitalPrioritySharesChangesTotal)

Eigen vermogen, uitgifte aandelen in natura (IssuanceKindDividendsEquityParent)

Agio, toelichting (SharePremiumDisclosures)

Herwaarderingsreserve, toelichting (RevaluationReserveDisclosures)

Herwaarderingsreserve, begin balans (RevaluationReserveBeginningBalance)

Herwaarderingsreserve, mutaties (RevaluationReserveChangeOverPeriod)

Herwaarderingsreserve, eind balans (RevaluationReserveEndingBalance)

Statutaire reserves, toelichting (StatutoryReservesDisclosures)

Andere wettelijke reserves, toelichting (OtherLegalStatutoryDisclosures)

Andere wettelijke reserves, emissiekosten aandelen (TransactionCostsIssuanceSharesOtherLegalReserves)
Andere wettelijke reserves, inbreng anders dan in geld (ContributionKindOtherLegalReserves)
Andere wettelijke reserves, niet uitgekeerde winsten deelnem [...] (NotDeclaredResultsSubsidiariesAssociatesOtherLegalR [...])
Andere wettelijke reserves, onderzoek en ontwikkeling (ResearchDevelopmentOtherLegalReserves)
Andere wettelijke reserves, verschil tussen wettelijk vereis [...] (DifferenceLegallyMinimumCapitalSumPaidCapitalLegal [...])
Tekort minimumkapitaal als gevolg van de omrekening aandelen [...] (ExchangeDifferenceEquityEuroOtherLegalReserves)
Andere wettelijke reserves negatieve bijschrijvingsreserve a [...] (NegativeReverseExchangeDifferenceEquityEuroOtherLe [...])
Andere wettelijke reserves omrekeningsverschillen buitenland [...] (TranslationDifferenceForeignSubsidiariesOtherLegal [...])
Andere wettelijke reserves, verstrekte leningen voor verkrij [...] (LoansPurchasesTreasurySharesOtherLegalReserves)
Overige reserves, toelichting (OtherReservesDisclosures)
Onverdeelde winst (verlies), toelichting (ResultForTheYearDisclosures)
Herinvesteringsreserve, toelichting (ReinvestmentReserveDisclosures)
Overige fiscale reserves, toelichting (OtherFiscalReservesDisclosures)
Opgave van het ingehouden deel van het resultaat (ReportOfRetainedPartOfResult)
Dividend (met uitzondering van deelnemingsdividend) fiscaal (DividendExceptParticipatingInterestDividendFiscal)
Prive opname IB-ondernemers (PrivateIntake)
Eigen vermogen ondernemer (EquityPrivate)
Voorzieningen, toelichting (ProvisionsDisclosures)
Langlopende schulden, toelichting (LiabilitiesNonCurrentDisclosures)
Zekerheidsstelling langlopende schulden, toelichting (CollateralLiabilitiesNonCurrentDisclosures)
Zekerheden registergoederen (SecuritiesRegisterBoundGoods)
Zekerheden registergoederen (SecuritiesRegisterBoundGoodsSpecification)
Object (ObjectSecurities)
Rang (RankSecurities)
Hoogte inschrijving (ValueSecurities)
Verplichtingen met een contractuele looptijd van meer dan ee [...] (AmountOfClassOfLiabilityExposedToContractualMaturi [...])
Verplichtingen met een contractuele looptijd van meer dan vi [...] (AmountOfClassOfLiabilityExposedToContractualMaturi [...])
Rentevoet schulden met een looptijd langer dan een jaar (InterestRateLiabilityExposedToContractualMaturitie [...])
Financieringsovereenkomsten (BorrowingArrangements)
Financieringsovereenkomsten (BorrowingArrangementsSpecification)
Geldgever (FinancierBorrowingArrangements)
Hoofdsom (CapitalSumBorrowingArrangements)
Rentevoet (% p.j.) (InterestRateYearlyBorrowingArrangements)
Aflossing komende jaar (RedemptionComingYearBorrowingArrangements)
Pro resto bedrag (ProRestoAmountBorrowingArrangements)
Oorspronkelijke looptijd (in mnd) (OriginalMaturityInMonthsBorrowingArrangements)
Indicatie achterstelling (IndicationSubordinationBorrowingArrangements)
Kortlopende schulden en overlopende passiva, toelichting (LiabilitiesCurrentDisclosures)
Zekerheidsstelling kortlopende schulden, toelichting (CollateralLiabilitiesCurrentDisclosures)
Niet uit de balans blijvende verplichtingen, toelichting (ContingentLiabilitiesDisclosure)
Niet uit de balans blijvende verplichtingen jegens groepsmaa [...] (ContingentLiabilitiesGroupDisclosures)
Huurcontracten (RentContracts)
Huurcontracten (RentContractsSpecification)
Object identificatie (ObjectIdentificationRentContracts)
Looptijd in maanden (MaturityInMonthsRentContracts)
Einddatum (ClosingDateRentContracts)

Huursom per jaar (RentCostsYearlyRentContracts)

Afgegeven garanties (DeliveredWarranties)

Operationele leasecontracten (ContractOperatingLease)

Boekwaarde operationele leasecontracten (OperatingLeaseContracts)

Aantal leasecontracten (NumberOperatingLeaseContracts)

Jaarverplichting operationele leasecontracten (ObligatoryLeaseContractsYearly)

Bedrag achterstelling (Subordination)

Overige niet uit de balans blijvende verplichtingen (OtherContingentLiabilities)

Financiële instrumenten tegen actuele waarde, toelichting (FinancialInstrumentsFairValueDisclosures)

Toelichting op de winst- en verliesrekening (IncomeStatementDisclosuresPresentation)

Brutomarge, toelichting (GrossMarginDisclosures)

Som der bedrijfsopbrengsten (TotalOperatingIncome)

Netto omzet fiscaal (NetTurnoverFiscal)

Verhoudingscijfers wijziging netto omzet (RevenueRelatedPreviousYearRatio)

Wijziging voorraad en onderhanden werk fiscaal (ChangeStockAndVolumeOfWorkInProgressFiscal)

Geactiveerde productie eigen bedrijf fiscaal (CapitalizedProductionOwnBusinessFiscal)

Overige bedrijfsopbrengsten (OtherOperatingIncome)

Kosten grond- en hulpstoffen, inkoopprijs van de verkopen fi [...] (CostsOfRawAncillaryMaterialsPurchasePriceSalesFisc [...])

Kosten uitbesteed werk en andere externe kosten fiscaal (CostsOutsourcedWorkAndOtherExternalCostsFiscal)

Som der kosten, toelichting (TotalBusinessCostsDisclosures)

Lonen en salarissen, toelichting (WagesAndSalariesDisclosures)

Sociale lasten, toelichting (SocialSecurityCostsDisclosures)

Pensioenlasten fiscaal (PensionCostsFiscal)

Afschrijvingen op immateriële en materiele vaste activa, toe [...] (TotalDepreciationsDisclosures)

Afschrijvingen op immateriële vaste activa (DepreciationsExpensesIntangibleAssets)

Afschrijvingen op materiele vaste activa (DepreciationsExpensesTangibleAssets)

Overige waardeverandering immateriële en materiële vaste act [...] (ValuationChangeTangibleAndIntangibleFixedAssetsDis [...])

Waardeverandering immateriële vaste activa (ValuationChangeIntangibleAssets)

Waardeverandering materiele vaste activa (ValuationChangeTangibleAssets)

Bijzondere waardevermindering vlottende activa, toelichting (SpecialValuationCurrentAssetsDisclosures)

Waardeverandering effecten, toelichting (ValuationSecuritiesDisclosures)

Overige bedrijfskosten, toelichting (OtherBusinessCostsDisclosures)

Exploitatielasten, Totaal (OperatingExpensesTotal)

Auto- en transportkosten fiscaal (CarAndTransportCostsFiscal)

Huisvestingskosten fiscaal dit boekjaar (AccommodationCostsFiscal)

Verkoopkosten fiscaal (SalesCostsFiscal)

Managementfee (ManagementFee)

Franchisefee (FranchiseFee)

Andere kosten (OtherCosts)

Opbrengsten vorderingen vaste activa, toelichting (RevenuesReceivablesDisclosures)

Opbrengsten vorderingen op aandeelhouders en participanten f [...] (RevenuesReceivablesAgainstShareholdersAndParticipa [...])

Opbrengsten rente banktegoeden fiscaal (RevenuesInterestOnBankCreditsFiscal)

Opbrengsten overige vorderingen fiscaal (RevenuesOtherReceivablesFiscal)

Opbrengsten vorderingen deelnemingen en gelieerde maatschapp [...] (RevenuesReceivablesAgainstParticipatingInterestsAn [...])

Opbrengsten uit andere effecten en vorderingen uit de verhou [...] (RevenuesOtherInvestmentsRelatedToSubsidiaries)

Andere rentebaten en soortgelijke opbrengsten, toelichting (TotalInterestSimilarIncomeDisclosures)

Rentebaten uit de verhouding met groepsmaatschappijen (InterestIncomeRelatedToSubsidiaries)

Waarderingsverandering vorderingen, toelichting (ValuationReceivablesDisclosures)

Wijzigingen in financiële vaste activa en vlottende effecten [...] (ChangesFinancialFixedAssetsRelatedToSubsidiaries)

Rentelasten en soortgelijke kosten, toelichting (TotalInterestSimilarExpenseDisclosures)

Kosten schulden aan aandeelhouders en participanten fiscaal (CostsDebtsToParticipatingInterestsAndAffiliatedCom [...])

Kosten schulden, rentelasten etc. fiscaal (CostsDebtsToShareholdersAndParticipantsFiscal)

Kosten schulden aan deelnemingen en gelieerde maatschappijen [...] (CostsDebtsInterestExpenditureEtcFiscal)

Rentelasten uit de verhouding met groepsmaatschappijen (InterestExpensesRelatedToSubsidiaries)

Belastingen resultaat uit gewone bedrijfsuitoefening, toelic [...] (IncomeTaxExpenseIncomeOrdinaryActivitiesDisclosure [...])

Aandeel resultaat deelneming, toelichting (ShareResultSubsidiariesDisclosures)

Resultaat deelnemingen binnenland fiscaal (ResultsDomesticParticipatingInterestsFiscal)

Resultaat deelnemingen buitenland fiscaal (ResultsParticipatingInterestsAbroadFiscal)

Resultaat uit deelneming uit verhouding met groepsmaatschapp [...] (ResultAssociatesRelatedToSubsidiaries)

Buitengewoon resultaat na belasting, toelichting (ExtraordinaryResultAfterTaxDisclosures)

Totaal buitengewone baten, toelichting (TotalExtraordinaryIncomeDisclosures)

Totaal buitengewone lasten, toelichting (TotalExtraordinaryExpenditureDisclosures)

Belastingen buitengewoon resultaat, toelichting (TaxExpenseIncomeAttributableExtraordinaryItemsInco [...])

Overige toelichtingen (OtherExplanatoryDisclosuresPresentation)

Gemiddeld aantal werknemers gedurende de periode (NumberOfEmployeesAverageOverPeriod)

Aantal werknemers dat buiten Nederland werkzaam is (NumberEmployeesWorkingTheNetherlands)

Gesegmenteerde informatie van gemiddeld aantal werknemers ov [...] (SegmentInformationNumberEmployeesAverageOverPeriod)

Gemiddeld aantal werknemers over het boekjaar, per segment (NumberEmployeesAverageOverPeriodBySegment)

Gemiddeld aantal werknemers over het boekjaar, naam van het [...] (NumberEmployeesAverageOverPeriodNameSegment)

Leningen, voorschotten en garanties bestuurders en commissar [...] (LoansAdvancesWarrantiesOnBehalfOfDirectorsDisclo [...])

Bestuurders (Directors)

Naam bestuurder (NameDirector)

Identificatienummer bestuurder (SocialSecurityNumberDirector)

Commissarissen (SupervisoryDirectors)

Naam commissaris (NameSupervisoryDirector)

Identificatienummer commissaris (SocialSecurityNumberSupervisoryDirector)

Beschrijving van gebeurtenis na balansdatum (DescriptionOfEventAfterBalanceSheetDate)

Datum van vaststelling van de jaarrekening door AVA (DateOfAdoptionForIssueOfFinancialStatements)

Afwijkingen ten behoeve van het inzicht, toelichting (TrueAndFairViewDisclosures)

Overige gegevens (OtherInformationAnnualReportFiscalBasisPresentatio [...])

Accountantsverklaring (AuditorsReport)

Weergave statutaire regeling omtrent de bestemming van de wi [...] (ProvisionsArticlesAssociationProfitAppropriation)

Opgave van de bestemming van de winst of de verwerking van h [...] (ProfitAppropriationProposed)

Bijzonder statutair recht inzake zeggenschap (SpecialArticlesAssociationControlStructure)

Bijzonder statutair recht inzake zeggenschap, naam (SpecialProvisionsArticlesAssociationGoverningContr [...])

Bijzonder statutair recht inzake zeggenschap, omschrijving a [...] (SpecialProvisionsArticlesAssociationGoverningContr [...])

Bijzonder statutair recht inzake zeggenschap, namen bestuurd [...] (NameDirectorsLegalEntitiesWhichHoldSharesWhichSpec [...])

Percentage aandelenbezit (PercentageOfShares)

Winstbewijzen en soortgelijke rechten (ProfitCertificatesSimilarRights)

Winstbewijzen en soortgelijke rechten, aantal (ProfitCertificatesSimilarRightsNumber)

Winstbewijzen en soortgelijke rechten, bevoegdheden (ProfitCertificatesSimilarRightsAuthority)

Uitleg over geschat financieel effect van gebeurtenis na bal [...] (ExplanationOfAmountOfEstimatedFinancialEffectOfEve [...])

Opgave bestaan nevenvestigingen (ReportSubsidiaries)

Opgave bestaan nevenvestigingen, handelsnaam indien afwijken [...] (SubsidiariesTradeNameDifferent)

Opgave bestaan nevenvestigingen, land (SubsidiariesCountry)

Bank, Kengetallen ()

Kengetallen (Ratio)

Verkoopoppervlakte (SquareMeterSalesSurface)

Aantal verkooplocaties (NumberLocations)

Overwegende BIK-code (BIKCode)

6. The provision of certainty

This chapter further elaborates on the implications, regarding the quality and assurance of information, caused by our new way of work. A general understanding of the term 'assurance' is therefore essential. As can be read in the paragraph 2.1.2, an accountant may perform two types of assignments, namely: assurance and non assurance assignments.

6.1 Introduction

It is important to notice that assurance is initially a valuable asset intended for third parties. An assurance related assignment can therefore be defined as: *"An assignment whereby an accountant formulates a conclusion aimed at the provision of certainty regarding the intended users, not including the responsible party. This conclusion is based on the outcome of an evaluation or review focused on a research object using a set of pre determined criteria"* (Westra, 2009, p. 84). A common example of such an assignment is the audit of annual report (research object). A third party would like to know if the annual report contains a faithful representation of the historical financial facts. An accountant can determine this by investigating the timeliness, completeness and correctness of the information. Based on its findings, the accountant can add a level of assurance by providing an audit report. Based on this audit report, shareholders and investors, could add more value to the information supplied by the client and can now use this information to support their decisions.

6.2 Certainty of information regarding the preparation of financial statements

It is also important to notice that the preparation of financial statements is a so called non-assurance assignment. The preparation of financial statements belongs to the category 'to assurance related' assignment, a category within non-assurance assignments. With this assignment the accountant prepares the financial overview, based on certain pre defined criteria, using information supplied by its client. Because this information is supplied by its client the accountant cannot guarantee the completeness, timeliness and correctness. However, extra value can be added by applying the accountant's knowledge and expertise regarding the processing and auditing of financial administrations or statements. Next to the preparation of the financial statement the accountant will perform some basic checks. The scale of these checks is much smaller than with an assurance related assignment. To clarify the added value, the accountant adds a preparation report. This report denies any obligations regarding a faithful representation of the prepared financial overview. It only states the proceedings taken to prepare the financial statement. Third parties however add (some) value to this preparation report. The amount of added value is influenced by the experience and reputation of

the accountant. Statements prepared by large and more respectable accountancy firms are perceived more value than smaller unknown accountants. This process is demonstrated in Figure 31. *The provision of certainty.*

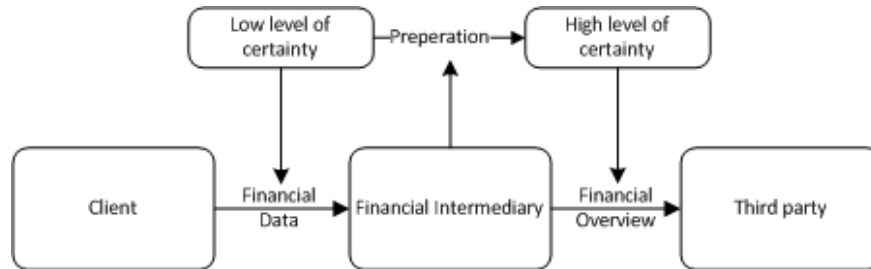


Figure 31. The provision of certainty.

An example which illustrates the added value of the financial intermediary is ‘Horizontaal Toezicht’, which can be translated to ‘Horizontal supervision’. ‘Horizontaal Toezicht’ is a program of the Dutch Tax Office regarding the submission of tax declarations prepared by financial intermediaries. This program emphasizes the role of the financial intermediary by relying on its knowledge and expertise. Tax declarations submitted by a financial intermediary, who participates in this program, are higher valued and because of this require less checks to come to the definitive result. This implies a shift of the audit practice from the Dutch Tax Office to the financial intermediary. The banks are also demanding this type of “added value” and are even introducing its own assurance framework (Veltman, 2010). We therefore could say the role of the financial intermediary includes more than just preparation, he also provides a moderate amount of certainty.

The scale and amount of checks, in the current situation, are covered by work programs. These work programs can be seen as chronological checklists with certain dependencies between tasks. Certain elements are needed to say something useful about other elements, link controls. These dependencies could form a problem if we look to our new way of work. This way of work implies a separation between tasks. Namely, continuous production of modules at one side and order specific tasks at the other side. In next sections we address the possible problems and solutions regarding this provision of certainty in the new situation.

