Towards a taxonomy of reusable CRM requirements for the Not for Profit sector

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by

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ABSTRACT

Traditional (or commercial) CRM is a well-defined domain but there is currently no generally accepted definition of what constitutes CRM in the not for profit (NfP) sector. Not for profit organisations are organisations which exist for a social purpose, are independent of the State, and which re-invest all of their financial surpluses in the services they offer or in the organisation itself. This research aims to answer the question *"What exactly is CRM as applied to the NfP sector, what are its boundaries and what functions should an NfP CRM information system perform?"*

Grounded Theory Method (GTM) within a Design Science framework was used to collect, analyse, categorise, generalise and structure data from a number of NfP organisations and NfP information systems suppliers. An NfP CRM model was constructed from this data in the form of three multi-level taxonomies. The main taxonomy relates to generic and reusable information system requirements both functional and non-functional. Within this taxonomy the high-level categorisations of commercial CRM, namely "Marketing, "Sales" and "Service", are greatly extended to reflect the special needs of the NfP sector and in particular a much broader definition of "customer". The two minor taxonomies relate to issues of CRM strategy and CRM systems architecture which need to be considered alongside the system requirements. In addition to and resulting from the taxonomies, an over-arching definition of NfP CRM was developed.

NfP organisations now have a framework that will enable them to know what to expect of CRM systems and from which they can select requirements to build their own specification of information system needs. Using the requirements taxonomy for this task will make the process of requirements analysis and specification easier, quicker, cheaper and more complete than using traditional methods. The framework will also allow NfP system suppliers to know what NfP organisations expect of their systems and will assist them with the specification of new system features. The minor taxonomies will provide NfP organisations with a series of strategic issues and systems architecture options that should be considered when implementing a CRM system.

This research also demonstrates how GTM can be utilised: as the development phase of Design Research, as a general method of domain analysis, and as a tool to develop a taxonomy of reusable information system requirements.

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CHAPTER 1: THESIS OVERVIEW

1.1 Introduction

In a competitive world where a customer can change their allegiance quickly and easily, anything that provides facilities to attract customers and keep them loyal to the brand will help to assure the success of the business. CRM (Customer Relationship Management) is a business strategy that incorporates such facilities. “CRM encompasses all the processes that increase the revenues, goodwill and profitability of the business via the acquisition, gratification and retention of customers by providing each customer with “customised” products and solutions that best fit their needs and criteria” (Pant and Wagner 2006, p346).

Relating this to the not for profit (NfP) sector, such as charities and membership bodies, Slack (2007) in her article on “high value donors” discusses how important it is for a charity to maximise the potential of supporters currently on their database because of the high cost of recruiting new supporters (customers). CRM is seen as a way to achieve this. She also quotes Tony Elischer, a well-known charity fundraising consultant, as saying that “they (*potential* high value donors) investigate and research which charities to support, and as such require more detailed involvement and feedback.” (Slack 2007, p23) This is related specifically to charities but it can be extended to other NfP organisations such as membership bodies who want to attract new members and then retain them as long as possible. Thus a CRM system is as essential to the success of an NfP organisation as it is to a profit-making business. Every not for profit organisation needs a CRM system and cannot operate effectively without it.

Ryals and Knox (2001) trace the origins of CRM back to 1983 and the philosophy of an organisation’s best future customers being their existing customers, so they should be looked after. However, the term CRM was almost unheard of within the NfP sector until 20 years later in 2003 when a commercial CRM system supplier, Ascent Technology, contracted to add fundraising functionality to their commercial CRM system for the charity Christian Aid. There was some limited use of the term CRM in relation to membership-based information systems before this, but the term was not widely known or accepted. In fact, confusion abounded for some time because there was already a well-established

practice, ‘cause related marketing’, which was known as CRM in this sector. Cause related marketing is the practice of a joint venture between a ‘for profit’ organisation and a ‘not for profit’ organisation, for mutual benefit.

Up until 2003 the NfP sector had been served almost exclusively by system suppliers specific to the sector providing what they variously called contact databases, fundraising databases, membership databases or grants databases to manage what could be considered to be the organisations’ customers. They were not and are still not in the vast majority of cases, known as customers, but in the case of charities and membership organisations, they were the people and organisations providing the money for the NfP organisation and in the case of grant-making organisations, they were the people and organisations to whom the NfP organisation provided money. Many of the systems contained some elements of CRM functionality but they were not known as such. These systems are known as packaged systems within the sector and NfP organisations usually refer to them simply as “the database”. More formally, they are commercial off the shelf software (COTS) systems. There are literally dozens of these systems available in the NfP marketplace and a recent survey of 150 NfP organisations by the researcher identified just 2 where the NfP organisation had developed a bespoke system. In every other case the organisation had selected one or more COTS systems from one of the many suppliers.

In the last 8 years a huge amount of interest in CRM has been generated in the NfP sector, several commercial CRM suppliers have attempted to break into the sector (these have been largely unsuccessful), most traditional NfP sector system suppliers have tried to rebrand themselves as CRM suppliers (also largely unsuccessfully) and overall there has been and continues to be, a large amount of confusion as to what CRM actually means to this particular sector of society. There is no agreement as to what constitutes a customer let alone any standard definitions or statements of functionality of an NfP CRM system. For example, one major NfP system supplier lists 16 business processes, one of which is a generic CRM process (Care 2008), a second major supplier lists 8 core features, one of which is a generic CRM feature (Blackbaud 2008) and a third major supplier lists 14 modules, with no mention of CRM at all (ESiT 2008). This is the first clue that NfP sector system suppliers do not truly understand CRM and they help to perpetuate the confusion in the minds of the NfP organisations they seek to serve.

