

CHAPTER 8 CONCLUSIONS AND FUTURE WORK

8.1 Introduction

In this chapter stock is taken about what was set out to be done in this thesis and to what extent it has been achieved. Towards the end of the chapter some pointers are given for future work in this area.

8.1.1 Goal of this chapter

In this final chapter, the author takes a look at the objectives stated in Chapter 1 of this thesis and evaluates to what extent these goals have been met. The hypothesis is revisited and directions for future work in this area are explored.

8.1.2 Layout of this chapter

Following this introduction, the contributions of this thesis are synthesised in Section 8.2. Consideration is given, to accounting hybrids, the *current/non-current* classifications, information overload, the role of measurement, the importance attached to attributes and relationships, and the classifications proposed for the balance sheet and the income statement. In Section 8.3, the justifications for some of the decisions taken throughout this work are presented. In Section 8.4, it is shown very briefly how the classification framework presented in Chapter 7 ties up with the accounts into which a transaction is captured. Section 8.5 presents some future work in this area, in particular refining the ideas of the distributed union and measurement as defined in this thesis.

The above layout is represented in Figure 8.1.

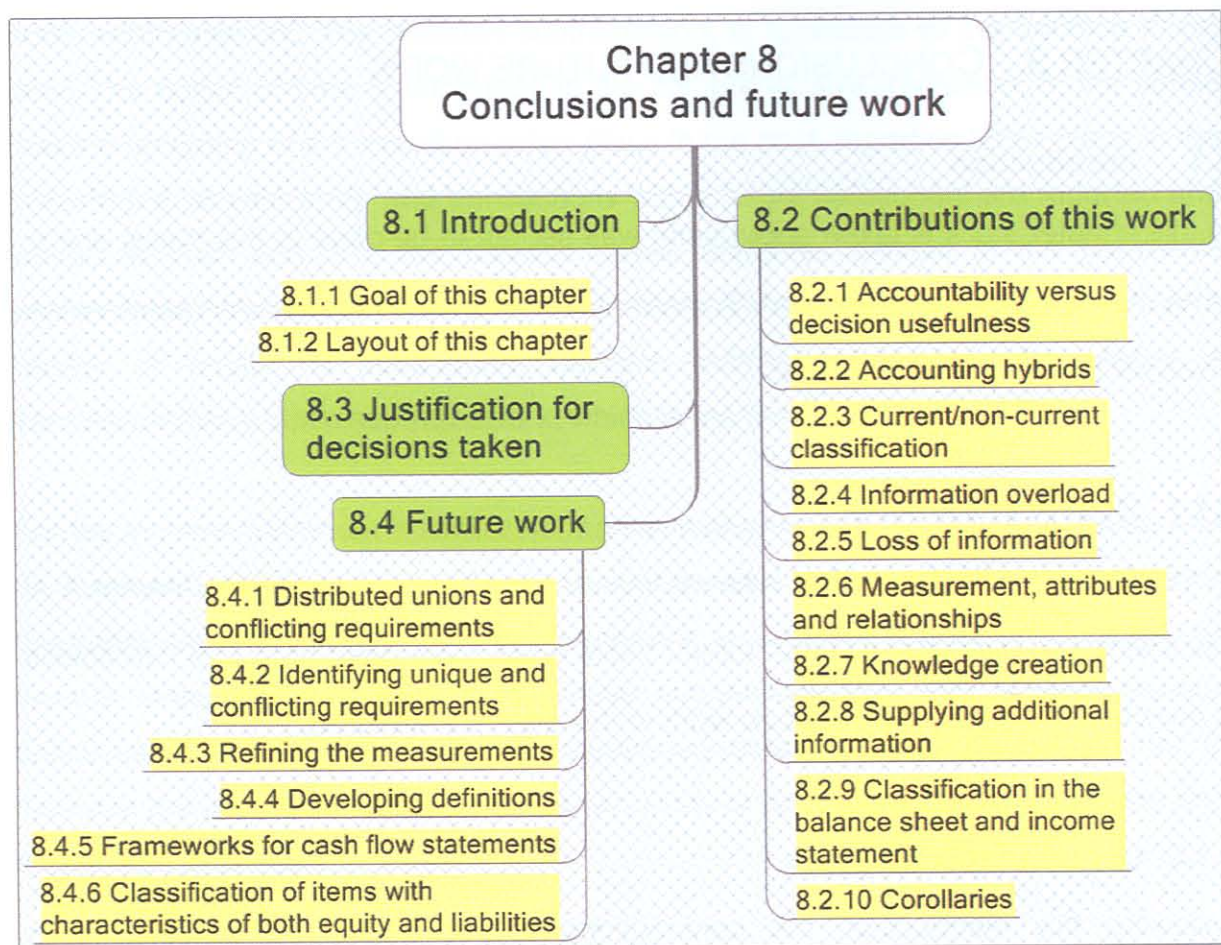


Figure 8.1 A visual representation of the layout of Chapter 8

8.2 Contributions of this work

The hypothesis of this thesis was:

The current classification of accounting information, from the recording phase to reclassification in the reporting phase, does not supply users of such information with the necessary information for decision-making purposes. In this regard a comprehensive classification framework for accounting information is proposed, with the following properties:

- A well-defined set of attributes will be used, ultimately to classify a transaction into a static subframework to aid decision-making.
- Time will be used to classify a transaction at the time of recording and later to reclassify it at the time of reporting.
- The proposed framework will guide the classifier as to how an item finds its way into a static structure.

Chapter 8 Conclusions and future work

Therefore, the aim of this thesis was to develop a comprehensive classification framework for accounting information.

In Chapter 1 and throughout Chapter 4, many criticisms of present classification systems for accounting information were identified. These criticisms were also tested through the use of a comprehensive 32-statement questionnaire and the outcome mostly supported the view of researchers in the literature, namely, that a new classification framework is much needed for accounting. Similarly, an analysis of the financial statements of 93 companies revealed that a standard for drawing up these statements is called for.