6.3 Assurance regarding the new work process

Based on the classification model from chapter 4 the financial intermediary ended up with a division consisting of modular components and order specific tasks. To do this, the financial intermediary had to determine some core values using a set of sub criteria. One of this criterions is ‘certainty’. It is likely that some elements are more critical and therefore require more certainty then others. We

argue that only modules that independently meet the opposed ‘quality’ requirements, read: provide enough certainty so that they are of value to a third party, are able to be used as a modular part. This example illustrates the advantages of this approach. Here a third party requests information elements (simplified for understanding purposes) from a financial intermediary. The information request is shown here:

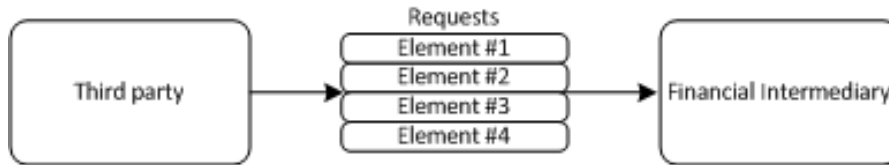


Figure 32. Elements requested from the financial intermediary.

When the information request is received, the financial intermediary maps the elements to the already produced modular parts. As was mentioned before, all these parts must meet the accountant’s imposed level of quality. We argue that one (XBRL) element can have only one level of certainty applicable for all external parties. Because these components meet this level of quality they can be used directly in the financial overview. See diagram below:

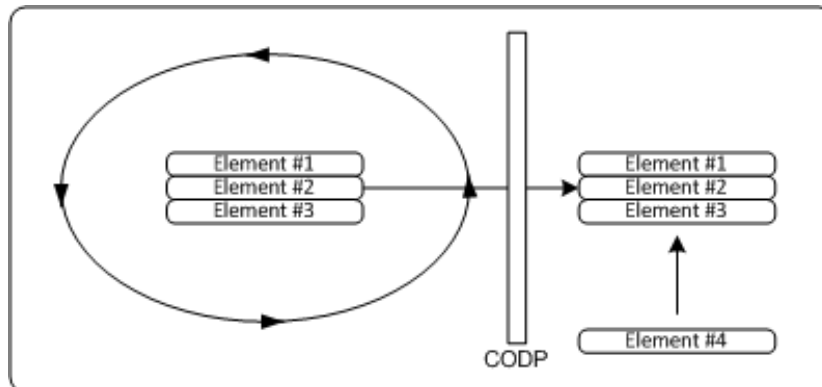


Figure 33. Order specific work.

It is noticeable that Element #4 is missing from the modular repository, left of the CODP. The order specific task, right of the CODP, consists of the preparation and provision of certainty of Element #4.

6.4 Another way of dealing with certainty

Another and maybe tempting way of dealing with certainty is the incorporation of modular components with a low, and not sufficient, level of certainty. See the following example. The third party sends out an information request. The colors indicate the level of certainty of the elements as

requested by the third. In this example the color of the elements is green which means a high level of certainty. The color yellow can be seen as a low, and insufficient, level of certainty.

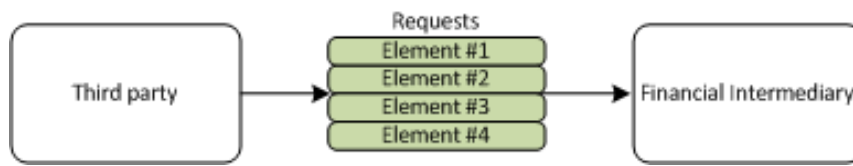


Figure 34. Working with different levels of certainty.

When the information request is received, the financial intermediary maps the elements to the already produced modular parts. These parts however are all not directly (re)usable, see Figure 35. *Order specific work with different levels of certainty.* This causes some important drawbacks.

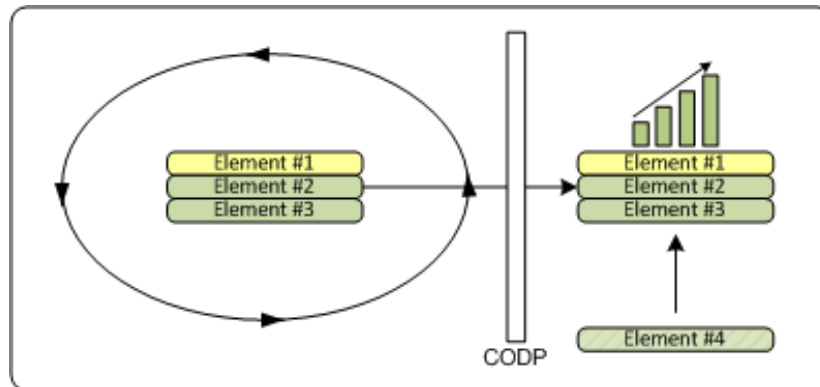


Figure 35. Order specific work with different levels of certainty.

The 'order specific work', right of the CODP, consists now of: (1) performing additional checks on Element #1 to achieve a sufficient level of certainty and (2) the preparation and additional checks on Element #4. This moves away from the original view of (direct) modularity, including the previous mentioned advantages. This way of work shows many similarities with the traditional work program because the elements retrieved from the administration, in our case repository, still require additional work to come to a sufficient level of certainty. Therefore the modular repository, left of the CODP, should always contain elements that provide enough certainty and can be build upon. Therefore it is important that a financial intermediary thinks beforehand of its acceptable level of quality, and how he is going to achieve this, for each requested element. In the next chapters some examples are given of various elements and the activities needed for the provision of certainty based upon the new situation.

6.5 Examples

Due to the complexity we cannot give a conclusive overview of how to handle the provision of certainty of each possible element. It is the role of the financial intermediary to think about a possible design to cope with these factors in a continuous environment. To help the financial intermediary with this design, some examples are given:

- Fixed assets (Dutch: *vaste activa*);
- Contingent Liabilities (Dutch: *niet uit de balans blijkende verplichtingen*);
- Total Revenue (Dutch: *volledigheid van omzet*);
- Inventory (Dutch: *voorraad*).

6.5.1 Fixed assets

An asset can be defined as “an asset that is retained for use in the business and is not for resale in the normal course of business” (Berry, 2003, p. 69). A fixed asset can therefore be defined as “an asset that will last for a considerable period of time” (Berry, 2003, p. 69). In XBRL this element is defined as: TotalTangibleFixedAssetsFiscal (Namespace: <http://www.nltaxonomie.nl/2009/basis/nl-genbase/nl-genbase>). This element is a good example of a possible modular part.

To construct this modular part the first step is that of data gathering. As stated by the work program the data gathering of fixed assets is achieved by: preparing an overview containing the purchase value and the cumulative depreciation. This overview can be produced based on a complete financial administration. To add a level of certainty, additional checks are required. These checks are described in the work program and are shown in Table 17. *Activities regarding the certainty of fixed assets.*

Activities regarding the certainty of fixed assets

- Judge the investment, disinvestment, and depreciation.
- Judge the nature of the asset: private or business.
- Judge the difference between activation fee and maintenance costs.
- Check if there is a relation between possible lease contracts / costs and income and subventions.
- Check if there are any obligations concerning this asset.
- Check if the insurance is satisfactory for this asset. If not, advice the client about the possible risks.
- Check the insurance premiums to see if there is a connection to the total amount insurance premiums.

- See if there are indications regarding a difference between book value and real value.

Table 17. Activities regarding the certainty of fixed assets (NOAB, 2008).

To convert these certainty related tasks to our new situation, we will ask ourselves two questions: **When are these checks necessary?** In other words; at which interval? And the other question: **Are these checks still possible in a continuous environment?**

Answer to the first question

The financial administration indicates if new fixed assets are added or removed and thus additional activities related to certainty are required. It is therefore only necessary to perform these activities when there is a trigger from the financial administration. This can be seen in Figure 36. *Trigger regarding certainty of fixed assets.*



Figure 36. Trigger regarding certainty of fixed assets.

This can be seen as an advantage since there is only one periodical check necessary on the underlying financial values. This alert can even be automated.

Answer to the second question

To provide this extra certain, additional information is required. This information could come from multiple sources. The following sources are identified for the provision of certainty of fixed assets:

From the **client**:

- Purchase notes or lease contracts of the fixed asset. Needed to determine the economical lifetime.
- Insurance documents regarding the fixed asset, only if applicable.

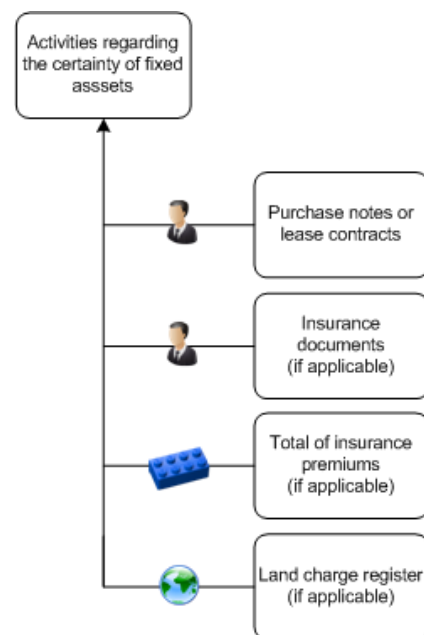


Figure 37. Activities regarding certainty of fixed assets.

From the **financial administration**:

- Total of insurance premiums (loss and profit account). Needed for link control.

From **external sources**:

- Land charge register, only applicable for real estate. Needed to determine legal or economical ownership.

Fast access to this information is essential for an efficient execution of this process. Efficient execution is mandatory since these tasks are implemented in a continuous environment. The next paragraph discusses the possible problems and solutions regarding the retrieval of information from these different sources, required for the provision of certainty regarding fixed assets.

The purchase notes and the insurance documents are textual documents and must come from the client. This could cause a problem in a continuous environment. A solution can be found in digitalization. This could be done by offering the client a way to record all aspects, more than just financial information, of its fixed asset digitally (this could include purchase notes and insurance documents). This way the financial intermediary has the required documents directly available.

The total of insurance premiums is an element of the 'profit and loss account'. In the new situation this information must be available as modular component. This is not a problem if this element is also available in the modular repository, so left of the Customer Order Decoupling Point. It is therefore important to establish beforehand if these dependencies between modules are available.

The Land Charge Register is an example of an external source. This source is used for the registration of real estate. This information is only necessary if the fixed asset regards real estate. This register was previously accessed via regular mail. This register can now be accessed online, in The Netherlands this is <http://www.kadaster.nl>. This method also decreases the lead-time of the required documents and thus (a part of) the throughput time of the entire process.

As can be seen from the previous mentioned points, it is possible to perform these checks on a continuous basis. It is also important to notice that additional work together with a creative solution could be necessary to come to a workable design. The financial intermediary should therefore beforehand consider if, and to what extent, these changes are necessary to come to a workable process.

6.5.2 Contingent liabilities

Contingent liabilities can be defined as “A possible obligation that arises from past events and the existence of which will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events” (Khan, 2007, p. 2.31). In XBRL this element is defined as: ContingentLiabilities (Namespace: <http://www.nltaxonomie.nl/2009/basis/kvk-rj/kvk-rj>).

To build this module part, the first step is that of data gathering. Since there is no fixed outline it is difficult to define this stage. Uncertainty plays an important role here. The activities for the gathering and provision of certainty of Contingent Liabilities are described in Table 18. *Activities regarding the certainty of Contingent Liabilities.*

Activities regarding the certainty of Contingent Liabilities

- Check with the client if he or she is involved, or is going to be involved, in legal procedures. Check if this has an impact on the financial statement.
- Asses the contingent liabilities for properties, debts regarding, rent, lease, legal procedures, claims, guarantees and obligations regarding investments and purchases
- Asses the provided assurance on loans.
- Are all obligations taken into accountant for all further investments?

Table 18. Activities regarding the certainty of Contingent Liabilities (NOAB, 2008).

Just like the first example two questions remain: When are these checks necessary? In other words; at which interval, when does the previous given certainty expire? Second, are these checks still possible in a continuous environment?

Answer to the first question

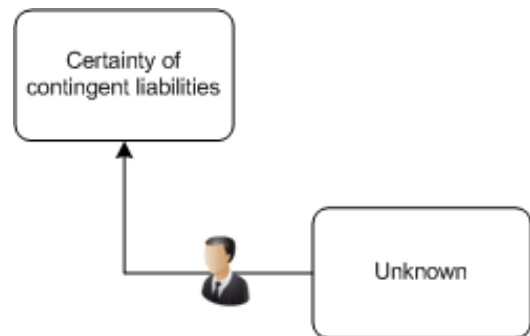
The problem with contingent liabilities is that there is no direct indication when new liabilities occur and thus updates are necessary. It is also unclear when the previous given certainty regarding contingent liabilities changes or expire. Since there is no trigger and no indication of the expiration of this data it is very difficult and also time consuming to perform this in a continuous environment.



Figure 38. Trigger regarding certainty of contingent liabilities.

Answer to the second question

The client is an important source of information in the provision of certainty regarding contingent liabilities. Since there is no exact outline or definition of the required information for this activity, it is very difficult to define and obtain this information. However some examples are available. Information that could be used



for this activity is for example the proceedings of board meetings. *Figure 39. Activities regarding certainty of contingent liabilities.*

Based on the answers of the questions above, it can be argued that it is very difficult to continuously gather and assure contingent liabilities. We therefore recommend to not incorporate contingent liabilities into a modular component. An interesting question however would be: which changes are necessary to enable the continuous processing of contingent liabilities? In other words: could we come up with a situation where this is possible?

It is likely that this would require great investments in information communication technology and in the 'client to financial intermediary' relationship. For example, the client could be offered an online working environment where the client uploads its proceedings from its board meetings and other (contractual) documents regarding (significant) obligations. The financial intermediary has to teach the client to only upload the important and relevant documents. The client thus has to digitalize all its documents. Every time a document is uploaded by the client, the accountant has to judge the impact of these documents. It is likely that in this situation the costs will outweigh the benefits. It is thus possible to create an environment where almost everything can be a modular component. You must ask yourself the question, is it really worth the investment?

6.5.3 Inventory

To illustrate the problem with rapidly changing underlying values and therefore fast expiring valuing of goods on hand in a shop or business" certainty, the following example about the provision of certainty of inventory is given. Inventory can be defined as "a list for goods and materials, or those goods and materials themselves, held available in stock by a business" (Arora, 2009, p. 1). In XBRL this element is defined as: TotalStockFiscal (Namespace: <http://www.nltaxonomie.nl/2009/basis/nl-genbase/nl-genbase>).

The data gathering for this modular part is initially performed by the client. This is usually done by the process of stock-taking is “*the examination, counting, and valuing of goods on hand in a shop or business*”. Depending on the size and type of inventory this can be seen as a very time consuming activity. Although in many case there is an inventory administration available there should nevertheless be a check if administration matches the real inventory. The summary provided by the process of stocking-taking is used for further analysis. These activities are described in Table 19. *Activities regarding the certainty of inventory.*

Activities regarding the certainty of inventory

- Create a comparison between the ‘amount of inventory’ and ‘the value per category’ based on figures from previous years. Ask the client for an explanation if there are noticeable differences. Archive these in the dossier.
- Check to see if there is inventory stored at another location (third party). Also check if any inventory is given in consignment.
- Check to see if the client has goods in consignment and check if these goods were eliminated from inventory.
- Check with the client to see which methods were used for stock-taking. Discuss the differences in inventory and adjustments regarding the last stock-taking.
- Check with the client to see which internal procedures regarding: period division and changing goods were used.
- Judge the summary on calculation errors, strike outs, correct appreciations, conversions, etc. Check if the appropriate value (excluding VAT and / or profit margin) was recorded.
- Only applicable when no stock-taking took place on the balance data: see if there is a continuous stock administration. Check if periodically adjustments regarding the real available stock were made. Also see if expiration checks are possible.
- Judge the processing of all stock mutations and stock corrections.
- Judge the stock level in percentages of the cost price of the revenue in comparison with the figures from previous years and / or branch organizations.
- Analyze the inventory turnover rate, if possible divided per product group.
- Compare the gross profit with the figures from previous years and branch organizations.
- Judge the valuations methods for the different stock categories. Judge if devaluation is necessary.

- Judge and discuss if there is an urgency to include a reserve for unsalable stock.
- Judge the current contracts per balance date and see if the prices, for term purchases, are not over the purchasing price per year-end.
- Check if stock is provided as assurance for credit loans. Make sure this is correctly presented in the annual report.
- Archive all findings and discuss these with the client.

These steps are only necessary if there is stock present regarding work in progress:

- Connect the trial balance with the administration regarding work in progress or project administration
- Judge with the use of: the project administration, the stated progression, the order amounts, made costs and with the periodical invoices the status of the work in progress. Pay extra attention to projects that were finished after the report date.
- Only applicable if there is no administration regarding work in progress: determine the existence and value of the work in progress. This can be done using verification of invoices, regarding work in process, in the new financial year.

Table 19. Activities regarding the certainty of inventory (NOAB, 2008).

Just like the previous example, we will try to answer two questions: When are these checks necessary? In other words; at which interval, or when, does the given certainty expire? The second question is; are these checks still possible in a continuous environment?

Answer to the first question.