In addition to the system suppliers, the other major participant with relevant input to the subject of CRM in the NfP sector is the NfP organisations themselves. These

organisations often have clear ideas about the importance of developing relationships with their 'customers' (variously known as constituents, supporters, donors, members and beneficiaries), but they have little or no idea about information systems and tend to follow the lead of the system suppliers. In terms of NfP organisations and why this research is important it should be noted that the NfP sector in the UK is significant; turning over more than £28 billion per year and employing over 600,000 people full-time and over 200,000 people part-time (Prospects, 2008). This represents a very large market and one that is worth studying.

1.2 Research Aim and Objectives

Aim and objectives

The major premise on which this research is based is that CRM in the NfP sector could, and indeed should, be a *well-defined* domain, but currently it is *ill-defined* because as yet it has not been extensively researched. There is no general agreement within the sector as to what constitutes CRM in the sector even though the term itself is now in widespread use.

This research aims to answer the following research question:

"What exactly is CRM as applied to the NfP sector, what are its boundaries and what functions should an NfP CRM information system perform?"

This is to be achieved by bringing together and working with, a number of leading figures from both the system supplier community and the community of NfP organisations, with the researcher acting as a facilitator in order to develop and evaluate a standard definition for what constitutes CRM in the NfP sector. (This definition will be the starting point for further work that has the ultimate aim of making NfP CRM a *well-defined domain.)* If a standard definition of NfP CRM is to be developed then it is necessary firstly to identify a set of functional requirements that are common to the domain.

Thus, the major aim of the research is to develop and evaluate a domain model of functional requirements for CRM in the NfP sector.

The proposed model will consist of functional requirements which will be generic and thus will be reusable such that they, or an appropriate subset of them, will be applicable to all NfP organisations wishing to implement CRM. The requirements will be collected at a detailed level and built into a hierarchy which will culminate in a single over-arching statement or definition which will summarise the objectives of CRM in the NfP sector.

Effective definition of functional requirements is one of the key success factors for systems implementation as shown by the CRM implementation case studies described by Kim and Pan (2006), and, as pointed out by van Lamsweerde (2000) when he quotes surveys of 8000 information systems projects in the United States, almost half of all system failures and partial failures were caused by problems with requirements. In detail these were: "the lack of user involvement (13%), requirements incompleteness (12%), changing requirements (11%), unrealistic expectations (6%), and unclear objectives (5%)." He also quotes surveys of 3800 projects in Europe that concluded "that most of the perceived software problems are in the area of requirements specification (>50%) and requirements management (50%)" (van Lamsweerde 2000 p5).

If a generic set of functional requirements can be identified for NfP CRM then this should greatly assist users and information systems people alike to improve the chances of complete project success when the organisations come to consider the implementation of a new or replacement system in this particular domain.

Following on from the overall aim, the research will attempt to answer the following subsidiary questions:

Will the provision of a generic set of functional requirements:

- ***Assist NfP organisations to know what to expect from sector relevant information systems?***
- ***Assist system suppliers to know what NfP organisations expect from their systems?***

Will a generic set of functional requirements from which to choose in order to produce an NfP CRM requirements specification:

- ***Be reusable and provide a consistency of approach for the process?***
- ***Make the process easier, quicker and cheaper?***

Detailed objectives

The detailed objectives of the research will be:

1. A literature review of domain analysis, requirements reuse and domain modelling to provide a background on analysing and documenting a specific systems domain.
2. Research traditional (commercial) CRM literature to determine if there is a consistent/standard definition, down to some reasonable level of detail, upon which to base an NfP sector definition.
3. Collect a set of data from a number of the major 'CRM' system suppliers to the NfP market, in terms of the current structure of their products and the functions they perform and their future development plans.
4. Collect a set of data from a number of leading NfP organisations to determine what they consider CRM is and what functions they require in their 'customer-facing' systems (firstly agree what constitutes a customer).
5. Analyse, categorise and manipulate the data in order to arrive at a suggested initial standard framework or taxonomy consisting of format, structure, importance and detail.
6. Feed back the results to the original participating suppliers and NfP organisations to determine their reactions and agree any changes.
7. Test the resulting taxonomy in a live environment with an organisation which is actively looking for a new CRM system.
8. Produce a plan of work for ways in which the taxonomy could be further improved or developed.

1.3 Research Approach

Design Research

The overall approach of this research is Grounded Theory Method (GTM) within a Design Research framework. The main focus of the research is the development of an artefact, in this case a taxonomy of functional requirements for NfP CRM. Therefore the first research method consideration is design research. Hevner et al. (2004, p77) define design research by saying that it "creates and evaluates IT artefacts intended to solve organisational problems". They also say that solutions must not have been produced

before or if the problem has been solved before, then the new solution must be better in some manner than the previous solutions. In this research the artefact will be original as it has not previously been produced and it will provide benefits to NfP organisations and also to their information system suppliers.