In the following sections the various problems and criticisms of present accounting classifications are synthesised and the author indicates to what extent these criticisms are addressed by the proposed classification framework in Chapter 7 of this work.

8.2.1 Accountability versus decision usefulness

Accountability is one of the oldest objectives of accounting (Mattessich 1995:9) and respondents to the questionnaire supported this view. Classification based on accountability is a way to cut-off and report on a certain stage in the past and is practical for accountants. To classify for useful decisions, the classification needs a forward-looking (future) perspective.

Throughout this thesis the requirement that a classification framework ought to assist users of financial statements to make decisions was brought to the fore. Coupled with this requirement is the need for a classification system to be flexible enough to adapt to changes in the business environment and new business transactions as well as the changing needs of users. This was duly recognised by one of the leading accounting standard setters: "Today, more than ever, business reporting must keep up with the changing needs of users or it will lose its relevance" (AICPA 1994:2). A further requirement in this regard is that uncertainty for users of financial statements ought to be reduced, for example, where there is uncertainty concerning an assertion in the financial statements, the implied conditions may need to be clearly revealed by the classification framework for accounting information.

In the framework proposed in Chapter 7, information in both the balance sheet and the income statement was classified into core and non-core activities based on the needs of users as determined by AICPA (1994). This change to the financial statements was proposed to aid decision makers to make more informed decisions and reduce uncertainty.

To further aid users in making more informed decisions, the author supports the inclusion of one of the AICPA (1994) recommendations in the comprehensive framework, namely, that additional information to assist with future forecasting is to be published together with the financial statements of a company. For example, attributes of specific assets and liabilities could be disclosed as a supplement. Supplying additional information like attributes may guide users in their decisions, but one should guard against an information overload (refer to Section 8.2.4).

8.2.2 Accounting hybrids

In this thesis the author pointed out that accounting has a number of hybrids, or “what-you-may-call-its” (Sprouse 1966:45), since results of new kinds of transactions may not fit into the definitions presently in use. An example of such a hybrid is deferred taxation. As a first step to alleviate this problem, the author of this thesis proposes that the identification and classification of accounting information should not be a static or a once-off exercise, but part of an ongoing process.