Inventory is for most businesses a rapid changing value. It is thus likely that previous given certainty expires fast. However the magnitude of these changes in inventory generally varies throughout time. Think hereby of seasonal products or car sales in the last month of the year. Providing total certainty (in the form of stock-taking) of the current stock level for each information request may be too time consuming, and in some businesses even impossible. However based on previous trends it is still possible to say something, and therefore give some certainty, about the current level of inventory. To capture these trends we introduce modular periods. We define modular periods as modular components which provide a level of certainty, gained through the appliance of additional activities, for a previous determined start and end point in time. This can be seen in Figure 40. *Definition of a modular period.*

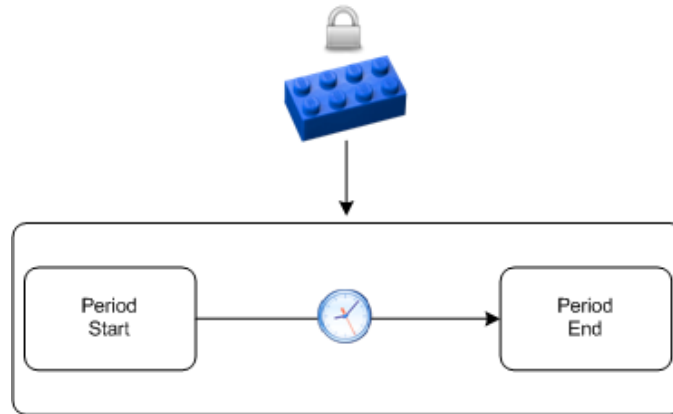


Figure 40. Definition of a modular period.

The time span of each period depends on the type of business and the magnitude of changes in stock level. It is recommendable that the most important trends are captured within these periods. When these trends are captured they can be used for comparison with the current inventory level.. See Figure 41. *Provision of certainty based on certain historical facts.*

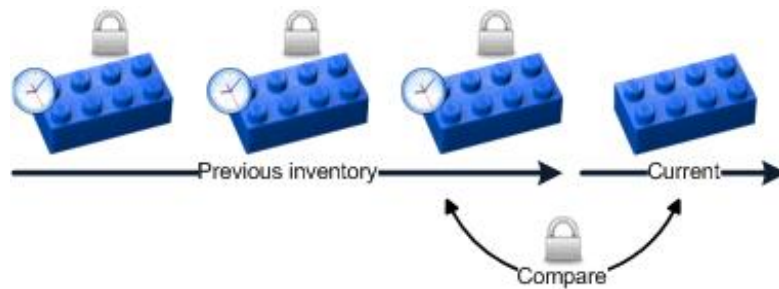


Figure 41. Provision of certainty based on certain historical facts.

Noticeable deviations in inventory can be quickly discovered using this system.

Answer to the second question.

Each modular period is finalized by the process of stock-taking and additional activities. For this process extra information is required. This information comes from multiple sources. The following sources are identified:

From the **client**:

- Current inventory summary, acts a representation of the actual position of the inventory.
- Liabilities regarding inventory.

- Methods regarding: stocktaking, valuation methods and internal procedures. Or in other words, how was the inventory summary created?
- Contracts for term purchase, only if applicable.

From the **financial administration**:

- Gross profit, matches sales to inventory.

From **external sources**:

- Gross profit of other similar businesses, think hereby of businesses from the same size, model and branch. This information could come from branch organization or this information may also be from other clients of the financial intermediary.

The current checks mentioned in the work program may be difficult to incorporate into a continuous environment. In the current situation much information has to be supplied by the client. Therefore to incorporate this into a continuous process some changes have to be

made. One important addition could be the use of an automatic inventory system, translated to Dutch (KVA, which means kantoorvoorraad administratie). This system changes the way how inventory is recorded. The use of such a system impacts the amount of checks necessary to provide a level of certainty. The implementation of such a system requires unambiguous methods, procedures and valuation methods. Hereby the checks move away from the 'amount of inventory' to the process of how the inventory was recorded. When these processes are well designed the produced values, by these processes, are also from higher quality. The financial intermediary could assist the accountant with the (re)design of such processes.

6.5.4 Total Revenue

Certainty regarding revenue is primarily based on ratios and link controls. The amount of possible ratios and link controls varies per business and client. As was mentioned before link controls may become an obstacle in the new proposed way of work, because of the use of modular components

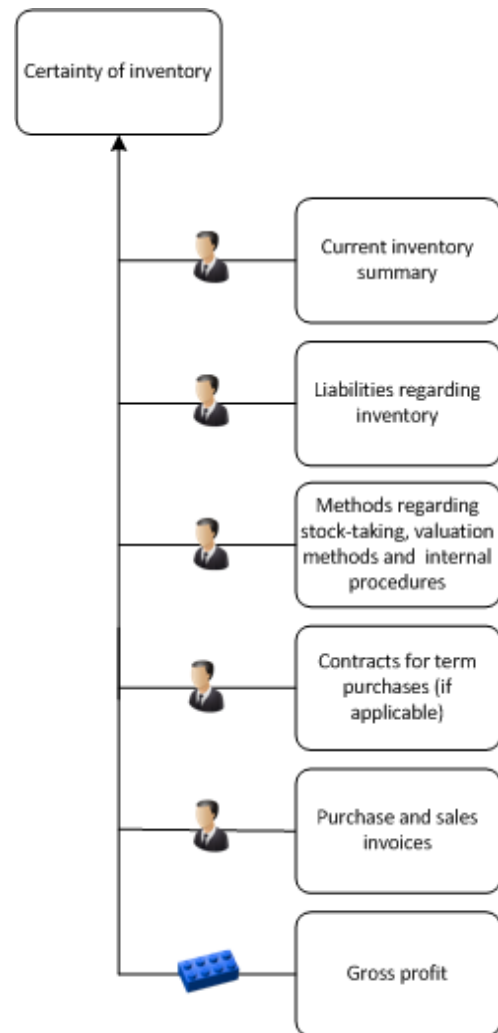


Figure 42. Activities regarding the certainty of inventory.

(separation between order and non-order related work). To illustrate the possible problems and solutions, this example about the provision of certainty regarding revenue is given. In XBRL this element is defined as NetTurnoverFiscal (Namespace: <http://www.nltaxonomie.nl/2009/basis/nl-genbase/nl-genbase>).

The revenue can be constructed from a complete financial administration. However, to ensure that the given revenue is a valid representation, additional activities and checks are necessary. These activities are described in Table 20. *Activities regarding the certainty of revenue.*

Activities regarding the certainty of revenue

- Create a dossier specification containing the developments regarding revenue and gross margin divided per category.
- Compare the development of gross margin with branch information or figures from previous years.
- Judge developments and trends using ratios, these ratios should match the business model of the client. Examples include:
 - Turnover rate of inventory (trading company);
 - Occupation degree of the workshop (repair service);
 - Occupation degree of rental accommodations (hotel);
 - Relation between transport revenue and fuel costs, maintenance, etc (transportation company);
 - Developments regarding education activities and number of students (education facility);
 - Discuss remarkable development with the client and note its statement in the dossier.
- See which link controls are possible and apply these. For example:
 - Revenue compared with product movements or hour registration compared to used capacity, bonuses or discounts.
- Judge the yearend regarding revenue and purchases.

Table 20. Activities regarding the certainty of revenue (NOAB, 2008).

Just like the previous examples, two questions will be answered. First, when are these checks necessary? In other words; at which interval, or when, does the previous given certainty expire? The second question is: are these required checks still possible in a continuous environment?

Answer to the first question.

Revenue is a constant changing figure it is therefore likely that the given certainty expires rapidly. Based on a complete financial administration it is possible to see if and what type of mutations occurred. It also possible to see if the underlying values, linked to revenue, changed and at which

ratio they changed. When there are differences between these values, they could form a trigger for extra certainty related activities.



Figure 43. Trigger regarding certainty of revenue.

Answer to the second question.

To perform these activities extra information is required:

From the **financial administration**:

- Sales information: sales amount, margins, etc. The exact definition of this information strongly depends on business type.
- Client specific link controls. The amount of available link controls depends on the type of business, see Table 20. Activities regarding the certainty of revenue for examples.

From **external sources**:

- Revenue information of other similar businesses, think hereby of business from the same size, model and branch. This information could come from branch organization or this information may also be available from other clients of the financial intermediary.

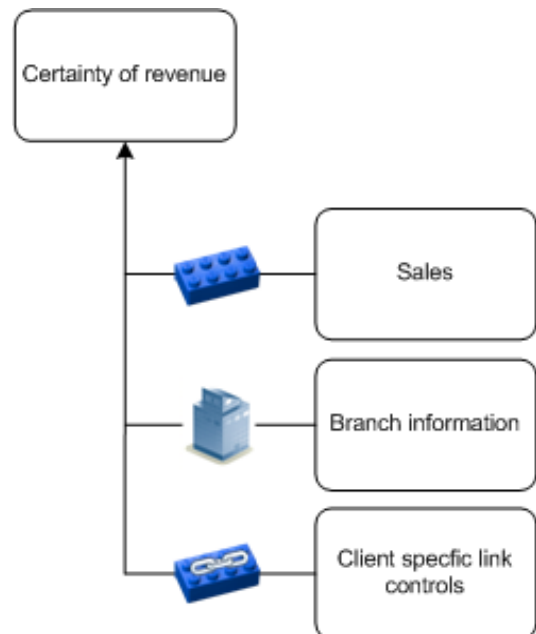


Figure 44. Activities regarding the certainty of revenue

As was mentioned before link controls are very important for the provision of certainty. The extent to which link controls can be used depends on the amount of available building blocks in the modular repository, read: left of the customer order decoupling point. Within this repository, possible connections and links have to be found that can provide certainty for the other modular component, in this example; revenue. See Figure 45. Link controls between modules for the working.

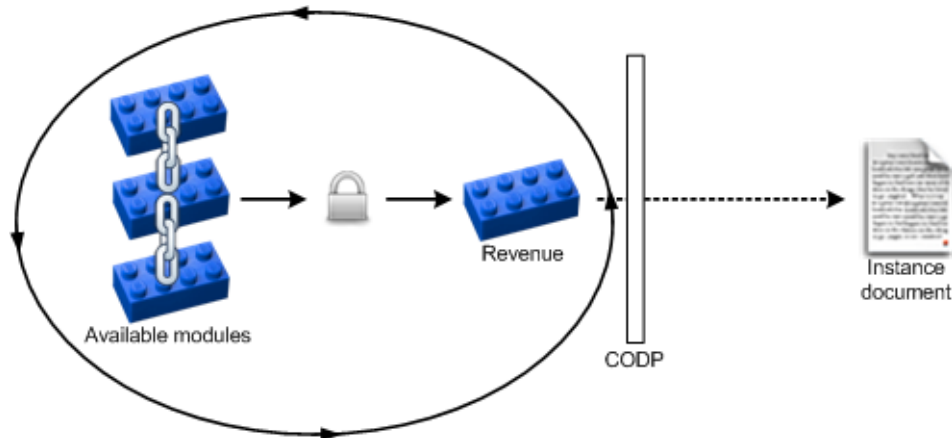


Figure 45. Link controls between modules.

The financial intermediary has to identify beforehand which link controls are possible for its client. The following steps can help in determining the possible link controls:

- See which modules are available within the repository. In other words, which certain information is available?
- See which modules can be used for the provision of certainty. As can be read from the work program there is no inexhaustible overview of which link controls can be used. The financial intermediary has to find the possible connections and links.
- Connect the found modules to the required building block. If the connected links do not follow with the same trends additional checks may be necessary. This could also be an automated connection. An alert could be raised in the process when irregularities between the different ratios are detected.

An example of such a link control applicable for a supermarket or any other shop is the square feet of shop floor in comparison with the revenue. This ratio can be compared with figures from the past or figures from other clients or figures from branch organizations. Read more about the use of modular periods in section 6.5.3.

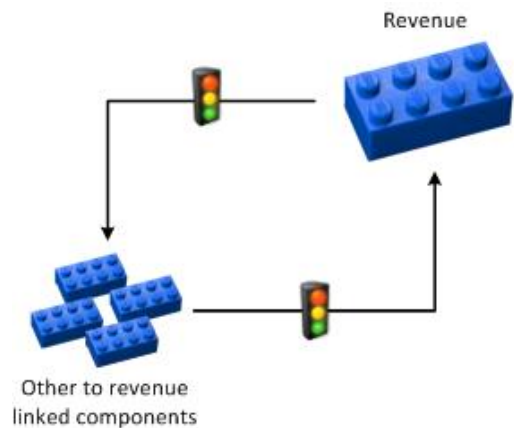


Figure 46. Working with ratio's.

The amount of square feet of shop floor is also captured in a building block (fixed assets), see section 6.5.1.

7. Changes and further implications

Implementing the new way of work, as proposed in this thesis, requires certain changes within the organization of the financial intermediary. In the previous chapters we discussed globally how these new processes should be organized and discussed the possible implications on the provision of certainty. This chapter looks at two other factors, which are influenced by changing these processes, namely: *people* and *technology*. We reckon that these new processes have to be performed by the right people and must be supported with the right technology. Only then can optimal results be achieved. The relations between these factors are graphically displayed in Figure 47. Relation between people, processes and technology.

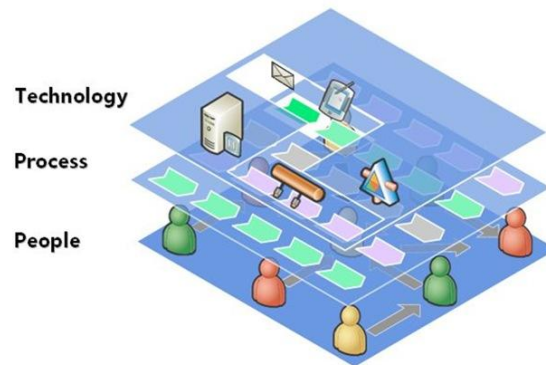


Figure 47. Relation between people, processes and technology.

The next two chapters further elaborate on the changes regarding people and technology.

7.1 People

In this paragraph we look at the different roles within the organization of the financial intermediary. In paragraph 2.1.3 we observed that the preparation of financial statements is a sequential or rather batch oriented processes. The process consists roughly of three different stages namely: the gathering, processing and reporting of (financial) data. This process is primarily performed by the accountant. The accountant is hereby supported by work programs, which can be seen as checklists or process descriptions. In some cases the accountant is also supported by the role of assistant accountant. This assistant accountant is primarily focused at gathering of the financial (data) while the accountant does additional checks and prepares the financial statements. However good alignment between these two roles remains essential. This is graphically illustrated in Figure 48. *Roles in the current situation.*



Figure 48. Roles in the current situation.

In our new situation we introduced two different processes. One process is aimed at efficiency while the other process is aimed at effectiveness. The first process is responsible for the production of modular components while the other process is responsible for fulfilling the customer order. We argue that these processes require different types of roles. This because the skill levels among the roles differ compared to the previous situation. Therefore we define the following roles in the new situation: data entry workers, accountants and data managers. The processes, including the new roles, are graphically displayed in Figure 49. Different roles in the new situation.

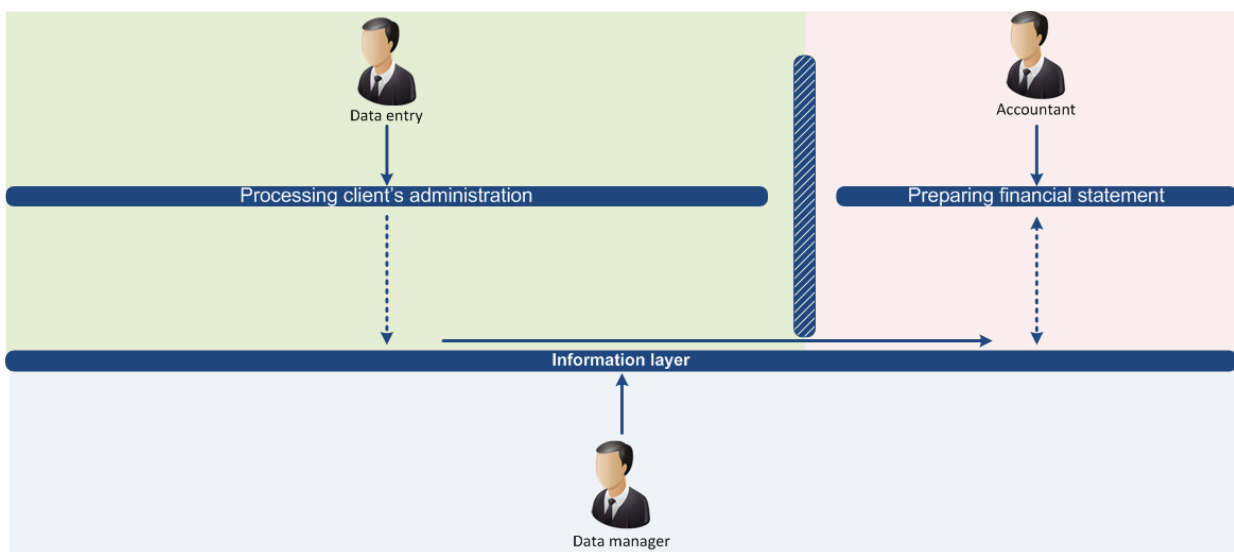


Figure 49. Different roles in the new situation.

These roles are further elaborated in the next chapters.

7.1.1 Data entry worker

The data entry manager is responsible for building the required modular parts. It processes the information received from the client and stores it in the information layer. This is primarily standardized and repetitive work and could therefore be supported by trained workers. The

repetitive nature is also enhanced by the continuous environment. Because costs and throughput are important drivers in this cycle the procedures and supportive systems are optimized to its fullest.

This way of work shows many resemblances with work performed in Mass Production. Workers in Mass Production also performed small task of repetitive work over and over again in an optimized environment. Usually this work was performed using an assembly line. The most important properties regarding this role are summarized in Table 21. Data entry worker.

Role	Data entry worker
Goal	The preparation of modular components
Education	Trained
Task	Strictly defined task and responsibilities
Nature of work	Repetitive

Table 21. Data entry worker

7.1.2 The accountant

The account is responsible for fulfilling the customer order. The work of the accountant is therefore order driven. The accountant assembles the modular parts to match the information request of the third party (customer order) and adds order specific work if necessary. This order specific work could also be an interpretation of the modular parts in order to provide advisory services.

This task requires flexible and highly educated workers mainly since the outline of the ‘product’, in this case an information request, can vary among the requesting parties. Interpretation of modular parts also requires certain knowledge. This role shows many resemblances with the work performed in Mass Customization. Here small groups of skilled employees were able to produce a wide variety of products using pre manufactured products. The most important properties regarding this role are described in Table 22. The accountant.