Design research consists of the stages of awareness of problem, suggestion, development, evaluation and conclusion (Vaishnavi and Kuechler, 2004). Stage 1 (Awareness of problem) is the contention that CRM in the NfP sector is currently ill-defined but it could, and should, be well-defined. Stage 2 (Suggestion) is the proposal to develop an artefact in the form of a taxonomy of generic functional requirements for the domain of NfP CRM and also to develop an over-arching definition for the domain. Stage 3 (Development) is the production of the artefact utilising Grounded Theory Method (see below). This is the bulk of the research. Stage 4 (Evaluation) is the process of testing the artefact and having it evaluated by participants involved in the research. Stage 5 (Conclusion) is the drawing of final conclusions regarding the taxonomy and its value to the NfP sector.

Grounded Theory Method

Grounded Theory Method is the process of generating a theory from collected data (Glaser & Strauss, 1968). The process starts with the collection of data which is then codified by defining and allocating categories to each item of data. More data is collected and coded at the same time as a process of "constant comparison" is undertaken to verify and if necessary, modify the codes or categories. These categories are grouped and generalised until a single overarching theory is arrived at. This is very much a 'bottom up' approach of collecting base data, categorising it and generalising the categories until a single overall theory is developed. This is in juxtaposition with the usual work of information systems professionals who tend to operate in a 'top down' manner starting with a conceptual idea of what is required and gradually adding successive layers of greater detail.

Grounded Theory Method was developed for and is usually used for subjective/qualitative research in the social sciences and it is relevant to pose the question as to its applicability to information systems research. Bryant (2002) points out, GTM can be used for systems research as it is methodological and interpretive in that the process of categorisation and generalisation is subjective and subject to the researcher's understanding and experience of the subject area, therefore it is also qualitative. The general subject area of this

research is requirements definition in a selected domain. GTM has been used before in many information system projects related to this area. Some examples of such research are: Crabtree et al (2009) who used grounded theory to analyse and describe the ways in which system users describe the processes they carry out (this is directly related to the current research as many of the participants will be users or potential users of NfP CRM systems), and Daneva and Herrmann (2008) who used grounded theory to develop a model to help allocate priorities to system requirements. This research will be both subjective and qualitative as it will identify the opinions of many different participants as to what they consider to be relevant requirements in the chosen domain.

In this research, data will be collected from a number of NfP organisations and from a number of NfP information system suppliers. Both groups will be asked to define what they think CRM in the NfP sector actually is. NfP organisations will be asked to define what they see as their requirements of a CRM system and on the system supplier side; their systems and documentation will be examined to determine the functionality provided. All of the collected data will be coded. These codes (or categories) will all be at the same level, so that at this stage any existing hierarchy such as system menus will be ignored. The codes (or categories) will then be examined, analysed and grouped into higher level codes or categories and a multi-level hierarchy developed as per grounded theory. This hierarchy will be the main output and value of the research but it is also hoped that the process will lead to an overall definition as to what constitutes CRM in the NfP sector.

1.4 Thesis Outline

CRM is (and NfP CRM should be) a well-defined domain where system requirements can be re-used by multiple organisations and for which many COTS (Commercial Off The Shelf) systems are available. Consequently, Chapter 2 starts at the beginning of the process and is a literature review covering the areas of:

- Domain Analysis and Requirements Reuse (introducing the subject of re-using previously specified system requirements);
- Domain modelling (formalising a software domain in a structured manner);
- Well-defined domains and COTS systems (‘standard’ domains for which many packaged systems are available).

The chapter continues by introducing the well-defined domain of traditional (commercial) CRM, examining the various definitions of it and identifying a high-level functional breakdown for it, then investigating a number of leading commercial sector systems and breaking this high-level down to a more detailed level.

The chapter moves on to examining CRM as applied to the NfP sector by first defining what is meant by the not for profit sector, who is the customer in this sector and then discussing CRM strategy within the sector. It then looks at the available documentation of what currently pass for CRM systems specific for the not for profit sector, how they are structured and attempts a comparison with the commercial systems breakdown from the previous section in order to identify similarities and differences. The chapter concludes with a restatement of the research objectives.

Chapter 3 describes the methodology to be used for the bulk of the research, namely Grounded Theory Method within an overall framework of Design Research. It describes the actual process undertaken to collect and analyse data relating to CRM in the NfP sector; data that was gathered from both NfP organisations and NfP information system suppliers. The chapter concludes with consideration of how the resulting taxonomy is to be tested and evaluated.

Chapter 4 is the main results chapter as it describes the results of the analysis of the data which relates to the functionality required of a complete NfP CRM system. The collected data was imported into, analysed with and manipulated by a CAQDAS (Computer Assisted Qualitative Data Analysis Software) system called NVivo8. The results are presented as a four level hierarchical taxonomy for NfP CRM system requirements or functionality and every line in each level of the hierarchy is described in detail.

Chapter 5 discusses issues outside of functional requirements that were identified during the data collection and analysis phases of the research. This data was similarly entered into and analysed with, NVivo8. The first section of the chapter deals with strategic issues and objectives that are important to NfP organisations when considering the subject of CRM in general and systems to support these organisational objectives. The second section of the chapter discusses the information systems architecture required to deliver the full range of functionality, described in the previous chapter, which is needed in order to support an NfP

organisation's CRM strategy. It describes alternative systems implementation strategies and concludes with the description of a 'typical' NfP organisation's CRM systems architecture.