In the classification framework for accounting information, it was proposed that the problem of hybrids be solved by insisting that classes resulting from a classification exercise form a partition. This idea is reflected in Algorithm 3.2 in Section 3.8 of Chapter 3. In Section 7.4, Chapter 7 it is furthermore proposed that a third class be created for the classification of equity and liabilities.

8.2.3 Current/Non-current classification

The use of the terms *deferred assets* and *deferred liabilities* may be a way to help alleviate the problem of the *current/non-current* classification by using these as different categories in financial statements. The use of the *current/non-current* classification, according to Foulke (1961), dates back as far as 1898. Hence, the usefulness of this classification was questioned in this thesis.

Chapter 8 Conclusions and future work

The traditional method of asset and liability classification may still be used, but not the criteria linked to *current/non-current*. Classification according to liquidity, either increasing or decreasing, may still be used if it is possible to have a correct measure of liquidity.

One way the problem of the *current/non-current asset and liability* classification was solved in the proposed classification framework was to classify certain items, for instance R&D with a future benefit, as a *deferred asset*.

8.2.4 Information overload

It is important to guard against information overload when a classification framework for accounting information is developed. A framework should provide necessary and high quality information to users, enabling them to make informed decisions. At least one of the respondents to the questionnaire felt that any comprehensive picture of accounting information would be far too complex for stakeholders to make sense of (refer to Statement 14 in Chapter 6).

As a response to the above claim, the author proposed in the comprehensive classification framework that a distributed union of the requirements of users be taken, minus the conflicting requirements (refer Example 1.1). This will necessarily cut down on the classification complexity. The proposed framework is then augmented with additional information to aid stakeholders (refer to AICPA (1994) in Section 8.2.1).

8.2.5 Loss of information

When classification and summarising occurs, information and relationships may be omitted that may be valuable to certain users or groups of users (refer to 8.2.4 above). Compilers of classification guidelines, therefore, need to take note of the information needs of all the users of financial statements. A related problem is to uncover hidden information or attributes during an initial measurement (refer to Section 8.2.7).

In this thesis it was proposed in Chapter 7 that a sequence of JAD (Joint Application Development) (Wood and Silver 1995) workshops be used to uncover tacit (hidden) attributes, relationships and knowledge.

8.2.6 Measurement, attributes and relationships

A problem that often arises in classification is whether a measurement is to be performed before a classification exercise or after such an exercise. Statement 9 in Chapter 6 addressed this question. The outcome of this statement was overwhelmingly positive. However, the problem with performing classification before measurement is that the accountant or classifier may not know which attributes are important and which ones may be discarded. Attributes are needed to perform a correct classification of items into non-overlapping classes.

This problem was addressed in this thesis by way of the introduction of an initial measurement (refer to Corollary 3.2 in Section 3.9.1) to identify all attributes prior to classification. Once items have been defined using the correct set of attributes, relationships may be drawn among them. Classification is then performed and a second measurement is taken (i.e. the measurement the respondents of the questionnaire considered). Note, however, that the definition and taking of a second measurement is beyond the scope of this thesis.

Relationships among entities are identified from the normative subframework as follows: the setting of the attributes in any row of the normative subframework in Figure 7.4 defines a subclass (under the column heading Sub Entity) of a larger class (heading Entity of the last column), hence a relationship is established between each of these sub entities and the parent entity. This idea is in line with Step 5 of Algorithm 3.2 in Section 3.8. To this end Algorithm 7.1 in Chapter 7 was defined and used to draw up the normative subframeworks for the balance sheet and the income statement.

In this thesis classification starts with the analysis of a transaction. The attributes of the transaction are determined first and thereafter it is classified according to the normative subframework. In essence, therefore, a transaction is a *super class* that is divided into the classes assets, liabilities, equity, costs, expenses, income/revenue

and profit/loss. Each of these classes is subdivided into subclasses (refer to Table 7.4).