Role	Accountant
Goal	Preparation and interpretation of financial statements
Education	Highly educated
Tasks	Flexible and undefined tasks
Nature of work	High degree of flexibility

Table 22. The accountant

7.1.3 The data manager

An optional role could be a data manager which supervises the processes used to create the modular component. By checking these processes the data manager can guard the quality, consistence and coherence of the constructed modular components. The scope of these tasks is defined within limits. A high education is necessary due to the interpretation of the processes and modular components. The most important properties regarding this role are described in Table 23. The data manager.

Role	Data manager
Goal	Guard the quality, consistence and coherence of data
Education	Highly educated
Tasks	Defined scope
Nature of work	Moderate amount of flexibility

Table 23. The data manager

7.2 Technology

Information systems within an accountancy firm are an important source of supportive technology. An example is the software used to process the financial administration. The information systems within a financial intermediary generally consist of four different packages, see paragraph 2.1.3. These information systems are usually used in a sequential order. This can be seen as a stove-pipe principle. This principle can be defined as: *“systems procured and developed to solve a specific problem, characterized by a limited focus and functionality, and containing data that cannot be easily shared with other systems”* (Committee to Assess the Policies and Practices of the Department of Energy, 1999, p. 133). Because of this principle information is taken from one system to another. This also implies that the data is fragmentally stored within the organization. This could work with a traditional batch process however in our new situation this configuration won't be sufficient. The current situation is described in Figure 50. Stove pipe principle.

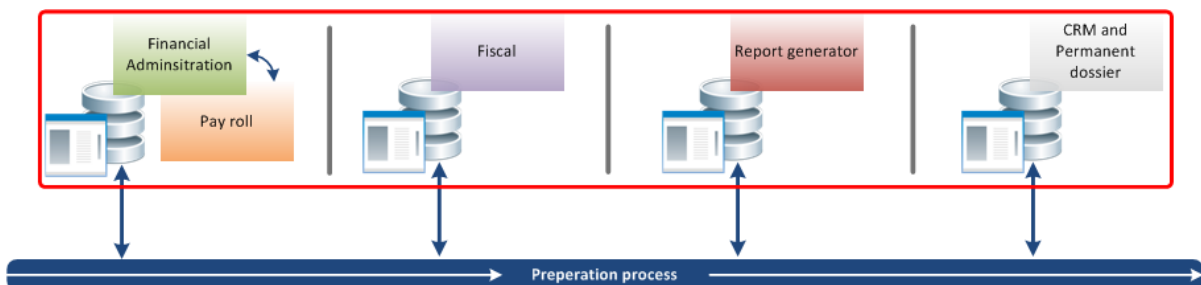


Figure 50. Stove pipe principle.

In our new situation we distinguish two different processes. The processes communicate with each other using a common information layer. This information layer is the actual storage facility of the modular components. This information layer consists of the information systems that were used in the current situation, however they are now bound together with the use of XBRL. To work with modular components coupled information system are essential. Let's assume we tried to introduce modularity into a stove pipe system. The module, and even parts of the modular component, could be stored in different information systems. This could lead to chaotic situations and even slow down the process at the right side of the CODP due to longer access times. Because XBRL provides standardization it enables us to create common interfaces to enable communication between different packages and therefore form an unique information layer. This can only work if all systems support the import and export of XBRL data. This is graphically illustrated in Figure 51. Integrated information systems.

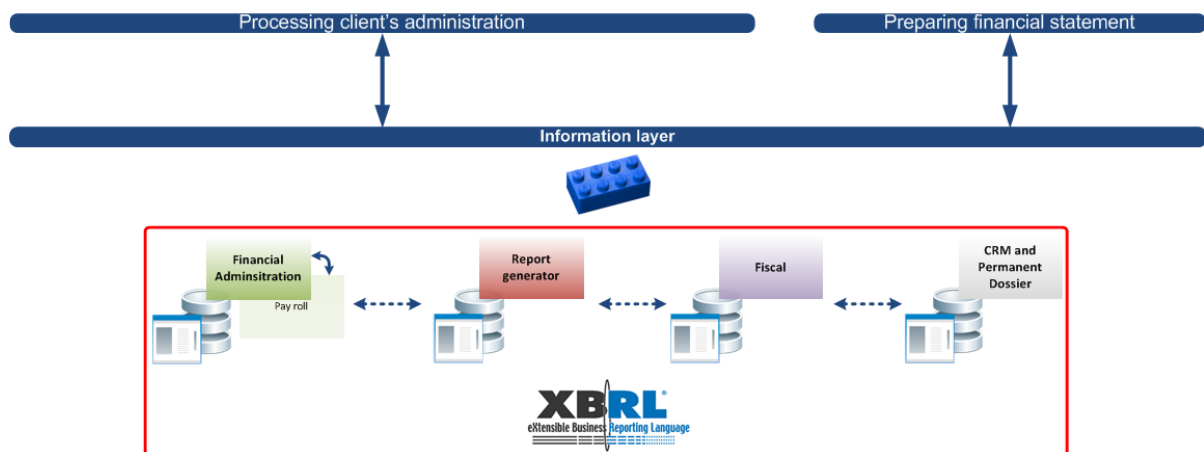


Figure 51. Integrated information systems.

Just like the previous situation the accountant has to connect the underlying source data to the corresponding XBRL elements. This can be done at different levels which are described in paragraph 2.2.5. In the current situation data is commonly mapped at report level. This method only provides access to aggregated data which is not sufficient to handle and store modular parts. We argue that this data should therefore be mapped at a lower level, preferably within the applications itself, so at application level. In this case sufficient details are available to store the modular components. Coupling at data level could be achieved with the use of XBRL GL but seems to be infeasible at this time.

Another factor is the scope of possible stored information elements. This scope has to be increased from financial data to non financial data. This because many modular components rely on non financial data. Think for example of comments on financial facts.

Many applications do not support these facilities. It is therefore important to find a way to incorporate these facilities into the current information systems.

8. Empirical validation

To see if our proposed process design could work in practice we chose to empirically validate the results. For this empirical validation we presented the results to field experts in the area of accountancy and information technology, see Appendix D - Presentation used for empirical validation. After this presentation, we offered the participants the possibility to discuss the findings in a round table setting. Such a setting, in the form of a discussion between equal parties, is very useful to come to new insights.

The following experts participated in this round table session:

Organization	Name	Position
ABAB	Frans van Loon	Manager ICT and Facilities
Accon	Wim Marijs	Director Accountancy
Accon	Marc Weernink	Director <i>Samenstelpraktijk</i>
Countus	Peter van de Streek	Director Accountancy
GIBO Groep	Frank Pisters	Director General Affairs
Grand Thornton	Ijsbrand Dijkstra	Partner Grand Thornton Rijswijk
Mazars	Doede de Jong	Manager Functional Development
Mazars	Jan Matto	Partner Mazars Rotterdam
AccountView	Casper Haspels	Commercial Director
AccountView	Richard Scheper	Manager accountancy team
AccountView	Ingeborg Walbrecht	Consultancy manager
AccountView	Han Wurtz	Development manager

Table 24. Members that participated in the round table session

This round table session took place at Thursday the 22th of April and was located at Castle the Hooge Vuursche in Baarn, Utrecht, The Netherlands. The session was divided into two parts. The first part was a presentation given by Rein Steens. Goal of this presentation was to communicate the findings as were presented in this thesis. The second part was a discussion about this proposed way of work in terms of feasibility and usefulness.

To structure this discussion some discussion topics were formulated, see bullets listed below. The discussion was guided by Casper Haspels.

- The use of a Customer Decoupling Point can help in achieving the previous mentioned benefits.
- How could the accountancy firm profit from the use of XBRL
- Due to the influence of XBRL, the business models are going to change in the upcoming years

The results of this discussion are further elaborated in the next paragraph. At the beginning of the round table session experts were asked about their current experience and expectations of XBRL, primarily for image forming. General said, most experts do not have pioneered with XBRL but are now beginning to see the advantages XBRL has to offer.

8.1 Results

The empirical validation showed that there was a general acceptance of the vision, as was proposed by AccountView, and our translation made between accountancy and 'Production and Logistics' to fulfill this vision. The appliance of a Customer Order Decoupling Point (CODP) was received as a good theory to support obtaining both effectiveness and efficiency and to provide insight into the ongoing struggle accountancy firms are facing. Some parties even found resemblances between the presented theory / practice and the developments / way of work within their own organizations. Despite the connection was accepted, the actual appliance of a CODP within the process of preparing financial statements lead to additional discussion points. The most important discussion points, which came up during this round table session, are summarized below:

- The influence of the CODP on the provision of certainty ;
- The influence of the CODP business model;
- The role of XBRL;
- The influence of the CODP on information storage.

These discussion points and their supporting arguments are further elaborated in the next sections.

Some parties saw infeasibilities due problems with the provision of certainty in the continuous environment, at the left side of the CODP. An important obstacle is the impossibility of (some) link controls due to missing information. This information could be missing if it is not incorporated as modular component and therefore not available at the left side of the CODP. We acknowledge that the usage of a CODP has impact on the provision of certainty. However there are solutions to cope with these problems regarding the provision of certainty. Some common examples and workarounds are given in paragraph 6.4 of this thesis. These examples are unfortunately inconclusive. There lies a

great challenge for the accountant to come up with ideas and methods to cope with these problems and create workable process for the left side of the CODP.

Another important discussion point was about the changes in the business model, in other words the way money is earned. The influence of a CODP on the existing business model, varied among parties. Most parties argued that an efficient designed left side of the CODP could actually better support their preparation at the right side of the CODP and also could support advice related services. An important argument for this better support was having up-to-date and coherent information which creates insight and forms the basis for these advisory services. It was generally accepted that partly due to digitalization, information can be retrieved and processed faster and that therefore the left side of the CODP can be optimized further.

One party even argued that accountants should not have to focus on the left side of the CODP and should only focus on the preparation and advice related services. According to this party other institutions are better suited to perform the tasks left of the CODP. As was mentioned by other participants this could, strategically wise, be possible, however other participants mentioned down sides. The accountant has a unique role, namely the provision of certainty. To some extent this should be the added value of the accountant. Other parties may also have access to this data but are not independent and cannot provide this extra certainty. Another important factor is the possession of data. For the services at the right side of the CODP data is needed. As was stated by a participant: 'who holds the data, holds the power'.

As was mentioned before, it was established that factors like digitalization could further optimize the left side of the CODP. The ideas what to do with the possible advantages also varied among parties. Some parties argued that it would be possible to lower the price of the existing services while other parties saw this (time) reduction as a possibility to focus more on advice related services. This decision is based on the strategic choice of the organization, read cost-Leadership vs. differentiation. It is reasonable that both customer groups exist and both strategies are arguable. The position of the CODP could be adjusted accordingly to match the chosen strategy. See forces applicable on the CODP in paragraph 2.3.4.3.

An additional threat was identified with the usage of XBRL and then namely the creation of XBRL taxonomies by other third parties. When requesting third parties start to create their own taxonomies while using the same elements, however with a different meaning, this could negatively influence the reusability and ultimately be a threat to the standardization. This was illustrated with

an example by the banks because of the opposite control directions. Based on the comments from the experts the accountants should play a crucial role in maintaining this standard and should unite themselves to guard this re-usage in different taxonomies.

The CODP also influences the data storage. Read, the form and place where information is stored. In the current situation there is a variety of software packages that each has their own purpose and data storage facility. The empirical validation showed that the experts see it as a challenge to determine which information has to be stored where and to see if the current scope of stored information is sufficient.

9. Conclusion

Goal of this thesis was to provide financial intermediaries with a better and applicable process design to cope with the severe upcoming changes in the process of preparing financial statements. This is described in paragraph 1.1.

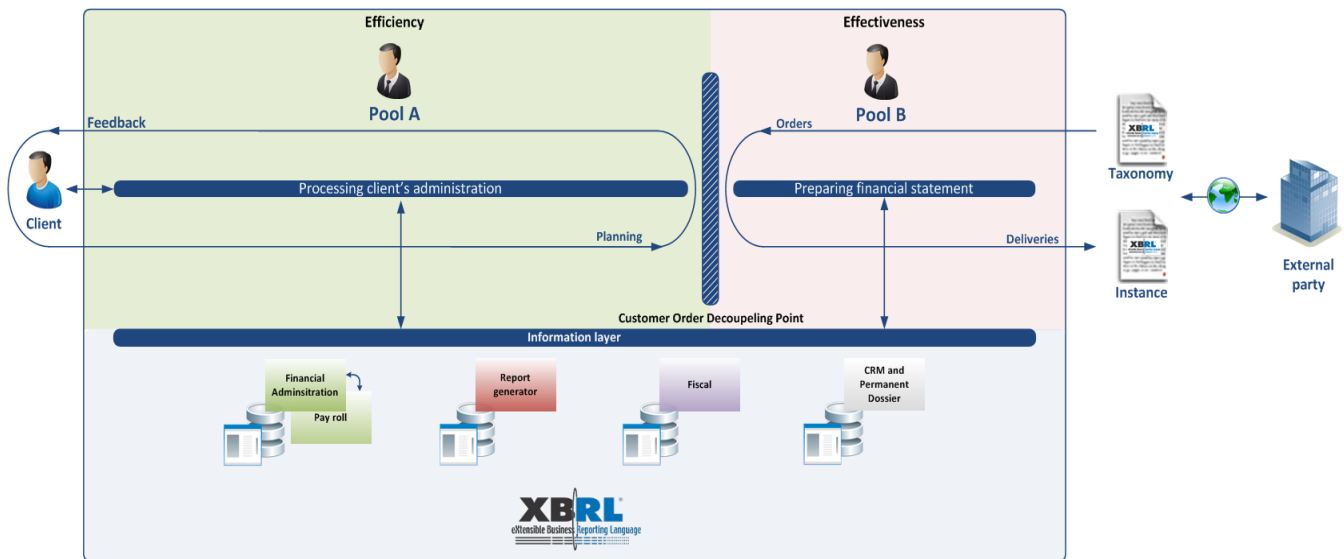
Because we cannot look into the future we used a vision, sketched by a knowledgeable party, to identify these changes in this process of preparing financial statement. The most important changes extracted from this vision were:

1. the increasing amount of requesting parties, each with own and different (information) needs.
2. the demand from society for fast, reliable and qualitative information, read: transparency.

Based on an analysis from the current practice of preparing financial statements we concluded that the current way of work is not able to support these changes. It cannot cope with this upcoming dynamic environment. This is primarily due to the usage of static work programs for predefined products. To see if we could come up with a better and more flexible design we looked at other fields of study.

Based on the market turbulence map we concluded that historical changes in the scientific field of 'Production and Logistics', namely the shift from mass production to mass customization, were driven by the same changes financial intermediaries are facing now. An in-depth analysis of these changes can be read in paragraph 3.3. Due to these resemblances it became possible to select the appropriate theories, read solutions as proposed by 'Production and Logistics', and translate them to the practice of preparing of financial statements.

We identified the Customer Order Decoupling Point and the associated extended use of modularity as two usable theories that were developed during this period of time. We translated these theories to the practice of preparing financial statements. The proposed design is displayed on the next page:



This translation resulted into two different processes, one for efficiency and one for effectiveness. We define efficiency as the cheapest way to deliver a product and effectiveness as the best way to fulfill the wishes of the customer. Product in this case is the financial statement while the customer is the information requesting party.

The left process is aimed at efficiency. It is a continuous and optimized process for the production of modular components performed by trained employees. Modular components in this case are assured financial data, tagged with an XBRL label. See picture at the right for our definition of a modular component. These components are stored in the information layer. This layer can be seen as a combination of software packages with XBRL support. The right side fulfills the customer order. This process is aimed at effectiveness and is order driven. The required products are build from an unique combination of modular components produced by the efficient process. Additional order specific work can be applied to achieve higher effectiveness.



To make this process applicable we developed a classification model. This model tries to find an answer to the question: When can an XBRL element become a modular component? To answer this question we looked at the continuous production of such an element and identified: the data availability (input), labor intensity (processing) and added value (output) as core measures. These core measures are further explained in paragraph 4.1.

We tested this classification model on the banking taxonomy and results showed that 83% can be incorporated into the continuous environment. More details about this classification can be read in chapter 5.

We also indentified some changes and provided some solutions regarding the provision of certainty using this process design. With the use of pre defined intervals it is possible to create modular components from fast changing (financial) data. These changes and solutions are further elaborated in chapter 6.

The empirical validation showed that the vision as was proposed by AccountView, see paragraph 3.1, is shared among experts. The connection made between Accountancy and 'Production and Logistics' also proofed feasible. The Customer Order Decoupling Point and the extended use of modularity were accepted as methods to cope with upcoming changes and to provide insight in the current problems.

The empirical validation showed that an actual implementation could be possible but certain topics require extra research. These topics are further elaborated in chapter 10.

10. Further research

Based on the empirical validation we found certain topics that may require extra research. These topics are summarized below:

- Detailed study on the impact on the provision of certainty

In chapter 6 we determined that the way of work, as is proposed in this thesis, requires certain changes in the way data is assured. We came up with methods that could help the financial intermediary to cope with these changes. A more detailed study from the theoretical view point of Accountancy may be necessary to determine the exact impact and solutions of these changes on the provision of certainty.

- Study on the definition of the information layer

As was proposed in paragraph 3.4.3 of this thesis, XBRL could be used as a coupling method between existing software systems and hereby creating an unique layer of information. However the exact definition of this information layer has to be determined by the accountant itself and has to be supported by software vendors. Further research on this subject could help in determining the best way to create such a layer.

- Change management, organizational and strategic changes.

The scale of the changes, as proposed in this thesis, does not only affect the way work is done and how it is supported in terms of processes, people and technology. It also effects business models and strategic decisions. Additional question can be asked how do these changes need to be implemented?

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Appendix A - A short guide to the classification program

For the time being a workable version can be downloaded from: <http://xbrl.reinsteens.nl/>. Source code is available upon request.

This application offers the following functionalities:

- Load a random XBRL taxonomy and classify the elements accordingly to the classification model as was proposed in this thesis.
- Save and load custom classification schemes.
- Show a graphical distribution of the outcome of the classification using a pie chart.
- Compare two random XBRL taxonomies and see which elements match based on custom defined criteria.
- Generate printable reports of these comparisons.