At the end of the chapter the various threads from this chapter and the previous chapter were drawn together along with a number of definitions detailed in Chapter 2 and an overall single-sentence definition of NfP CRM is proposed.

Chapter 6 commences by describing the process of testing the resulting functional requirements taxonomy by using it as the basis for the specification of requirements for an NfP organisation actively searching for a new CRM system. The chapter then describes the evaluation of the taxonomy firstly by the organisation on which it was tested, and secondly by a group of the participants who supplied the data. In each case the evaluation feedback was incorporated into a revised taxonomy.

Chapter 7 is the concluding discussion incorporating an outline of the thesis, the contributions of this research and proposals for further research to extend the taxonomy and its application.

CHAPTER 2: BACKGROUND

2.1 Introduction

The major aim of this research is to create a definition of and a classification scheme for what constitutes CRM in the NfP sector. As CRM is (and NfP CRM should be) a well-defined domain where system requirements can be re-used by multiple organisations, this chapter starts at the beginning of the process with a literature review covering the areas of:

- Domain Analysis (and Requirements Reuse); which introduces the subject of re-using previously specified system requirements)
- Domain modelling; the formalising of a software domain in a structured manner
- Well-defined Domains and COTS Systems; introducing 'standard' domains for which many packaged systems are available.

The next part of the chapter looks at what the well-defined domain of CRM is in general terms before moving on to attempt a logical structuring of the major functional areas of a CRM system. A first level functional breakdown is arrived at from academic literature sources and a second level functional breakdown is arrived at from examination of the literature relating to a number of leading commercial CRM systems.

The chapter then describes what is meant by the not for profit sector, attempts to identify who the *customer* is in this sector and then begins to discover the elements of CRM strategy in the sector. It then moves on to compare the functionality of so-called NfP CRM systems (again from the suppliers' literature) with that of commercial CRM systems, at the second level of functional breakdown that was identified in the previous section. The chapter concludes with a restatement of the research aims and objectives.

2.2 Domain Analysis

2.2.1 Definitions

Domain analysis

Domain analysis is “the activity of identifying the objects and operations of a class of similar systems in a particular problem domain” (Neighbours 1981 cited by Prieto-Diaz 1990, p48). Prieto-Diaz extends this definition and makes it more readable when he defines it as “a process by which information used in developing software systems is identified, captured, and organised with the purpose of making it reusable when creating new systems” (Prieto-Diaz 1990, p47). This definition has been widely used even as recently as 2008 (Sturm et al. 2008). Comer (1990, p224) defines domain analysis as “the systems engineering of a family of systems in an application domain through development and application of reusable assets”. Comer states that reusability is central to domain analysis and sets out its major stages as:

- Modelling the domain (which he says should incorporate features to adapt to future needs);
- Architecting the domain (concentrating on designing reusable components);
- Developing software component assets (which go to form a library of components for the domain).

This definition of domain analysis is too broad. In fact what Comer is describing is the complete process of domain engineering as Sturm et al. (2008, p1115) say “Domain engineering activities include domain analysis, domain design and domain implementation.” so only the first of Comer’s stages comes under the heading of domain analysis. The stages of domain analysis according to Sturm et al. (2008) are: identification of system boundaries, identification of similarities and differences between applications in the domain, identification of relationships between requirements in the domain, and finally modelling the domain.

Code reuse versus requirements reuse

The consideration of the other aspects of domain engineering show that domain analysis was originally focussed on code reuse, but by 1997 it was becoming increasingly focussed on requirements reuse (Lam et al. 1997) and that is the context for this research. In fact, Jim Neighbours who is credited with the origination of the term ‘domain analysis’

foresaw this at the beginning “the key to reusable software is best captured in domain analysis in that it stresses the reusability of analysis and design, not code” (Neighbours 1984 cited by Ramachandran 2005, p2).

This is re-iterated by John et al. (2002, p239) when they state that “the goal of any domain analysis approach is to identify and document requirements on a set of systems in the same application domain”.

Sub-domains

John et al (2002) go on to discuss sub-domains, although their link between “a set of systems in the same application domain” and “sub-domains” is unclear, they would appear to mean the same thing. They propose four conditions or “constraints” as they call them, for an application area to be a sub-domain:

1. “The sub-domain has the “right” size, that is, it is neither too large nor too small”;
2. “The sub-domain represents an abstraction of the real world….providing natural domain boundaries, which makes the scope of the domain analysis “visible” to domain experts”;
3. “The sub-domain has a minimal set of dependencies on other sub-domains”;
4. “The sub-domain’s content is subject to already planned maintenance and evolution activities” (John et al. 2002, p240).

The first constraint is vague and somewhat unhelpful as no definition of the “right size” is given and it would seem to be a matter of personal opinion. However, it does make the point that sub-domains must not be so large that unrelated subjects are covered and they must not be so small that a real world problem is not addressed. The second and third constraints are useful guidelines in separating out sub-domains from the main domain and from each other because they address “natural domain boundaries” which all stakeholders should be able to recognise and they group related requirements together. A simple example of this would be the domain of Financial Management with its sub-domains of Purchase Ledger, Sales Ledger and Nominal Ledger. The fourth constraint appears to be saying that domain analysis is a continuous process, which is indicative of the fact that requirements can and will change over time.