8.2.7 Knowledge creation

A property of a good classification system is that unstructured data is transformed into useful information that can subsequently be used by users of the financial statements. In this regard Copi and Cohen (1990:450) write: “The theoretical or scientific motive for classifying objects is the desire to increase our knowledge of them”. Ultimately, therefore, a classification process may be viewed as a mechanism to create knowledge, i.e. it leads to more knowledge of the attributes, similarities, differences and relationships of a transaction.

In this thesis knowledge creation is recognised through the definition of Corollary 2.1 in Section 2.7.2 of Chapter 2. Whenever data is transformed into information, new knowledge is created in the system. Corollary 3.1 in Chapter 3 was an instantiation of Corollary 2.1 for accounting information.

8.2.8 Supplying additional information

Analysts make up an important group of users of accounting information who may need additional technical information from the financial statements to evaluate the performance of a company and to make useful decisions. Analysts typically reclassify accounting information to suit their needs.

The problem of the diversity of users and taking all the requirements of all the users into account has been discussed in this thesis and also covered elsewhere in this chapter (refer to Section 8.2.4: Information overload). A further problem in this regard is that requirements may be conflicting in nature. The solution proposed in this thesis is the same as for the problem of requirements being too comprehensive, namely, the author acknowledges that all the information needs of the underlying company and users of financial statements cannot be taken into account. Nevertheless, there are some needs that are generic to many users (IASB 2004), and then there are those users with unique requirements that do not contradict any requirement from any other user. Satisfying all these requirements could be achieved by taking a distributed union of all requirements, and then removing those that are in conflict with

any other requirement. This process then enables the development of a generic classification framework with supplementary information which can assist users with further classification and reclassification. This approach was taken in Chapter 7 of this work.

8.2.9 Classification in the balance sheet and income statement

The structure of the balance sheet is the subject of much criticism by many researchers. Classification in the income statement has been subjected to similar treatment in the literature. Many of these criticisms were researched in Chapter 3 and 4 of this work. Two important criticisms against present classification mechanisms of these two financial statements are:

1. current classification structures are all static in nature and
2. time is not taken into account, mainly because of the problem mentioned in 1.

Both criticisms 1) and 2) above were addressed in the proposed classification framework in Chapter 7. Three subframeworks have been defined for the *balance sheet*. These substructures are:

1. a normative subframework (Table 7.4) using attributes and embedding a temporal (past, present and future) component as a first classification step;
2. a number of decision subframeworks, each giving a sequence of steps on how to further classify an item; and
3. a static subframework, showing where an item is finally classified.

The relationships among the subframeworks for the balance sheet are shown in Figure 7.7, Chapter 7 and Algorithm 7.2 defines their use for the classification of information in the balance sheet.

For the *income statement* a functional model (refer to Section 4.4) was selected, and an equivalent normative subframework based on past, present and future attributes of a transaction was defined (Table 7.6), as well as a static subframework for items in the income statement. Algorithm 7.3 shows the steps to be followed in the classification of information in the income statement. In addition a change was

Chapter 8 Conclusions and future work

proposed to the static layout of the income statement. In Section 3.3.5 of Chapter 3 it was noted by Huizingh (1967) that an important principle is the classification of operations in the income statement as continuing and discontinued. It was further stated that any proposed classification framework for accounting information should preserve this property. In this regard it is noted that the reorganisation of the entries in the physical layout of the income statement in Section 7.6.2 does indeed preserve this property.

The details of the changed static layout of the income statement appear in Section 7.6.2 of Chapter 7.

8.2.10 Corollaries

A further contribution of this thesis is the definition of three corollaries:

Corollary 2.1: The process of classification tends to transform a collection containing unstructured *data* into a collection of classes such that each class contains useful *information* rather than data.

Corollary 3.1: The process of classification for accounting information transforms a pool of unstructured accounting *data* into a collection of classes and subclasses such that each class contains useful accounting *information* rather than unstructured data. In essence, therefore, classification results in the creation of new accounting knowledge.