This application is written in C# (.NET V2.0) and features some open source components. In most cases these components were adjusted to fit the needs of the application and / or were converted to match the current .NET platform.

The following components were used for this application:

The parsing component from the Dragon Tag XBRL Enabler developed by Rivet Software. This component can be described as: *“Dragon Tag is a Microsoft Word and Excel add-in used to create Interactive Data (XBRL) filings from financial statement documents”*. This software is open source can be downloaded from: <http://sourceforge.net/projects/rivetdragontag/>

A viewing component for a structured and hierarchal (!) presentation of the XBRL taxonomy. This component is based on the TreeGridView as developed by Mark Rideout. This component is open source and can be downloaded from:

<http://blogs.msdn.com/markrideout/archive/2006/01/08/510700.aspx>.

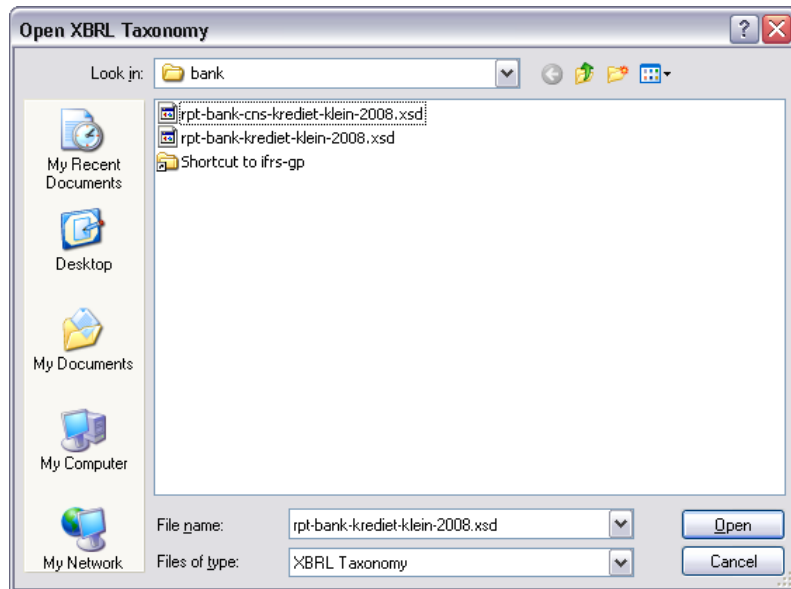
A component to create 3D pie charts to graphically illustrate the distribution of the classification. This component is also open source, was developed by Julijan Sribar and can be downloaded from:

<http://www.codeproject.com/KB/graphics/julijanpiechart.aspx>

For the import and export of classification schemes a custom *Comma Separated Values* (CSV) reader/writer was used. This component is also open source, was developed by Sebastien Lorion and can be downloaded from: <http://www.codeproject.com/KB/database/CsvReader.aspx>

The next chapters provide some basic guidelines on how to work with this program.

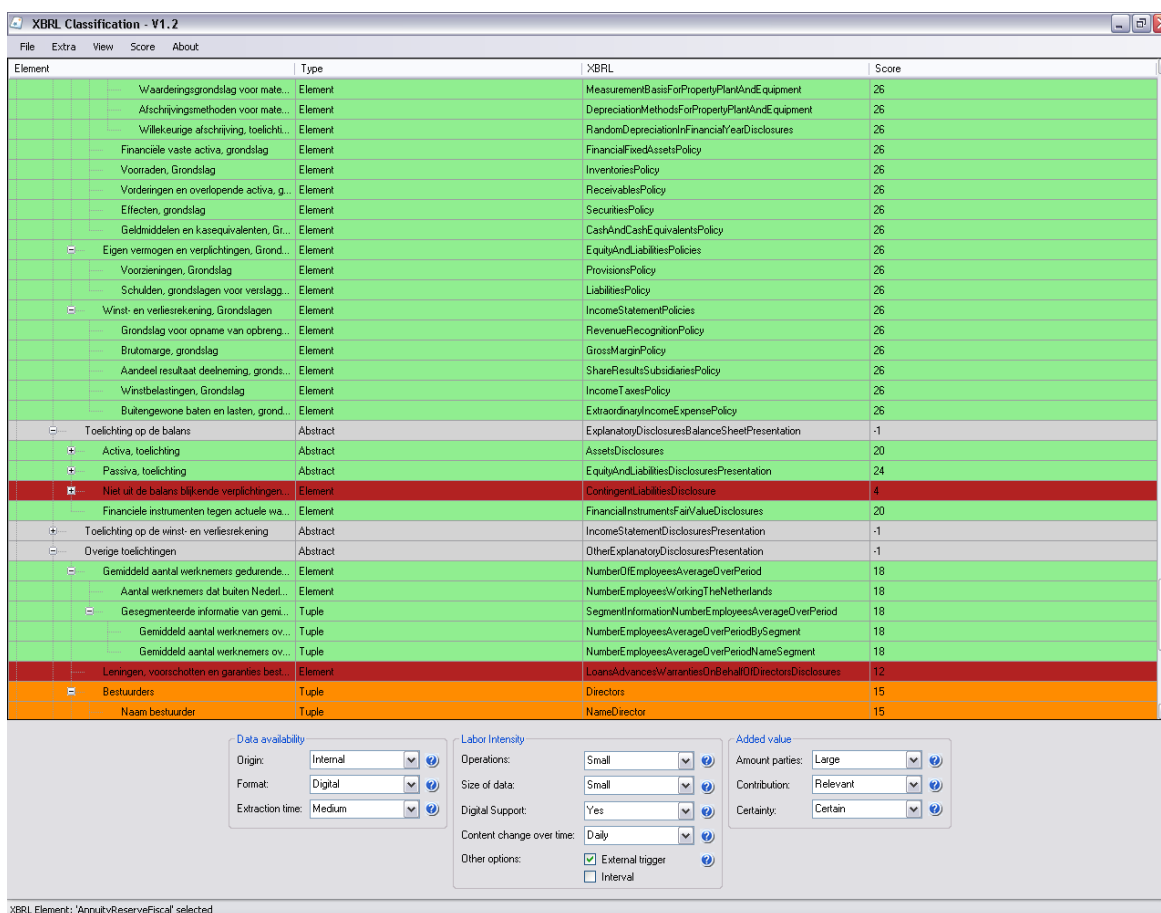
The first step after starting the application is to load a XBRL taxonomy via the menu File > Open XBRL Taxonomy (CTRL + O). This will open the following dialog:



Here it is possible to select the appropriate XBRL Taxonomy by selecting the corresponding .XSD file. After the right file is selected press: Open. The application will now start to convert the XBRL taxonomy into readable contents:

Processing Reference files for C:\Documents and Settings\reins\Desktop\Taxonomies\www.nltaxonomie.nl\2009\report\fr\rpt-fjr-jr-klein-2008.xsd...

When this process is finished the following presentation will be given:



The left column shows the hierachial strutuce as is present within the XBRL taxonomy using the corosponding labels. The second column shows the element's type. The third and last column shows the XBRL name of the element. After the taxonomy is loaded it is possible to select one element by clicking the requested row.

Rechtspersoon	Abstract	Legalperson
Naam van de onderneming	Element	NameBusiness
Statuuriale naam rechtspersoon	Element	StatutoryNameEntity
Woonplaats onderneming	Element	PlaceBusiness
Oprichtingsdatum rechtspersoon	Element	DateEstablishmentLegalPerson
Datum laatste statutewijziging rechtspersoon	Element	DateChangeRegulationsLegalPerson
Rechtsvorm. code	Element	LegalForm

The status bar also notifies you which XBRL element is selected:

XBRL Element: 'StatutoryNameEntity' selected

It is also possible to create a selection of multiple rows. Just hold the CTRL button pressed while selecting the required rows.

Datum van aanmaak van de rapportage	Element	DocumentCreationDate
Rechtspersoon	Abstract	LegalPerson
Naam van de onderneming	Element	NameBusiness
Statutaire naam rechtspersoon	Element	StatutoryNameEntity
Woonplaats onderneming	Element	PlaceBusiness
Oprichtingsdatum rechtspersoon	Element	DateEstablishmentLegalPerson
Datum laatste statutenwijziging rechtspersoon	Element	DateChangeRegulationsLegalPerson
Rechtsvorm. code	Element	LegalForm
Adres binnenland	Tuple	DutchAddress

When one or more XBRL elements are selected they can be classified with the use of the following interface.

The screenshot shows a classification interface with three main sections:

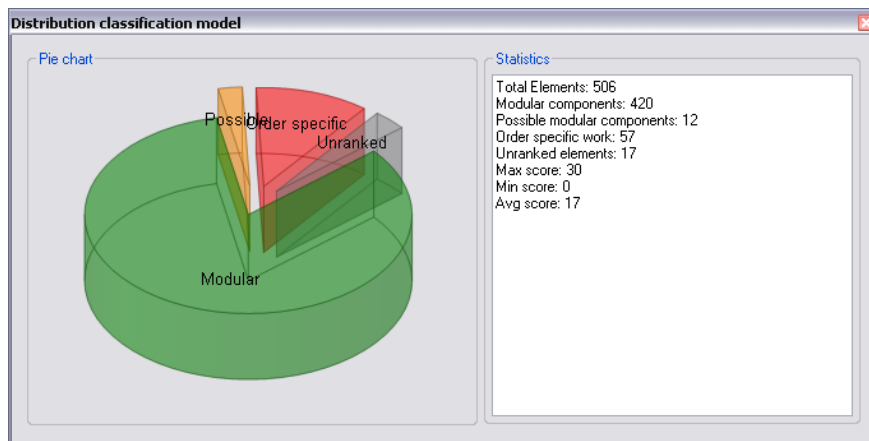
- Data availability:** Origin (Internal), Format (Digital), Extraction time (Medium).
- Labor Intensity:** Operations (Small), Size of data (Small), Digital Support (Yes), Content change over time (Daily), Other options (External trigger, Interval).
- Added value:** Amount parties (Large), Contribution (Relevant), Certainty (Certain).

These core values and sub criteria are described in chapter 4.1. When these values are applied the selection can change color to: green, orange or red.

Bestuurder	Tuple	Director	82
Bestuurder van rechtspersoon	Element	DirectorLegalPerson	57
Bestuurder van rechtspersoon	Element	DirectorLegalPerson	87

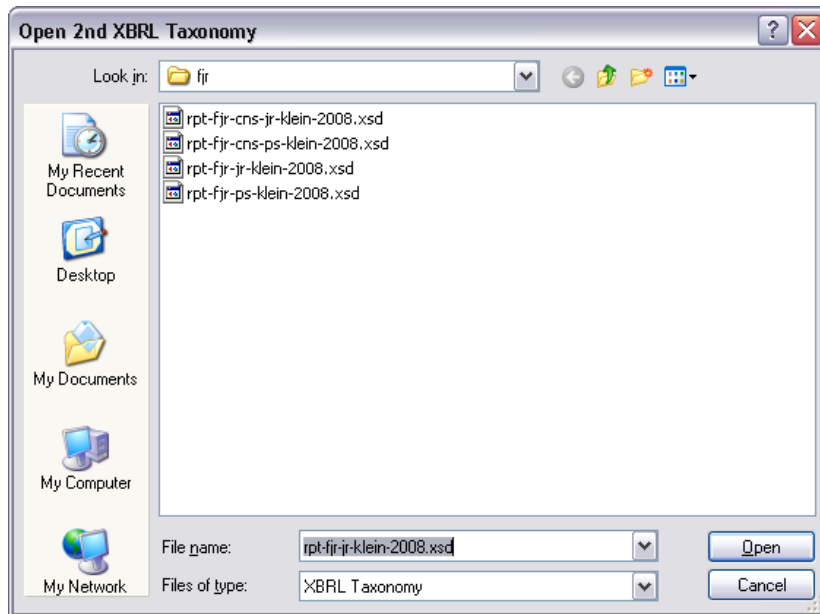
The distribution of the classification model can be displayed by going to the Extra > Distribution tab.

This will bring up the following dialog:



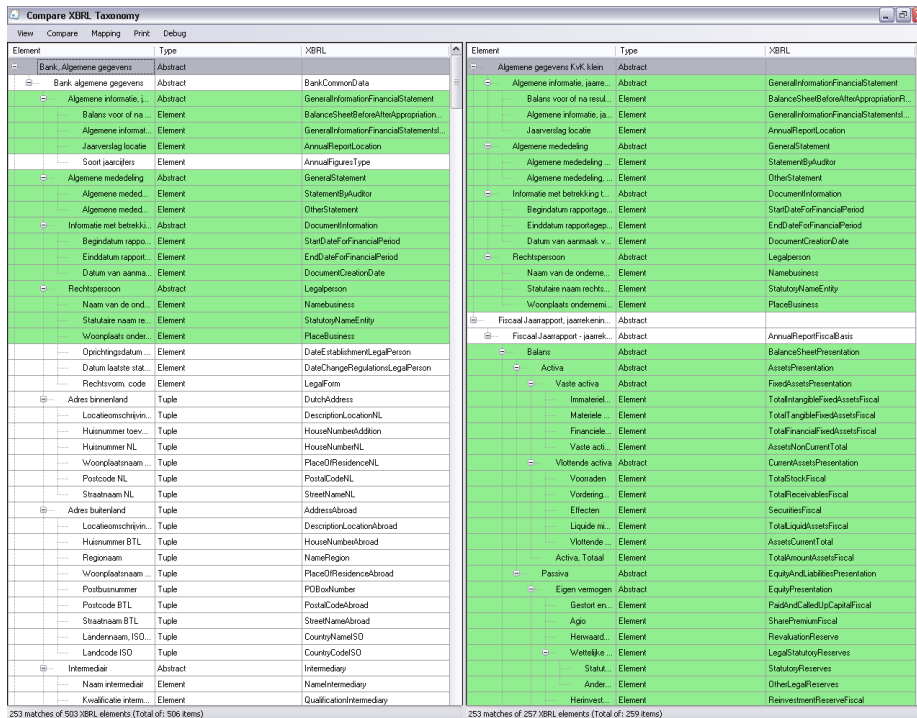
This application is also able to compare two different XBRL taxonomies. This requires the following steps.

The first step is to load a XBRL taxonomy into the classification model via the menu File > Open XBRL Taxonomy (CTRL + O). After this XBRL Taxonomy is loaded, go to Extra > Compare > Load other XBRL Taxonomy (ALT + C). This will open the following dialog.

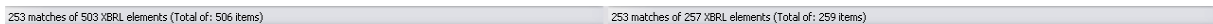


Select a second XBRL taxonomy, using the appropriate .XSD file and press Open. After the 2nd

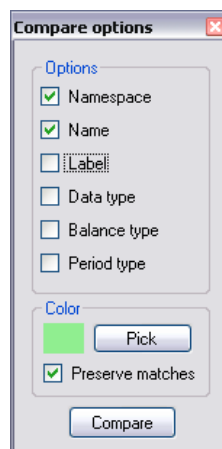
taxonomy is processed the following two grids will appear:



The left grid shows the XBRL taxonomy as was loaded in the classification model. The right grid shows the recently opened XBRL taxonomy. The matching rows are highlighted in (light) green. Here the standard matching rule of: equal namespace + element name is applied. The detailed result of this comparison is also shown in the status bar:

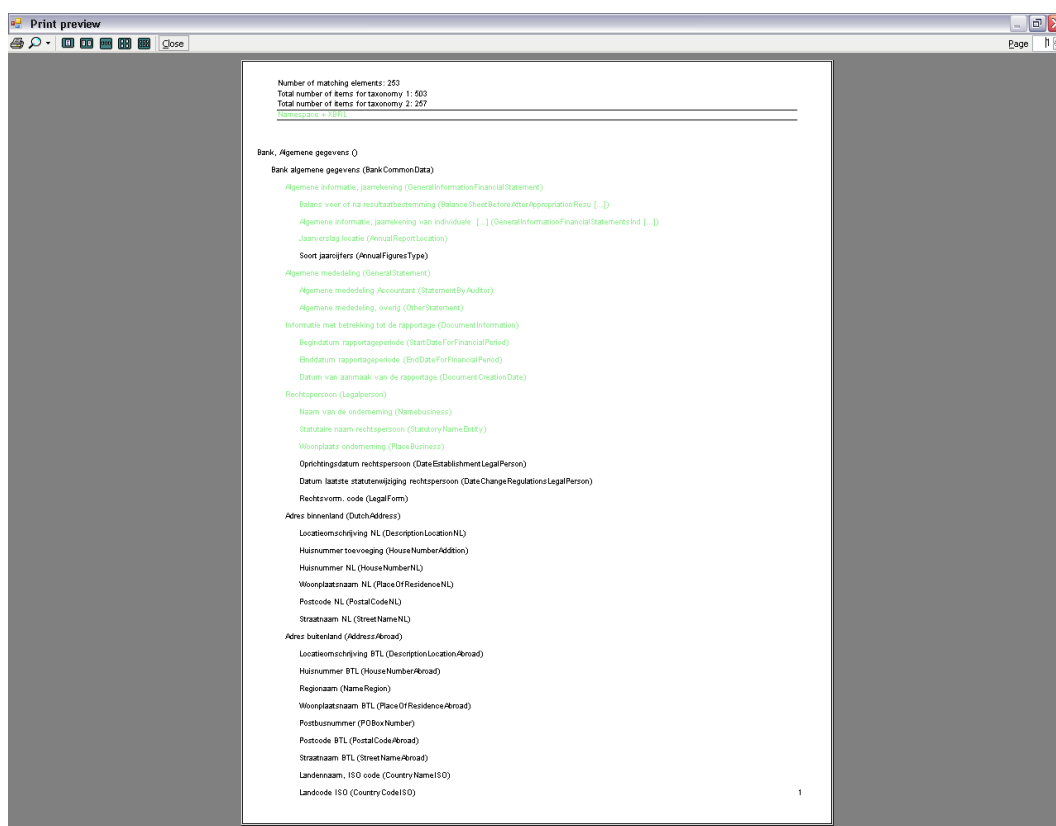


It is however possible to adjust these predefined matching criteria by selecting the 'Compare Options' from the 'Compare' tab. This will bring up the following dialog:



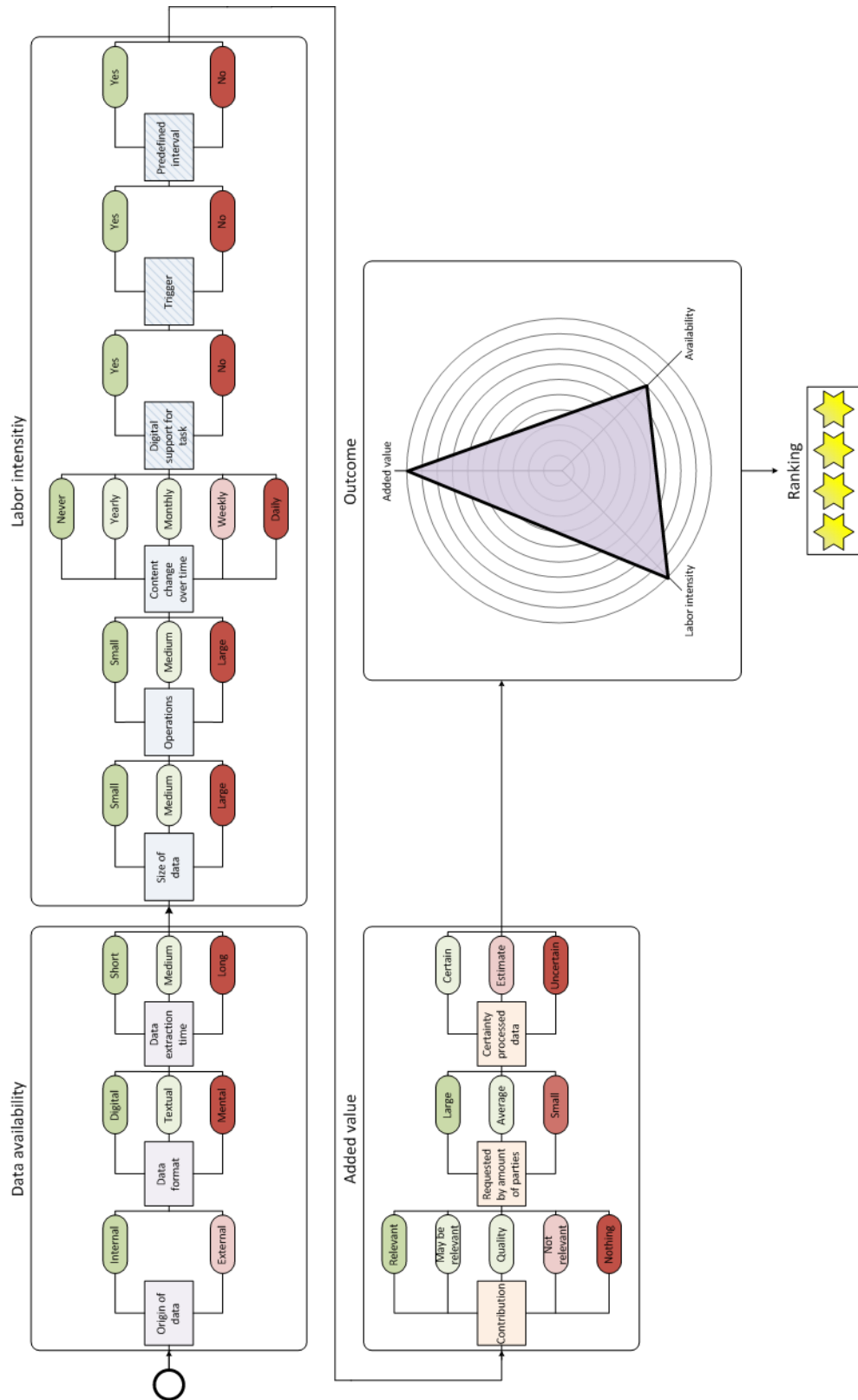
Here additional matching rules can be defined. In the standard situation the namespace and (element) name criteria are selected. However it is also possible to match the XBRL elements based on their: label and / or data type and / or balance type and / or period type. It is also possible to apply multiple selections with different colors. The color applicable for each selection can be chosen by pressing the button 'Pick'.

When 'Preserve matches' is checked the previous matches and thus colors are saved, read *preserved*. Only new matches are re-colored. Via the menu item *print* it is possible to generate report about the corresponding criteria.



Appendix B - Schematic overview of the classification model

CLASSIFICATION MODEL



Appendix C - Reusability of the banking taxonomy

- Bank, Algemene gegevens ()
 - Bank algemene gegevens (BankCommonData)
 - Algemene informatie, jaarrekening (GeneralInformationFinancialStatement)
 - Balans voor of na resultaatbestemming (BalanceSheetBeforeAfterAppropriationResu [...])
 - Algemene informatie, jaarrekening van individuele [...] (GeneralInformationFinancialStatementsInd [...])
 - Jaarverslag locatie (AnnualReportLocation)
 - Soort jaarcijfers (AnnualFiguresType)
 - Algemene mededeling (GeneralStatement)
 - Algemene mededeling Accountant (StatementByAuditor)
 - Algemene mededeling, overig (OtherStatement)
 - Informatie met betrekking tot de rapportage (DocumentInformation)
 - Begindatum rapportageperiode (StartDateForFinancialPeriod)
 - Einddatum rapportageperiode (EndDateForFinancialPeriod)
 - Datum van aanmaak van de rapportage (DocumentCreationDate)
 - Rechtspersoon (Legalperson)
 - Naam van de onderneming (Namebusiness)
 - Statutaire naam rechtspersoon (StatutoryNameEntity)
 - Woonplaats onderneming (PlaceBusiness)
 - Oprichtingsdatum rechtspersoon (DateEstablishmentLegalPerson)
 - Datum laatste statutenwijziging rechtspersoon (DateChangeRegulationsLegalPerson)
 - Rechtsvorm. code (LegalForm)
 - Adres binnenland (DutchAddress)
 - Locatieomschrijving NL (DescriptionLocationNL)
 - Huisnummer toevoeging (HouseNumberAddition)
 - Huisnummer NL (HouseNumberNL)
 - Woonplaatsnaam NL (PlaceOfResidenceNL)
 - Postcode NL (PostalCodeNL)
 - Straatnaam NL (StreetNameNL)
 - Adres buitenland (AddressAbroad)
 - Locatieomschrijving BTL (DescriptionLocationAbroad)
 - Huisnummer BTL (HouseNumberAbroad)
 - Regionaam (NameRegion)
 - Woonplaatsnaam BTL (PlaceOfResidenceAbroad)
 - Postbusnummer (POBoxNumber)
 - Postcode BTL (PostalCodeAbroad)
 - Straatnaam BTL (StreetNameAbroad)
 - Landennaam, ISO code (CountryNameISO)
 - Landcode ISO (CountryCodeISO)
 - Intermediar (Intermediary)
 - Naam intermediair (NameIntermediary)
 - Kwalificatie intermediair (QualificationIntermediary)
 - Vestigingsplaats intermediair (DomicileIntermediary)
 - Telefoonnummer intermediair (TelephoneNumberIntermediary)
 - Naam opsteller (NameCompiler)
 - Bank (Bank)
 - Rekeningnummer (AccountNumberBank)
 - Klantcode (ClientCodeBank)
- Bank, Fiscaal Jaarrapport, Krediet ()
 - Bank - fiscaal jaarrapport - krediet (BankFiscalBaseSmallEntity)
 - Balans (BalanceSheetPresentation)
 - Activa (AssetsPresentation)
 - Vaste activa (FixedAssetsPresentation)
 - Totaal immateriele vaste activa fiscaal (TotalIntangibleFixedAssetsFiscal)
 - Goodwill fiscaal einde boekjaar (GoodwillFiscal)
 - Kosten onderzoek en ontwikkeling (CostsResearchAndDevelopment)
 - Concessies, vergunningen etc. fiscaal (ConcessionsLicensesEtcFiscal)
 - Vooruitbetaald op immateriële vaste activa fiscaal (PaidInAdvancelnRelationToIntangibleFixed [...])
 - Productierechten fiscaal (ProductionRightsFiscal)
 - Overige immateriele vaste activa (OtherIntangibleFixedAssets)
 - Totale materiele vaste activa fiscaal (TotalTangibleFixedAssetsFiscal)
 - Bedrijfsgebouwen met ondergrond (BusinessPremisesWithSoil)
 - Onroerend goed (BusinessPremisesWithSoilSpecification)
 - Registrernummer (RegistryNumberRegisterBoundGood)
 - WOZ-waarde (ValuePurposesValuationOfImmovablePropert [...])
 - Boekwaarde (BalanceSheetValueRegisterBoundGood)

Afschrijvingsmethode (AmortisationMethodRegisterBoundGood)
Boekwaarde vliegtuigen (AircraftBalanceSheetValue)
Vliegtuigen (Aircraft)
 Registratienummer (RegistryNumberRegisterBoundGood)
 Boekwaarde (BalanceSheetValueRegisterBoundGood)
 Afschrijvingsmethode (AmortisationMethodRegisterBoundGood)
Boekwaarde schepen (ShipsBalanceSheetValue)
Schepen (Ships)
 Registratienummer (RegistryNumberRegisterBoundGood)
 Boekwaarde (BalanceSheetValueRegisterBoundGood)
 Afschrijvingsmethode (AmortisationMethodRegisterBoundGood)
Machines fiscaal (MachineryFiscal)
Inventaris fiscaal (FurnitureAndFixturesFiscal)
Automobielen en overige transportmiddelen fiscaal (CarsAndOtherTransportMeansFiscal)
Vaste bedrijfsmiddelen in uitvoering etc. fiscaal (FixedBusinessAssetsInDevelopmentEtcFisca [...])
Dieren fiscaal (AnimalsFiscal)
Overige materiele vaste activa landbouw (OtherAgriculturalTangibleFixedAssets)
Overige materiele vaste activa (OtherTangibleFixedAssets)
Totaal financiële vaste activa fiscaal (TotalFinancialFixedAssetsFiscal)
Langlopende vorderingen op aandeelhouders en parti [...] (LongTermReceivablesFromShareholdersParti [...])
 Langlopende vorderingen op aandeelhouders en parti [...] (LongTermReceivablesShareholdersParticipa [...])
 Identificatienummer (IdentificationNumberReceivables)
 Boekwaarde (BalanceSheetValueReceivables)
 Aflossing (bedrag p.j.) (RedemptionYearlyReceivables)
 Rentevoet (% p.j.) (InterestRateYearlyReceivables)
 Indicatie achterstelling (IndicationSubordinationReceivables)
 Zekerheid (SecurityReceivables)
Langlopende vorderingen op deelnemingen en gelieer [...] (LongTermReceivablesParticipatingInterest [...])
 Langlopende vorderingen op deelnemingen en gelieer [...] (LongTermReceivablesParticipatingInterest [...])
 Identificatienummer (IdentificationNumberReceivables)
 Boekwaarde (BalanceSheetValueReceivables)
 Aflossing (bedrag p.j.) (RedemptionYearlyReceivables)
 Rentevoet (% p.j.) (InterestRateYearlyReceivables)
 Indicatie achterstelling (IndicationSubordinationReceivables)
 Zekerheid (SecurityReceivables)
Langlopende vorderingen op onderhandse leningen (LongTermReceivablesPrivateLoans)
 Langlopende vorderingen op onderhandse leningen (LongTermReceivablesPrivateLoansSpecifica [...])
 Identificatienummer (IdentificationNumberReceivables)
 Boekwaarde (BalanceSheetValueReceivables)
 Aflossing (bedrag p.j.) (RedemptionYearlyReceivables)
 Rentevoet (% p.j.) (InterestRateYearlyReceivables)
 Indicatie achterstelling (IndicationSubordinationReceivables)
 Zekerheid (SecurityReceivables)
Overige financiële vaste activa (OtherFinancialFixedAssets)
Activa, Vast, Totaal (AssetsNonCurrentTotal)
Vlottende activa (CurrentAssetsPresentation)
Totaal voorraden fiscaal (TotalStockFiscal)
Onderhanden werk fiscaal (WorkInProgressFiscal)
Aanbetaling op onderhanden werk (DepositWorkInProgress)
Grond- en hulpstoffen fiscaal (RawAndAncillaryMaterialsFiscal)
Voorraad dieren fiscaal (StockAnimalsFiscal)
Gereed product en handelsgoederen fiscaal (FinishedProductsAndCommercialGoodsFiscal)
Overige voorraad (OtherInventories)
Totaal vorderingen fiscaal (TotalReceivablesFiscal)
Handelsvorderingen fiscaal (TradeReceivablesFiscal)
 30 dagen (TradeReceivablesThirtyDays)
 60 dagen (TradeReceivablesSixtyDays)
 90 dagen (TradeReceivablesNinetyDays)
 90+ dagen (TradeReceivablesAboveNinetyDays)
Kortlopende vorderingen op aandeelhouders en parti [...] (ShortTermReceivablesShareholdersParticip [...])
 Kortlopende vorderingen op aandeelhouders en parti [...] (ShortTermReceivablesShareholdersParticip [...])
 Identificatienummer (IdentificationNumberReceivables)
 Boekwaarde (BalanceSheetValueReceivables)
 Aflossing (bedrag p.j.) (RedemptionYearlyReceivables)
 Rentevoet (% p.j.) (InterestRateYearlyReceivables)
 Indicatie achterstelling (IndicationSubordinationReceivables)
 Zekerheid (SecurityReceivables)
Kortlopende vorderingen op deelnemingen en gelieer [...] (ShortTermReceivablesParticipatingInteres [...])
 Kortlopende vorderingen op deelnemingen en gelieer [...] (ShortTermReceivablesParticipatingInteres [...])

Identificatienummer (IdentificationNumberReceivables)
Boekwaarde (BalanceSheetValueReceivables)
Aflossing (bedrag p.j.) (RedemptionYearlyReceivables)
Rentevoet (% p.j.) (InterestRateYearlyReceivables)
Indicatie achterstelling (IndicationSubordinationReceivables)
Zekerheid (SecurityReceivables)
Kortlopende vorderingen op onderhandse leningen (ShortTermReceivablesPrivateLoans)
Kortlopende vorderingen op onderhandse leningen (ShortTermReceivablesPrivateLoansSpecific [...])
Identificatienummer (IdentificationNumberReceivables)
Boekwaarde (BalanceSheetValueReceivables)
Aflossing (bedrag p.j.) (RedemptionYearlyReceivables)
Rentevoet (% p.j.) (InterestRateYearlyReceivables)
Indicatie achterstelling (IndicationSubordinationReceivables)
Zekerheid (SecurityReceivables)
Overlopende activa fiscaal (AccruedIncomeFiscal)
Overige vorderingen (OtherReceivables)
Effecten fiscaal (SecuritiesFiscal)
Totaal liquide middelen fiscaal (TotalLiquidAssetsFiscal)
Banktegoeden fiscaal (BankCreditsFiscal)
Saldo G-rekeningen (BalanceGBankAccounts)
Overige liquide middelen (OtherLiquidAssets)
Activa, Vlottend, Totaal (AssetsCurrentTotal)
Totaal activa fiscaal (TotalAmountAssetsFiscal)
Passiva (EquityAndLiabilitiesPresentation)
Eigen vermogen (EquityPresentation)
Gestort en opgevraagd kapitaal fiscaal (PaidAndCalledUpCapitalFiscal)
Agio fiscaal (SharePremiumFiscal)
Herwaarderingsreserve (RevaluationReserve)
Wettelijke en statutaire reserves (LegalStatutoryReserves)
Statutaire reserves (StatutoryReserves)
Andere wettelijke reserves (OtherLegalReserves)
Herinvesteringsreserve fiscaal (ReinvestmentReserveFiscal)
Overige fiscale reserves (OtherFiscalReserves)
Overige reserves (OtherReserves)
Onverdeelde winst (verlies) (ResultForTheYear)
Eigen vermogen, Totaal (EquityTotal)
Totaal voorzieningen fiscaal (TotalProvisionsFiscal)
Garantievoorziening fiscaal (WarrantyProvisionFiscal)
Lijfrentevoorziening fiscaal einde boekjaar (AnnuityReserveFiscal)
Pensioenvoorziening fiscaal (PensionProvisionFiscal)
Overige voorzieningen (OtherProvisions)
Langlopende schulden (AccrualsDeferredIncomeNonCurrent)
Langlopende verplichtingen aan aandeelhouders en p [...] (LongTermPayablesShareholdersParticipants)
Langlopende verplichtingen aan aandeelhouders en p [...] (LongTermPayablesShareholdersParticipants [...])
Identificatienummer (IdentificationNumberPayables)
Boekwaarde (BalanceSheetValuePayables)
Aflossing (bedrag p.j.) (RedemptionYearlyPayables)
Rentevoet (% p.j.) (InterestRateYearlyPayables)
Indicatie achterstelling (IndicationSubordinationPayables)
Zekerheid (SecurityPayables)
Langlopende verplichtingen aan deelnemingen en gel [...] (LongTermPayablesParticipatingInterestsAf [...])
Langlopende verplichtingen aan deelnemingen en gel [...] (LongTermPayablesParticipatingInterestsAf [...])
Identificatienummer (IdentificationNumberPayables)
Boekwaarde (BalanceSheetValuePayables)
Aflossing (bedrag p.j.) (RedemptionYearlyPayables)
Rentevoet (% p.j.) (InterestRateYearlyPayables)
Indicatie achterstelling (IndicationSubordinationPayables)
Zekerheid (SecurityPayables)
Langlopende verplichtingen aan kredietinstellingen (LongTermPayablesCreditInstitution)
Langlopende verplichtingen aan kredietinstellingen (LongTermPayablesCreditInstitutionSpecifi [...])
Identificatienummer (IdentificationNumberPayables)
Boekwaarde (BalanceSheetValuePayables)
Aflossing (bedrag p.j.) (RedemptionYearlyPayables)
Rentevoet (% p.j.) (InterestRateYearlyPayables)
Indicatie achterstelling (IndicationSubordinationPayables)
Zekerheid (SecurityPayables)
Langlopende verplichtingen op onderhandse leningen (LongTermPayablesPrivateLoans)
Langlopende verplichtingen op onderhandse leningen (LongTermPayablesPrivateLoansSpecificatio [...])
Identificatienummer (IdentificationNumberPayables)