Domain boundaries

Morandin et al. (1998) describe an object-oriented domain analysis method which adds a phase to the process of domain analysis before that of modelling. This phase they call “domain exploration” and it consists of two parts, the first of which is “domain scoping” which defines the boundaries of the domain under consideration, and the second of which is “domain justification” which describes the business justification for analysing the domain. Cohen and Northrop (1998) also include “domain identification and scoping” as the first step in “domain engineering”. They present this in a simple diagrammatic form. The identification of system boundaries or domain scoping as the first step in domain analysis is a recurring theme in literature (Sturm et al. 2008).

In addition, Morandin et al. (1998) separate “domain specification” from “domain modelling”. According to them, “domain specification” consists of identifying the different contexts in which the software being considered could be used, defining “use cases” that identify system requirements that users of the proposed system can understand, and defining non-functional requirements. Conversely, they say that “domain modelling” “provides a formal object-oriented as well as dynamic representation of the domain features”. (Morandin et al. 1998, p892) This raises an important issue of separating the documentation for users of systems from the documentation for designers/developers of systems. This is important as the two groups use different language and users always find it difficult to read and understand ‘systems’ documentation.

This might seem a slightly proscriptive definition of modelling because it presupposes that modelling is only relevant for design and development rather than user requirements definition but it is in line with Hsia et al. (1993) who say that requirements specifications are usually written in natural language. As natural language can always be open to differing interpretations, it would be useful to determine if any sort of model can be developed that can have only one interpretation and can readily be understood by system users and other stakeholders alike.

2.2.2 Defining the Domain

In terms of how to conduct domain analysis, there are three main approaches based on goals, scenarios and features.

Goal-oriented domain analysis

Goal-oriented domain analysis starts with the identification of high-level goals (or objectives) of all stakeholders, each of whom will often have different things they want to achieve with the system under consideration. The goals can be "hard" or "soft" and soft goals equate to non-functional requirements (see section 2.2.4 below). All goals once gathered, are then, compared, contrasted, rationalised and decomposed to greater levels of detail until a final "goal model" is developed (Jiang et al. 2007). A key element of goal-oriented domain analysis is the ability during the decomposition process to propose alternative design and implementation solutions. This would appear to be an ideal way to start a top-down analysis of a domain; however, at some point either during or after the decomposition process, a specification or model of system requirements will need to be produced and these requirements should ideally be collected directly from the stakeholders themselves rather than inferred from stakeholder goals.

Scenario-based domain analysis

Scenarios are sequences of interactions between the users and the system (van Lamsweerde 2000). They represent real-life examples of what is required of an information system and they tend to be used where models are inappropriate i.e. where stakeholders cannot understand and verify the models. The problem with them is that they are always incomplete as they are examples of interactions rather than a specification of all possible interactions.

Feature-oriented domain analysis

Feature-oriented domain analysis (FODA) first proposed by Kang (1998) back in 1990, seems to have stood the test of time. A feature is "a prominent or distinctive user-visible aspect, quality or characteristic of a software system or systems" (Kang 1990 cited by Classen et al. 2008, p16). This definition firmly relates features to users and their view of information systems. Kang (1998, p354) later says that "features are distinctly identifiable functional abstractions that must be packaged, implemented, tested, delivered and maintained". This definition relates features directly with system requirements. Classen et al. (2008) also list a number of other definitions of a feature as proposed by other authors over the years and propose a new definition that defines a feature as a combination of requirements, assumptions and specifications: "A feature is a triplet, f = (R, W, S), where R represents the requirements the feature satisfies, W the assumptions the feature takes about its environment and S its specification" (Classen et al 2008, p21). Apparently within a feature, requirements, R, describe the purpose of the feature, assumptions, W, describe

the behaviour of the system environment, and specifications, S, describe the behaviour of the system to achieve R. This would appear to be a level of abstraction too far for average system users who are trying to describe what they want the system to do, and takes the definition of features far from Kang's original definitions which relate to users and their visible specific requirements.

The basis of FODA is the development of feature diagrams which are top-down hierarchical trees of concepts (or features) that can be mandatory, optional or alternate (Schobbens et al. 2006). The alternate designation is that of an 'exclusive or'. Schobbens et al. (2006) propose a formal semantics of complex logic statements for requirements specification. The technique has a number of short-comings, such as the inability to handle the 'non-exclusive or' and the situation where two nodes of the tree decompose to the same sub-node where one relationship is mandatory and the other is optional. These short-comings are described and solved by Laguna and Marques (2009) with their "extensible meta-model". However, this level of modelling like the abstractions of Classen et al. (2008) are far too complex for most system users to comprehend and raises serious questions about how to describe or model the requirements of a domain, which will be discussed later.

The originator of FODA, Kang (1998, p355) says that "one of the most important outputs of a domain analysis is a domain model that captures the commonalities and differences of applications in the domain". This would appear to be referring to the analysis of different applications, or sub-domains, within a specified domain. However, it needs careful consideration and control, because if there are too many differences then it could be argued that the definition of what constitutes the domain under consideration is at best too wide and at worst incorrect. Consequently, it is necessary to carefully define the boundaries of the domain, and any sub-domains, to be analysed at the start of the process and to know exactly why something was included or excluded as the case may be.

Goals, Scenarios or Features?