Corollary 3.2: Classification in accounting necessitates performing an initial measurement to arrive at attributes for describing an item to be classified uniquely.

Corollary 3.2 defines an important step prior to a classification exercise.

8.3 Justifications for decisions taken

A possible criticism of the comprehensive framework for accounting information proposed in this thesis is that it is made up of three subframeworks instead of just one framework. However, in this regard Schroeder *et al.* (2005:117) claim the following: "Since individuals are incapable of integrating a great deal of information,

they process information in a sequential fashion”. In a way this is precisely what the three subframeworks proposed in this thesis do – they take the classifier through a sequence of steps instead of a set of concurrent actions. Hence, a classification framework for accounting information that takes a classifier through such a sequence of steps may be the way to design a useful classification framework for accounting information. Note this is in line with point 3 in Section 2.7.1.2.1 in Chapter 2 as well as the point made just above Section 3.3.1 in Chapter 3.

8.4 Future work

In this section some directions in which future research in this area may be pursued are presented.

8.4.1 Distributed unions and conflicting requirements

The formula for establishing the combined requirements of users of financial statements, i.e. a distributed union minus conflicting requirements may be written as:

$$R = \text{Distributed union} - \text{Conflicting requirements} \quad (8.1)$$

where R is the final set of user requirements that ought to be catered for in the financial statements. Formula (8.1) may be considered by some to be rather restrictive. In some cases it may in fact be necessary to include conflicting requirements in financial statements. Hence, more research may be necessary to sensibly enlarge set R in order to satisfy more requirements of the users. One possible way is to rank (i.e. apply a measure to) the contradictory requirements and include some of the top-ranked requirements without offending users whose requirements scored among the lower ranks.

8.4.2 Identifying unique and conflicting requirements

Taking the union of any two sets of user requirements and later on determining all conflicting requirements are more involved processes than may appear at first glance. Given the information content of any two sets of user requirements, the accountant may find that two requirements may either already be present in both sets and agree in semantic content, or in one of the sets but not the other one, or may indeed be contradictory. Correctly identifying each of these cases may be a non-

trivial exercise, and it is anticipated that the work done by Hansson (1999) in belief revision may be a solution to this problem.

8.4.3 Refining the measurements

This thesis proposes the taking of an initial measurement to identify the attributes of items to be used in the subsequent classification. The exact way in which this measurement is to be taken is considered to be beyond the scope of this thesis, but it is certainly an area for further development. One could possibly define an algorithm (cf. Algorithm 3.1) to take the measurement. An advantage of refining the initial measurement could be more precise definitions of items and objects in accounting. In this regard the normative subframeworks (i.e. tables 7.4 and 7.6) may prove useful.

In addition, the problem of taking the second measurement after classification has to be researched.

8.4.4 Developing definitions

It is apparent from the research done that new definitions for classification categories, based on the relevant attributes of transactions, should be developed. A call for new definitions was also made by Wolk *et al.* (2004) when they stated that definitions of assets and liabilities have developed from narrow legal definitions to more involved economic concepts, which have resulted in definitions with a lack of boundaries or with indistinct boundaries. Currently, the FASB and IASB are focussing on the development of a new definition for assets as part of the Conceptual Framework Project (IASB 2007) and the development of other elements of the financial statements are to follow.

8.4.5 Frameworks for cash flow statements

This thesis proposed a comprehensive classification framework for accounting information for the balance sheet and the income statement. Future work should investigate to what extent a classification framework for the cash flow statement could be developed along similar lines.

8.4.6 Classification of items with characteristics of both equity and liabilities

The debate as to whether some items ought to be classified as equity or liabilities was briefly covered in Section 7.4, Chapter 7. In this thesis it was proposed that a new class to accommodate these items into a “no-mans land” be developed. Also, considering all the attributes of such items could facilitate the task of further research into this problem. These proposals may lead to a revision of the current accounting equation 3.1.