Boekwaarde (BalanceSheetValuePayables)
Aflossing (bedrag p.j.) (RedemptionYearlyPayables)
Rentevoet (% p.j.) (InterestRateYearlyPayables)
Indicatie achterstelling (IndicationSubordinationPayables)
Zekerheid (SecurityPayables)

Kortlopende schulden en overlopende passiva (AccrualsDeferredIncomeCurrent)

Handelscrediteuren fiscaal (TradePayablesFiscal)
30 dagen (TradePayablesThirtyDays)
60 dagen (TradePayablesSixtyDays)
90 dagen (TradePayablesNinetyDays)
90+ dagen (TradePayablesAboveNinetyDays)

Kortlopende verplichtingen aan aandeelhouders en p [...] (ShortTermPayablesShareholdersParticipant [...])
Kortlopende verplichtingen aan aandeelhouders en p [...] (ShortTermPayablesShareholdersParticipant [...])
Identificatienummer (IdentificationNumberPayables)
Boekwaarde (BalanceSheetValuePayables)
Aflossing (bedrag p.j.) (RedemptionYearlyPayables)
Rentevoet (% p.j.) (InterestRateYearlyPayables)
Indicatie achterstelling (IndicationSubordinationPayables)
Zekerheid (SecurityPayables)

Kortlopende verplichtingen aan deelnemingen en gel [...] (ShortTermPayablesParticipatingInterestsA [...])
Kortlopende verplichtingen aan deelnemingen en gel [...] (ShortTermPayablesParticipatingInterestsA [...])
Identificatienummer (IdentificationNumberPayables)
Boekwaarde (BalanceSheetValuePayables)
Aflossing (bedrag p.j.) (RedemptionYearlyPayables)
Rentevoet (% p.j.) (InterestRateYearlyPayables)
Indicatie achterstelling (IndicationSubordinationPayables)
Zekerheid (SecurityPayables)

Kortlopende verplichtingen aan kredietinstellingen (ShortTermPayablesCreditInstitutions)
Kortlopende verplichtingen aan kredietinstellingen (ShortTermPayablesCreditInstitutionsSpeci [...])
Identificatienummer (IdentificationNumberPayables)
Boekwaarde (BalanceSheetValuePayables)
Aflossing (bedrag p.j.) (RedemptionYearlyPayables)
Rentevoet (% p.j.) (InterestRateYearlyPayables)
Indicatie achterstelling (IndicationSubordinationPayables)
Zekerheid (SecurityPayables)

Kortlopende verplichtingen op onderhandse leningen (ShortTermPayablesPrivateLoans)
Kortlopende verplichtingen op onderhandse leningen (ShortTermPayablesPrivateLoansSpecificati [...])
Identificatienummer (IdentificationNumberPayables)
Boekwaarde (BalanceSheetValuePayables)
Aflossing (bedrag p.j.) (RedemptionYearlyPayables)
Rentevoet (% p.j.) (InterestRateYearlyPayables)
Indicatie achterstelling (IndicationSubordinationPayables)
Zekerheid (SecurityPayables)

Vorderingen omzetbelasting fiscaal (PayablesAndReceivablesValueAddedTaxFisca [...])
Loonbelasting en premies volksverzekeringen (WageTaxAndSocialSecurityCosts)
Premies werknemersverzekeringen (EmployeeInsuranceContributions)
Overlopende passiva fiscaal (AccruedLiabilitiesFiscal)
Overige verplichtingen (OtherPayables)

Totaal passiva fiscaal (TotalLiabilitiesFiscal)

Winst- en verliesrekening (IncomeStatementPresentation)

Resultaat na belastingen (NetResultAfterTax)
Resultaat uit gewone bedrijfsuitoefening na belast [...] (NetProfitLossOrdinaryActivities)
Winst (Verlies) vóór belasting (ProfitLossBeforeTax)
Brutomarge (GrossMargin)
Som der kosten (TotalBusinessCosts)
Lonen en salarissen [categoriale verdeling] (SalariesWagesByNature)
Sociale lasten [categoriale verdeling] (SocialSecurityContributionsByNature)
Afschrijvingen op materiele en immateriele vaste a [...] (TotalDepreciations)
Overige waarderingsverandering immateriële en mate [...] (ValuationChangeTangibleAndIntangibleFixe [...])
Bijzondere waardevermindering van vlottende activa (ImpairmentNonCurrentAssets)
Overige bedrijfskosten (OtherBusinessCosts)
Opbrengsten vorderingen vaste activa en effecten (RevenuesReveivablesTotal)
Andere rentebaten en soortgelijke opbrengsten (InterestSimilarIncome)
Waardeveranderingen vorderingen vaste activa en ef [...] (ValuationReceivables)
Rentelasten en soortgelijke kosten (InterestSimilarExpenses)
Belastingen resultaat uit gewone bedrijfsuitoefeni [...] (IncomeTaxExpenseIncomeOrdinaryActivities)
Aandeel resultaat deelneming (ShareResultsSubsidiariesTotal)
Buitengewoon resultaat na belastingen (ExtraordinaryItemsIncomeExpenseAfterTax)
Totaal buitengewone baten fiscaal (TotalExtraordinaryIncomeFiscal)

Totaal buitengewone lasten fiscaal (TotalExtraordinaryExpenditureFiscal)
Belastingen buitengewoon resultaat (TaxExpenseIncomeAttributableExtraordinar [...])
Algemene toelichting (GeneralDisclosuresPresentation)
Beschrijving van belangrijkste activiteiten van re [...] (DescriptionMostImportantActivitiesLegalE [...])
Naam van hoofdmoedermaatschappij van de groep (NameOfUltimateParentEntityOfGroup)
Hoofd van de groep, woonplaats (incl. land van her [...]) (UltimateParentGroupLocation)
Transacties met verbonden partij, toelichting (RelatedPartiesTransactionsRelatedParty)
Fusies en overnames, toelichting (DisclosuresMergersAcquisitions)
Beëindigde bedrijfsactiviteiten, Toelichting (DiscontinuedOperationsDisclosures)
Grondslagen voor financiële verslaggeving (AccountingPoliciesPresentation)
Algemene grondslagen (GeneralPolicies)
Algemene grondslagen voor de opstelling van de jaa [...] (GeneralPoliciesAnnualReport)
Grondslagen gehanteerd bij opstelling van jaarreke [...] (BasisOfPresentationIfNotOnGoingConcernBa [...])
Stelselwijzigingen (ChangeAccountingPolicies)
Stelselwijzigingen, effect op eigen vermogen (ChangeAccountingPoliciesFinancialImpactC [...])
Stelselwijzigingen, effect op resultaat (ChangeAccountingPoliciesFinancialImpactC [...])
Reden voor wijziging in de grondslagen voor financ [...] (ReasonForChangeInAccountingPolicy)
Omrekening van vreemde valuta, Grondslag (ForeignCurrencyTranslationPolicy)
Activa, Grondslagen (AssetsPolicies)
Immateriële activa, Grondslag (IntangibleAssetsPolicy)
Afschrijvingsmethoden voor identificeerbare immate [...] (AmortisationMethodsForIdentifiableIntang [...])
Goodwill, positief, afschrijvingsmethode (AmortisationMethodPositiveGoodwill)
Afschrijvingstermijn goodwill meer dan vijf jaar, [...] (GoodwillAmortizedMoreThanFiveYears)
Materiële vaste activa, Grondslag (PropertyPlantAndEquipmentPolicy)
Waarderingsgrondslag voor materiële vaste activa (MeasurementBasisForPropertyPlantAndEquip [...])
Afschrijvingsmethoden voor materiële vaste activa (DepreciationMethodsForPropertyPlantAndEq [...])
Willekeurige afschrijving, toelichting (RandomDepreciationInFinancialYearDisclos [...])
Financiële vaste activa, grondslag (FinancialFixedAssetsPolicy)
Vorraden, Grondslag (InventoriesPolicy)
Vorderingen en overlopende activa, grondslag (ReceivablesPolicy)
Effecten, grondslag (SecuritiesPolicy)
Geldmiddelen en kasequivalenten, Grondslag (CashAndCashEquivalentsPolicy)
Eigen vermogen en verplichtingen, Grondslagen (EquityAndLiabilitiesPolicies)
Voorzieningen, Grondslag (ProvisionsPolicy)
Schulden, grondslagen voor verslaggeving (LiabilitiesPolicy)
Winst- en verliesrekening, Grondslagen (IncomeStatementPolicies)
Grondslag voor opname van opbrengsten (RevenueRecognitionPolicy)
Brutomarge, grondslag (GrossMarginPolicy)
Aandeel resultaat deelneming, grondslag (ShareResultsSubsidiariesPolicy)
Winstbelastingen, Grondslag (IncomeTaxesPolicy)
Buitengewone baten en lasten, grondslag (ExtraordinaryIncomeExpensePolicy)
Toelichting op de balans (ExplanatoryDisclosuresBalanceSheetPresen [...])
Activa, toelichting (AssetsDisclosures)
Immateriële activa, Toelichting (IntangibleAssetsDisclosures)
Materiële vaste activa, Toelichting (PropertyPlantAndEquipmentDisclosures)
Geactiveerde financieringskosten, materiële vaste [...] (BorrowingCostsCapitalisedPropertyPlantAn [...])
Financiële vaste activa, toelichting (FinancialFixedAssetsDisclosures)
Deelnemingen, toelichting (ParticipatingInterestDisclosures)
Deelnemingen waarin moeder volledig aansprakelijk [...] (ParticipatingInterestParentCompanyFullyL [...])
Deelneming waarin moeder volledig aansprakelijk ve [...] (ParticipatingInterestParentCompanyFullyL [...])
Deelneming waarin moeder volledig aansprakelijk ve [...] (ParticipatingInterestParentCompanyFullyL [...])
Deelneming waarin moeder volledig aansprakelijk ve [...] (ParticipatingInterestParentCompanyFullyL [...])
Deelneming waarin moeder volledig aansprakelijk ve [...] (ParticipatingInterestParentCompanyFullyL [...])
Deelneming waarin moeder volledig aansprakelijk ve [...] (ParticipatingInterestParentCompanyFullyL [...])
Deelneming waarin moeder alleen of samen met een o [...] (ParticipatingInterestsParentCompanyAlone [...])
Deelneming waarin moeder alleen of samen met een o [...] (ParticipatingInterestParentCompanyAloneJ [...])
Deelneming waarin moeder alleen of samen met een o [...] (ParticipatingInterestParentCompanyAloneJ [...])
Deelneming waarin moeder alleen of samen met een o [...] (ParticipatingInterestParentCompanyAloneJ [...])
Deelneming waarin moeder alleen of samen met een o [...] (ParticipatingInterestParentCompanyAloneJ [...])
Deelneming waarin moeder alleen of samen met een o [...] (ParticipatingInterestParentCompanyAloneJ [...])
Deelneming waarin moeder alleen of samen met een o [...] (ParticipatingInterestParentCompanyAloneJ [...])
Deelneming waarin moeder alleen of samen met een o [...] (ParticipatingInterestParentCompanyAloneJ [...])
Gegevens over geassocieerde deelnemingen niet verw [...] (DetailOfAssociatesNotAccountedForUsingEq [...])
Vorraden, Toelichting (InventoriesDisclosures)
Vorraden, bedrag aan rente dat gedurende verslagp [...] (InventoriesYearlyAmountInterestCapitalis [...])
Vorderingen en overlopende activa, toelichting (ReceivablesDisclosures)
Totaal vorderingen en overlopende activa met een I [...] (AmountOfReceivablesExposedToMaturitiesFo [...])
Effecten, toelichting (SecuritiesDisclosures)
Passiva, toelichting (EquityAndLiabilitiesDisclosuresPresentat [...])

Eigen vermogen, Toelichting (EquityDisclosures)
Geplaatst kapitaal, Toelichting (IssuedCapitalDisclosures)
Aandelenkapitaal, prioriteitsaandelen (ShareCapitalPriorityShares)
Aandelenkapitaal voor categorie gewoon aandelenkap [...] (AmountOfShareCapitalForClassOfOrdinarySh [...])
Aandelenkapitaal voor categorie preferent aandelen [...] (AmountOfShareCapitalForClassOfPreference [...])
Inkoop (Verkoop) van eigen aandelen, Ingekochte ei [...] (PurchaseSaleOfTreasurySharesTreasuryShar [...])
Inkoop (verkoop) van eigen aandelen, toelichting (PurchaseSaleOfTreasurySharesDisclosures)
Niet-uitgegeven, gestort kapitaal, Toelichting (SubscribedCapitalDisclosures)
Wijzigingen in aandelenkapitaal, Gewone aandelen (ChangesInShareCapitalOrdinaryShares)
Wijzigingen in aandelenkapitaal, Preferente aandel [...] (ChangesInShareCapitalPreferenceShares)
Aandelenkapitaal, prioriteitsaandelen, mutaties, to [...] (ShareCapitalPrioritySharesChangesTotal)
Eigen vermogen, uitgifte aandelen in natura (IssuanceKindDividendsEquityParent)
Agio, toelichting (SharePremiumDisclosures)
Herwaarderingsreserve, toelichting (RevaluationReserveDisclosures)
Herwaarderingsreserve, begin balans (RevaluationReserveBeginningBalance)
Herwaarderingsreserve, mutaties (RevaluationReserveChangeOverPeriod)
Herwaarderingsreserve, eind balans (RevaluationReserveEndingBalance)
Statutaire reserves, toelichting (StatutoryReservesDisclosures)
Andere wettelijke reserves, toelichting (OtherLegalStatutoryDisclosures)
Andere wettelijke reserves, emissiekosten aandelen (TransactionCostsIssuanceSharesOtherLegal [...])
Andere wettelijke reserves, inbreng anders dan in [...] (ContributionKindOtherLegalReserves)
Andere wettelijke reserves, niet uitgekeerde winst [...] (NotDeclaredResultsSubsidiariesAssociatesO [...])
Andere wettelijke reserves, onderzoek en ontwikkel [...] (ResearchDevelopmentOtherLegalReserves)
Andere wettelijke reserves, verschil tussen wettel [...] (DifferenceLegallyMinimumCapitalSumPaidCa [...])
Tekort minimumkapitaal als gevolg van de omrekenin [...] (ExchangeDifferenceEquityEuroOtherLegalRe [...])
Andere wettelijke reserves negatieve bijschrijving [...] (NegativeReverseExchangeDifferenceEquityE [...])
Andere wettelijke reserves omrekeningsverschillen [...] (TranslationDifferenceForeignSubsidiaries [...])
Andere wettelijke reserves, verstrekte leningen vo [...] (LoansPurchasesTreasurySharesOtherLegalRe [...])
Overige reserves, toelichting (OtherReservesDisclosures)
Onverdeelde winst (verlies), toelichting (ResultForTheYearDisclosures)
Herinvesteringsreserve, toelichting (ReinvestmentReserveDisclosures)
Overige fiscale reserves, toelichting (OtherFiscalReservesDisclosures)
Opgave van het ingehouden deel van het resultaat (ReportOfRetainedPartOfResult)
Dividend (met uitzondering van deelnemingsdividend [...] (DividendExceptParticipatingInterestDivid [...])
Prive opname IB-ondernemers (PrivateIntake)
Eigen vermogen ondernemer (EquityPrivate)
Voorzieningen, toelichting (ProvisionsDisclosures)
Langlopende schulden, toelichting (LiabilitiesNonCurrentDisclosures)
Zekerheidsstelling langlopende schulden, toelichti [...] (CollateralLiabilitiesNonCurrentDisclosur [...])
Zekerheden registergoederen (SecuritiesRegisterBoundGoods)
Zekerheden registergoederen (SecuritiesRegisterBoundGoodsSpecificatio [...])
Object (ObjectSecurities)
Rang (RankSecurities)
Hoogte inschrijving (ValueSecurities)
Verplichtingen met een contractuele looptijd van m [...] (AmountOfClassOfLiabilityExposedToContrac [...])
Verplichtingen met een contractuele looptijd van m [...] (AmountOfClassOfLiabilityExposedToContrac [...])
Rentevoet schulden met een looptijd langer dan een [...] (InterestRateLiabilityExposedToContractua [...])
Financieringsovereenkomsten (BorrowingArrangements)
Financieringsovereenkomsten (BorrowingArrangementsSpecification)
Geldgever (FinancierBorrowingArrangements)
Hoofdsom (CapitalSumBorrowingArrangements)
Rentevoet (% p.j.) (InterestRateYearlyBorrowingArrangements)
Aflossing komende jaar (RedemptionComingYearBorrowingArrangement [...])
Pro resto bedrag (ProRestoAmountBorrowingArrangements)
Oorspronkelijke looptijd (in mnd) (OriginalMaturityInMonthsBorrowingArrange [...])
Indicatie achterstelling (IndicationSubordinationBorrowingArrangem [...])
Kortlopende schulden en overlopende passiva, toeli [...] (LiabilitiesCurrentDisclosures)
Zekerheidsstelling kortlopende schulden, toelichti [...] (CollateralLiabilitiesCurrentDisclosures)
Niet uit de balans blijvende verplichtingen, toeli [...] (ContingentLiabilitiesDisclosure)
Niet uit de balans blijvende verplichtingen jegens [...] (ContingentLiabilitiesGroupDisclosures)
Huurcontracten (RentContracts)
Huurcontracten (RentContractsSpecification)
Object identificatie (ObjectIdentificationRentContracts)
Looptijd in maanden (MaturityInMonthsRentContracts)
Einddatum (ClosingDateRentContracts)
Huursom per jaar (RentCostsYearlyRentContracts)
Afgegeven garanties (DeliveredWarranties)
Operationele leasecontracten (ContractOperatingLease)
Boekwaarde operationele leasecontracten (OperatingLeaseContracts)