With regard to goals, scenarios and features as the basis for domain analysis, many authors argue for one method or the other. The obvious question arises as to what are the differences between goals, scenarios and features? In effect they are all aspects of the same fundamental process of requirements engineering. They are simply different ways of looking at and defining information system requirements. Each has its place and none

should be considered in isolation. In fact, Kim et al. (2003) combine the three when considering the subject of domain analysis. They argue that by considering goals and scenarios together, one can inform and enhance the other, leading to a more complete definition of the domain. They put the link between goals and scenarios in an easily understandable way when they say that “scenarios capture real requirements since they describe real situations or concrete behaviour and the goals can be achieved through the execution of the scenarios.” (Kim et al. 2003 p128) If features are then added to the equation, features describe how the scenarios (or behaviours) are accomplished. So goals are business objectives, scenarios are examples of how to achieve the objectives and features are actions that will accomplish the scenario. All three must exist in a complete specification of requirements. The next subject is how to model the requirements.

2.2.3 Modelling the Domain

Lam et al. (1997) specify ten steps for successful requirements reuse within a given domain. These can be summarised as follows:

- Do not over-generalise simply to attain reusability;
- Use modelling and top-down decomposition techniques (structured breakdown);
- Look for patterns and define parameterised templates to take account of differences between systems.

Mylopoulos et al. (1999) chart the modelling of requirements from Data Flow Diagrams and Entity-Relationship Diagrams of the early seventies, through Structured Analysis and Design Technique (SADT) which linked activities and data, to Object-Oriented Analysis in the late nineties which describes classes, objects and behaviours. Then Prieto-Diaz (2003) links domain analysis with ontologies. He describes an ontology as “an explicit conceptualisation of a domain of discourse, and thus provides a shared and common understanding of the domain”. (Reimer 2001, cited by Prieto-Diaz 2003, p458) He describes how for the domain under investigation, a vocabulary is developed and a classification system or taxonomy is identified. Note here that, as will be shown later, the NfP sector has its own specific vocabulary. Prieto-Diaz sets out the three steps for building an ontology for a domain as: ontology capture – key concepts and relationships, ontology coding – classification, and ontology integration – associating key concepts with

those of other domains. Specifically related to modelling the requirements for COTS software, Soffer et al. (2001) describe an ontological framework consisting four elements: business processes, business rules, information objects and system services; where a process is a sequence of events, a rule is how the state of an object changes, an object is something that can be classified, and a service is the actual change of state of an object.

As mentioned by Lam et al. (1997), structured breakdown is an important element of requirements reuse. Bittner et al. (2005) describe an example of this in their use of "feature trees". They state that requirements at higher levels can be reused whereas those at the lowest level can be specific and not reused and that requirements at any level "inherit" the attributes of higher levels. Another type of structured breakdown is described by Heumesser and Houdek (2003) when they separate system requirements into three categories: "domain requirements", "functionality requirements" and "model-specific requirements". Domain requirements are those that are integral to the domain and will never change. Functionality requirements are those that are fundamental to the domain and unlikely to change from one model/application to the next. Model-specific requirements are those that are specific to a particular model/application and are most likely to change.

While most authors recommend a top-down approach to the definition of requirements, Prieto-Diaz (2003) describes a "combined top-down and bottom-up method". This consists of domain experts working top-down to define a high level taxonomy, plus a bottom-up process of examining domain documents and extracting detailed information which is then categorised and summarised. The bottom-up process equates to Grounded Theory Method which is to be used in this research.

Thus modelling is a complex task which can be accomplished in different ways and with different interpretations. It is important to determine the audience, the objectives and the approach before modelling commences.

2.2.4 Non-functional Requirements

An aspect of requirements definition that is always present is the subject of non-functional requirements. These are "global qualities of a software system, such as flexibility, maintainability, usability, and so forth." (Mylopoulos et al. 1999 p31) They go on to discuss

how these "-ilities" are loosely defined, can conflict with each other, are difficult to define, difficult to design, difficult to implement, and often contribute to system failure. A classic example is a system attribute proposed by most end users that "the system must be easy to use". It is not the intention of this research to address such non-functional requirements as the primary objective of the work is to devise a taxonomy of functional requirements in the chosen domain.

2.2.5 Gathering Requirements

If an application domain is to be defined and then modelled, the requirements of the domain must first be collected. Defining the requirements of any information system consists of the following four major groups of activities (Hice et al. 1979; Lester, 1992; Hawryszkiewycz, 2001; Bowman, 2004).

Fact Finding

This consists of:

- face to face interviews with users of the system under consideration and other stakeholders;
- focus group discussions with stakeholders;
- questionnaires to stakeholders;
- collecting and reading available documentation relating to the system; forms, inputs, outputs, procedures, training aids, files, etc;
- observing the current system in operation.

Fact Recording

This consists of developing:

- narratives (describing the system processes in terms that all stakeholders will recognise);
- structured notes (logical structuring of information gathered);
- process flow charts (describing the sequence in which things happen);
- data flow diagrams (describing all data in the system and its usage);
- decision charts (decision points in processes and the rules associated with them).

Analysis of Recorded Facts

This consists of identifying how processes could be improved by making them more efficient and effective, including the identification of:

- weaknesses (processes that could be improved);
- duplications (processes carried out more than once or data recorded more than once);
- omissions (processes that should be carried out but are not or data that could/should be recorded but is not);
- redundant items (processes that serve no purpose or data that is not used).