Aantal leasecontracten (NumberOperatingLeaseContracts) 29
Jaarverplichting operationele leasecontracten (ObligatoryLeaseContractsYearly)
Bedrag achterstelling (Subordination)
Overige niet uit de balans blijvende verplichtingen [...] (OtherContingentLiabilities)
Financiële instrumenten tegen actuele waarde, toel [...] (FinancialInstrumentsFairValueDisclosures)
Toelichting op de winst- en verliesrekening (IncomeStatementDisclosuresPresentation)
Brutomarge, toelichting (GrossMarginDisclosures)
Som der bedrijfsopbrengsten (TotalOperatingIncome)
Netto omzet fiscaal (NetTurnoverFiscal)
Verhoudingscijfers wijziging netto omzet (RevenueRelatedPreviousYearRatio)
Wijziging voorraad en onderhanden werk fiscaal (ChangeStockAndVolumeOfWorkInProgressFisc [...])
Geactiveerde productie eigen bedrijf fiscaal (CapitalizedProductionOwnBusinessFiscal)
Overige bedrijfsopbrengsten (OtherOperatingIncome)
Kosten grond- en hulpstoffen, inkoopprijs van de v [...] (CostsOfRawAncillaryMaterialsPurchasePric [...])
Kosten uitbesteed werk en andere externe kosten fi [...] (CostsOutsourcedWorkAndOtherExternalCosts [...])
Som der kosten, toelichting (TotalBusinessCostsDisclosures)
Lonen en salarissen, toelichting (WagesAndSalariesDisclosures)
Sociale lasten, toelichting (SocialSecurityCostsDisclosures)
Pensioenlasten fiscaal (PensionCostsFiscal)
Afschrijvingen op immateriële en materiële vaste a [...] (TotalDepreciationsDisclosures)
Afschrijvingen op immateriële vaste activa (DepreciationsExpensesIntangibleAssets)
Afschrijvingen op materiële vaste activa (DepreciationsExpensesTangibleAssets)
Overige waardeverandering immateriële en materiële [...] (ValuationChangeTangibleAndIntangibleFixe [...])
Waardeverandering immateriële vaste activa (ValuationChangeIntangibleAssets)
Waardeverandering materiële vaste activa (ValuationChangeTangibleAssets)
Bijzondere waardevermindering vlottende activa, to [...] (SpecialValuationCurrentAssetsDisclosures)
Waardeverandering effecten, toelichting (ValuationSecuritiesDisclosures)
Overige bedrijfskosten, toelichting (OtherBusinessCostsDisclosures)
Exploitatielasten, Totaal (OperatingExpensesTotal)
Auto- en transportkosten fiscaal (CarAndTransportCostsFiscal)
Huisvestingskosten fiscaal dit boekjaar (AccommodationCostsFiscal)
Verkoopkosten fiscaal (SalesCostsFiscal)
Managementfee (ManagementFee)
Franchisefee (FranchiseFee)
Andere kosten (OtherCosts)
Opbrengsten vorderingen vaste activa, toelichting (RevenuesReceivablesDisclosures)
Opbrengsten vorderingen op aandeelhouders en parti [...] (RevenuesReceivablesAgainstShareholdersAn [...])
Opbrengsten rente banktegoeden fiscaal (RevenuesInterestOnBankCreditsFiscal)
Opbrengsten overige vorderingen fiscaal (RevenuesOtherReceivablesFiscal)
Opbrengsten vorderingen deelnemingen en gelieerde [...] (RevenuesReceivablesAgainstParticipatingI [...])
Opbrengsten uit andere effecten en vorderingen uit [...] (RevenuesOtherInvestmentsRelatedToSubsidi [...])
Andere rentebaten en soortgelijke opbrengsten, toe [...] (TotalInterestSimilarIncomeDisclosures)
Rentebaten uit de verhouding met groepsmaatschappi [...] (InterestIncomeRelatedToSubsidiaries)
Waarderingsverandering vorderingen, toelichting (ValuationReceivablesDisclosures)
Wijzigingen in financiële vaste activa en vlottend [...] (ChangesFinancialFixedAssetsRelatedToSubs [...])
Rentelasten en soortgelijke kosten, toelichting (TotalInterestSimilarExpenseDisclosures)
Kosten schulden aan aandeelhouders en participante [...] (CostsDebtsToParticipatingInterestsAndAff [...])
Kosten schulden, rentelasten etc. fiscaal (CostsDebtsToShareholdersAndParticipantsF [...])
Kosten schulden aan deelnemingen en gelieerde maat [...] (CostsDebtsInterestExpenditureEtcFiscal)
Rentelasten uit de verhouding met groepsmaatschapp [...] (InterestExpensesRelatedToSubsidiaries)
Belastingen resultaat uit gewone bedrijfsuitoefeni [...] (IncomeTaxExpenseIncomeOrdinaryActivities [...])
Aandeel resultaat deelneming, toelichting (ShareResultSubsidiariesDisclosures)
Resultaat deelnemingen binnenland fiscaal (ResultsDomesticParticipatingInterestsFis [...])
Resultaat deelnemingen buitenland fiscaal (ResultsParticipatingInterestsAbroadFisca [...])
Resultaat uit deelneming uit verhouding met groeps [...] (ResultAssociatesRelatedToSubsidiaries)
Buitengewoon resultaat na belasting, toelichting (ExtraordinaryResultAfterTaxDisclosures)
Totaal buitengewone baten, toelichting (TotalExtraordinaryIncomeDisclosures)
Totaal buitengewone lasten, toelichting (TotalExtraordinaryExpenditureDisclosures)
Belastingen buitengewoon resultaat, toelichting (TaxExpenseIncomeAttributableExtraordinar [...])
Overige toelichtingen (OtherExplanatoryDisclosuresPresentation)
Gemiddeld aantal werknemers gedurende de periode (NumberOfEmployeesAverageOverPeriod)
Aantal werknemers dat buiten Nederland werkzaam is (NumberEmployeesWorkingTheNetherlands)
Gesegmenteerde informatie van gemiddeld aantal wer [...] (SegmentInformationNumberEmployeesAverage [...])
Gemiddeld aantal werknemers over het boekjaar, per [...] (NumberEmployeesAverageOverPeriodBySegmen [...])
Gemiddeld aantal werknemers over het boekjaar, naa [...] (NumberEmployeesAverageOverPeriodNameSegm [...])
Leningen, voorschotten en garanties bestuurders en [...] (LoansAdvancesWarrantiesOnBehalfOfDirecto [...])
Bestuurders (Directors)
Naam bestuurder (NameDirector)
Identificatienummer bestuurder (SocialSecurityNumberDirector)

Commissarissen (SupervisoryDirectors)
Naam commissaris (NameSupervisoryDirector)
Identificatienummer commissaris (SocialSecurityNumberSupervisoryDirector)
Beschrijving van gebeurtenis na balansdatum (DescriptionOfEventAfterBalanceSheetDate)
Datum van vaststelling van de jaarrekening door AV [...] (DateOfAdoptionForIssueOfFinancialState [...])
Afwijkingen ten behoeve van het inzicht, toelichting [...] (TrueAndFairViewDisclosures)
Overige gegevens (OtherInformationAnnualReportFiscalBasisP [...])
Accountantsverklaring (AuditorsReport)
Weergave statutaire regeling omtrent de bestemming [...] (ProvisionsArticlesAssociationProfitAppro [...])
Opgave van de bestemming van de winst of de verwer [...] (ProfitAppropriationProposed)
Bijzonder statutair recht inzake zeggenschap (SpecialArticlesAssociationControlStructu [...])
Bijzonder statutair recht inzake zeggenschap, naam (SpecialProvisionsArticlesAssociationGove [...])
Bijzonder statutair recht inzake zeggenschap, omsc [...] (SpecialProvisionsArticlesAssociationGove [...])
Bijzonder statutair recht inzake zeggenschap, name [...] (NameDirectorsLegalEntitiesWhichHoldShare [...])
Percentage aandelenbezit (PercentageOfShares)
Winstbewijzen en soortgelijke rechten (ProfitCertificatesSimilarRights)
Winstbewijzen en soortgelijke rechten, aantal (ProfitCertificatesSimilarRightsNumber)
Winstbewijzen en soortgelijke rechten, bevoegdheid [...] (ProfitCertificatesSimilarRightsAuthority)
Uitleg over geschat financieel effect van gebeurte [...] (ExplanationOfAmountOfEstimatedFinancialE [...])
Opgave bestaan nevenvestigingen (ReportSubsidiaries)
Opgave bestaan nevenvestigingen, handelsnaam indie [...] (SubsidiariesTradeNameDifferent)
Opgave bestaan nevenvestigingen, land (SubsidiariesCountry)
Bank, Kengetallen ()
Kengetallen (Ratio)
Verkoopoppervlakte (SquareMeterSalesSurface)
Aantal verkooplocaties (NumberLocations)
Overwegende BIK-code (BIKCode)

Appendix D - Presentation used for empirical validation

This presentation can also be downloaded from <http://xbri.reinsteens.nl>

ACCOUNTVIEW
BUSINESS SOFTWARE



■■■ **Welkom**

- Introductie
- Presentatie
- Stellingen
- Diner

AV

ACCOUNTVIEW
BUSINESS SOFTWARE



Een mogelijke nieuwe manier van werken in de samenstelpraktijk

19 mei 2010 Rein Steens

ACCOUNTVIEW
BUSINESS SOFTWARE



■■■ **Agenda**

- Opdrachtomschrijving
- Veranderingen
 - Visie van AccountView op de samenstelpraktijk
- Huidige inrichting samenstelpraktijk
- Eisen aan de nieuwe inrichting
 - Toevoegingen uit andere vakgebieden
- Nieuwe inrichting samenstelpraktijk
 - Model voor inrichting
 - Demonstratie
- Vertaling AccountView

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■■■ **Opdrachtomschrijving**

- Ontwerp het toekomstige werkproces voor de accountant actief voor het Midden- en Kleinbedrijf.
- Voorwaarden:
 - Gericht op samenstelpraktijk;
 - Gebruik van XBRL;
 - Onderbouwing.



De toekomst is een voorspelling

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■■■ **Veranderingen (1/2)**

- Hans Verkruijse (Ernst & Young, Universiteit van Tilburg)
- "De one-size-fits-all-gedachte welke ten grondslag ligt aan de huidige jaarrekening is verouderd. XBRL kan uitkomst bieden. Maar we zijn er nog lang niet. Met de hulp van de XBRL is het mogelijk om continuous monitoring-systemen in te richten en continuous auditing toe te passen, waarna de accountant assurance by default kan garanderen."
- © De Accountant - Accountants en de impact van radicale transparantie.



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■■■ **Veranderingen (2/2)**

- Marianne Veltman (Duthler Associates)
- "Dat geldt ook voor het maken van afspraken met de intermediairs over inzake het borgen van de kwaliteit van de kredietrapportages. Dit resulteert in een bancaire controleraamwerk dat door de intermediairs wordt toegepast, zodat de inhoudelijke juistheid van de kredietrapportages wordt gewaarborgd. Dit raamwerk is aanvullend op de 'controles' die op basis van de bankentaxonomie worden uitgevoerd tijdens het aanleverproces."
- © AccountancyNieuws - De bankentaxonomie: Banken automatiseren en standaardiseren kredietrapportages.

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Visie van AccountView op de samenstelpraktijk

- "Een visie is een beeld of verwachting van de toekomst".
- Verschuiving van standaardproducten naar "producten op maat".
- Roep om te betrouwbaar
 - Belangrijke partijen: Belastingd, delta Lloyd group, ABN-AMRO, FORTIS, Friesland Bank, ING, NIBC, SINS REAAL, Rabobank, VACO, FMO, FIVB, etc.



Huidige inrichting samenstelpraktijk

- Werkprogramma staat centraal.
- Proces wordt gestart wanneer financieel overzicht moet worden samengesteld.
- Gericht op efficiëntie: lage kosten (weinig dynamiek)
- Nadelen:
 - Moeilijk omgaan met individuele veranderingen van informatiebehoeften.
 - Elk financieel overzicht zijn eigen werkprogramma. Geen samenhang tussen producten



Eisen aan de nieuwe inrichting

- Combinatie van effectiviteit en efficiëntie als uitgangspunt, oftewel flexibiliteit tegen lage kosten.
- Voor het ontwerp gekeken naar bestaande wetenschappelijke vakgebieden.
 - Het vakgebied Productie & Logistiek als belangrijke ervaringsbron.



Henry Ford (1909): "any customer can have a car painted any color that he wants so long as it is black".



Toevoeging uit productie (1)

- Veel overeenkomsten tussen gerealiseerde veranderingen in productie en toekomstige veranderingen in de samenstelpraktijk.
- Gebruik van uitwisselbare componenten (productie):



Toevoeging uit productie (2)

- Productiesysteem:
 - Linkerkant richt zich op de continue productie van componenten.
 - Rechterkant richt zich op het invullen van de klantorders en eventuele individuele aanpassingen.
- Scheiding wordt gemaakt door 'Klant Order Ontkoppel Punt'.



Inrichting samenstelpraktijk (1/5)

- Eindproduct van samenstelpraktijk wordt financieel overzicht bestaande uit modulaire "componenten" aangevuld met specifieke informatie.
- Financiële data wordt ingevuld met behulp van XBRL inclusief





■ Inrichting samenstelpraktijk (2/5)

- Samenstelpraktijk is een non-assurance gerelateerde opdracht.
 - Geeft geen juistheid en volledigheid van de samengestelde gegevens
- Toch wordt een soort van zekerheid erkend door derde partijen.
 - De naam en reputatie van het kantoor zijn hierbij van invloed
- Deze toegevoegde waarde wordt bereikt door interne processen bij het accountantskantoor.
 - Wat resulteert in een vorm van zekerheid
 - In de verdere uitwerking staat "zekerheid" voor de controlerende werkzaamheden door de organisatie



■ Inrichting samenstelpraktijk (3/5)

- Gebruik van modulariteit kent de volgende voordelen:
 - Herbruikbaarheid van gegevens in verschillende overzichten.
 - Kortere doorlooptijd:
 - Sam
 - Aanvullingen (rekening)
-



■ Inrichting samenstelpraktijk (4/5)



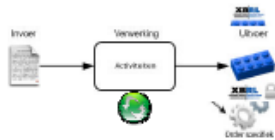
■ Inrichting samenstelpraktijk (5/5)

- Hoe maken we modulariteit toepasbaar in de samenstelpraktijk?
 - Probleem bij de inrichting: waar plaatsen we het "klant-order-ontkoppelpunt"?
 - Wat kunnen we aan de linkerkant plaatsen?
 - Wat kan dus in een continue proces?
 - Wat kunnen we aan de rechterkant plaatsen?
 - Wat moet klantsoefieek?



■ Classificatiemodel

- Classificatiemodel zorgt voor verdeling van componenten en orderspecifiek werk.



- Wanneer is het mogelijk een (XBRL) element als modulair te beschouwen?
- 'Productieproces' van element wordt gewogen d.m.v. hoofdcriteria:
 - Beschikbaarheid van gegevens (invoer)
 - Arbeidsintensiteit (verwerking)
 - Toegevoegde waarde (uitvoer)



■ Materiële vaste activa

- Benodigde gegevens
 - Overzicht aanschaffingswaarden en cumulatieve afschrijvingen
 - Verzekeringsdocumenten, huurcontracten, gegevens uit het kadaster (gebouwen)
- Activiteiten
 - Beoordeel de investeringen, desinvesteringen en afschrijvingen.
 - Beoordeel de etikettering van het actief (zakelijk of privé).
 - Beoordeel het onderscheid tussen activering en onderhoudskosten.
 - Leg vast of er (aanwijzingen voor) afwijkingen bestaan tussen werkelijke waarden en boekwaarden



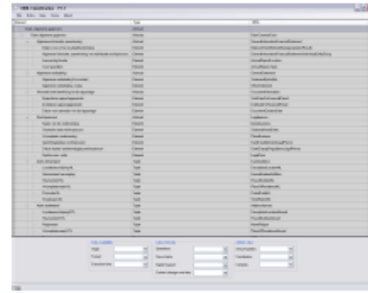


■ ■ ■ Niet uit de balans blijvende verplichtingen

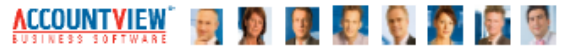
- Benodigde gegevens
 - Notulen van directievergaderingen
 - Opgave door bestuurders
- Activiteiten
 - Informeer bij de cliënt of zij op enigerlei wijze betrokken zijn of dreigen te raken bij juridische procedures.
 - Beoordeel niet uit de balans blijvende bezittingen en schulden voor: huur, lease, rechtegedingen, claims, garanties / borgstellingen, investerings- en inkoopverplichtingen.
 - Beoordeel de vermelding van de verstrekte zakelijke zekerheden op leningen



■ ■ ■ Demonstratie



■ ■ ■ Demonstratie



■ ■ ■ Samenvatting van de werkwijze



■ ■ ■ Praktijk

- AccountView deelt deze invulling
- Oplossing van Accountview
 - XBRL/SBR in combinatie met Samenstel-assistent en Werkprogramma
 - 'Mappen bij de bron' – XBRL implementeren in de administratie
 - Toelichtingen en specificaties in AccountView
 - Samenstel-assistent vertaalt validaties en structuur Taxonomie naar aansturing rapportageproces
 - Continue controle op juistheid en volledigheid administratie gedurende het jaar (assurance by default)
 - Automatische dossiëvorming op basis van controles (borgen van de kwaliteit en volledigheid proces)



■ ■ ■ Discussiepunten

- Introduceren van het KOOP kan ons helpen om efficiënter te gaan werken.
- Hoe profiteert het accountantskantoor van XBRL?
- Gaat de verhouding tussen accountant en fiscalist veranderen?
- Wat betekent de wet Samenvol voor uw praktijk?
- Mede onder invloed van XBRL gaat het verdienmodel in de accountancy de komende jaren veranderen.
- Wat zijn de belangrijkste thema's voor u de komende 18 maanden?