Development of Formal Statement of Requirements

This is the process of taking the results of the first three activity groups and creating a structured, coherent, logical and complete set of requirements for the system. The process is iterative and involves all the stakeholders to varying degrees and is complete when consensus is reached.

The methodologies employed may vary greatly, for example, SSADM as described by Bowman (2004) or Object-Oriented Analysis as described by Coad and Yourdan (1991) and (Booch et al., 2007), but as shown by the references above from Hice et al. in 1979 (first edition in 1974) to Bowman in 2004; the basic process for collecting and defining system requirements has remained virtually the same for more than 30 years.

2.2.6 Completeness of Requirements

Another aspect of domain analysis is how to ensure that the set of requirements defined for a particular domain is complete. This is a perennial problem with the development of information systems. One of the key reasons for this is as Paul (1993) puts it, that users do not always know what they want at the outset. He describes a concept of “incremental development” where the development starts off in the right direction and slowly moves towards a final state. Users obviously know some of the things they want or need but the requirements that they specify are never liklely to be complete for two major reasons, one being that each user has only their individual view of system requirements and no-one has the complete picture, and the second being that they often do not know what is possible with modern information systems.

Another problem with the production of a complete set of user requirements is related to the numbers of users or stakeholders whose needs must be met. As Tran and Sherif (1995, p191) put it “requirements are particularly difficult to specify and analyze since they are derived from the needs of many different customers or people”. They propose solving this problem by involving all the users in the complete anlaysis and development process. Mannion et al. (1998) describe a process for producing a complete requirements specification for a domain by comparing and amalgamating specifications from different projects within the domain. This is based on obtaining multiple requirements specifications by documenting the needs of different stakeholders. This should result in a complete generic set of requirements for a given domain. Lee and Zhao (2006) used a complex ontology approach to defining requirements based on a structured breakdown of a domain into sub-domains and finally into individual requirements. Their ontology consists of “concepts, relations, hyperspace and theorems”, most of which would be incomprehensible to the system users participating in this research. However, they too stress the need to obtain the views of as many stakeholdres as possible and they use “reasoning logic” to deal with incompleteness of requirements, although their arguments are somewhat less than persuasive. The key appears to be to obtain the views of as many stakeholders as possible and have a method of dealing with any inconsistencies that arise and eventually arrive at a consensus as to what constitutes the final requirements.

Another aspect to completeness is discussed by Linic (2007) when she discusses techniques to make requirements specifications understandable to users as well as to systems professionals. Linic proposes the use of “Use Cases” but complicates the issue by proposing essential use case models and system use case models, formal and informal use cases, and 5 different use case formats including: brief descriptions, lists, tables, actions and responses and structured text. She claims that the format “can be chosen according to the needs of the project” and that use cases “encourage traceability” through all stages of the development lifecycle, but she supplies no evidence to support the assertions. It is likely that the multiple formats, many of which are not in ‘natural language’, will only serve to confuse users, in which case they will never be certain that the requirements are complete.

Completenesss of requirements is a subject broached by Nicolas and Toval (2009) in their authoratative work “On the generation of requirements specifications from software engineering models: A systematic literature review”. This paper examined other papers

that discussed how formal or natural language requirements could be derived from various types of system models: UML (and other visual models), goal-oriented models, scenarios and use cases. They point out that many stakeholders do not understand the language and syntax of system models which is why the generation of natural language requirements from the models is important. They claim that "The generation of part of the requirements in an automatic or closely monitored manner contributes to the completeness of the requirements specification, since it is easier for the stakeholders to accept or refine requirements than to recall them". (Nicolas and Toval 2009 p1292) However, as they also point out, this cannot account for requirements that have been omitted from the specification. Therefore the requirements cannot necessarily be said to be 100 percent complete. Nicolas and Toval (2009, p1292) also say that "The reverse problem (from textual requirements to models) is not within the scope of this paper. It is a problem that practictioners have traditionally addressed in an informal, ad hoc manner, and more research is needed to achieve software engineering models generation which starts from informal requirements." This is tantamount to saying that currently it is somewhere between difficult and impossible to achieve. It probably indicates the difficulty of the task because natural language is complex and is often open to different interpretations. Consequently, system requirements will initially always be expressed in natural language and a method must be found to structure them such that stakeholders can verify them and be sure that they are as complete as possible.

2.2.7 Level of Requirements

Back in 1993 Lubers et al, observed that many requirements definitions were too high-level to be effective and high-level requirements seem to be a trend with many people when considering COTS software. For example, Ncube and Maiden (1999) talk about "first-cut requirements", Lawlis et al (2001) talk about "composite requirements" and Surratt (2002) talks about the "principal functions to be performed". In another paper Maiden and Ncube (1998) discuss a major project, which was to select COTS software. They used a traditional approach to requirements gathering (document analysis, stakeholder meetings, interviews, modelling) and yet they still only came up with 133 "atomic requirements". They also documented 11 major lessons that they learned during the process. It would appear that although they were looking for COTS software, they were not domain experts in the area that they were investigating. It seems unlikely that a requirements list of 133 items can yield a meaningful analysis for any significant software

system especially when considered against the 2000 items currently used by the author in his domain of CRM/Fundraising for not for profit organisations.

(Commenting on the example of 133 requirements, an NfP CRM system supplier said:

> *"This is frequently witnessed in practise when non-domain specific consultants produce incomplete requirements documents which capture surface requirements but are ignorant of the specialist requirements which are in fact the fundamental needs of the organisation and the trickiest to fulfil. Interestingly, this often results in a generic CRM being selected – which does not meet specialist requirements of the organisation. Whereas the initial requirements gathering should capture the thoughts of the organisation and their approach to CRM, once committed to paper, the requirements document starts instead to influence the thoughts of the organisation, surprising recognition of the real and more complex requirements of the organisation until it is too late!")*

Kontio (1996), who predates the researchers in the examples above, draws attention to problems associated with "fuzzy requirements" and recommends a "systematic, repeatable and requirements-driven COTS selection process" (Kontio 1996, p203). The major problem he sees with high-level requirements is the fact that people tend to evaluate what exists in the software under review rather than what is actually needed. This is true as what has not been defined cannot be evaluated nor can it be established what is missing. The risk is that an unsuitable system is selected. Unfortunately, the knowledge that the system is unsuitable comes with usage of the implemented system. By the time this happens, a significant amount of time and money will have been wasted upon it as the system will have been purchased, users will have been trained and business processes may even have been modified. Detailed requirements are essential for completeness to ensure that the greatest possible number of contingencies have been catered for.

Soffer et al (2001) provide an interesting insight to both the subjects of completeness of requirements and level of requirements when they describe a method for modelling requirements for the selection of COTS software. They say "During the evaluation and selection, the enterprise verifies that the software package is able to satisfy a limited set of major requirements" and the reason seems to be partly because the facilities of the package are likely to represent "best business practice" and partly because they expect

organisations to tailor the package to their exact needs. This is in contrast to the attitude of most NfP organisations where the desire is definitely to do as little tailoring as possible.

2.2.8 Domain Experts

Another aspect of generating a complete, and accurate, set of requirements for a domain is the use of a 'domain expert'. Although the term 'domain expert' is a more recent one following on from the inception of domain analysis, 'experts' have always had a role to play in the specification of requirements as set out in the personnel roles of Structured Analysis and Design Technique (SADT) described by Ross and Schoman (1977). Lubars (1991) says that the domain must be well understood by the domain analyst and uses the term 'domain expert' in the paper of two years later, which reviews the state-of-the-art in requirements modelling (Lubars et al 1993). Obtaining the input of domain experts, as well as stakeholders, is a subject mentioned by many authors (Lam et al., 1997), (Mannion et al., 1998), (Kaiya & Saeki, 2006).

Another type of expert was mentioned by one of the participants in this research, and that is "objective business process analysts". These business analysts are not necessarily experts in the particular domain but they are experts at making any business process efficient and can often propose requirements that are more effective than some individual users' feature requests. They are a form of expert and can be considered alongside domain experts.

Domain experts often have a better and more complete understanding of the domain than the majority of users each of whom will only understand their particular part of the domain. In addition, the expert, by dint of their breadth of experience will have a better idea of "the art of the possible" than users who may not have been exposed to information systems of the type under consideration (Lubars et al. 1993). In fact some authors go as far as to rely solely on domain experts for the specification of requirements for an information system e.g. Sulaiman et al (2010) with their assistive technology systems for blind people.

2.3 Domain Modelling

2.3.1 History

If an application domain is to be modelled, the question arises as to which is the most appropriate method to employ. Requirements specifications are written in natural language (Hsia et al., 1993) and back in the 1990s, if systematisation of requirements was required, then it was usually done using: bespoke applications based on standard relational database systems, or sophisticated CASE tools or specialised languages developed for the purpose.

Relational database systems

Examples of application systems built on relational databases (such as Microsoft Access, as this was very much the development system choice of the 1990s and early 2000s for standalone systems and systems for a very small number of users) include: MRAM (Method for Requirements Authoring and Management) which is primarily about linking requirements together described by Mannion et al. (1999), CREWS-SAVRE (Scenarios for Acquisition and Validation of Requirements) which can include multiple “scenarios” for each use case described by Sutcliffe et al. (1998) and COMPASS (COMponent ASSistant) of which the basis is grouping requirements into “components” described by Lam (1997).

CASE tools

An example of this approach is DARE (Domain Analysis and Reuse Environment) as developed by Frakes et al (1998). This is a somewhat unusual approach as it describes obtaining domain information from documentation, code and domain experts with no mention of users or other stakeholders. Another example is the case tool designed to support the Tropos methodology which assists a systems analyst in “organisational modelling”, “decisional modelling” and “conceptual design” as described by Giogini et al. (2005).

Specialised languages

Examples of this approach are ARIFS (Approximate Retrieval of Incomplete and Formal Specifications) described by Diaz Redondo et al. (2002), RETH (Requirements Engineering Through Hypertext) described by Kaindl (1993), SIREN (SImple REuse of

requiremeNts) described by Toval et al. (2002) and TUG (Tree Unified with Grammar) described by Chiang (2003)

2.3.2 UML

With the advent of UML (Unified Modelling Language) in 1997 and its gradual adoption by many information systems practitioners as the language of choice for the design of software systems, examples abound of this language being used to define system requirements. UML is a related set of model types for a complete system design not just a requirements specification. Some of the UML diagram types are suitable for graphically representing aspects of user requirements, e.g. Class diagrams, Composite Structure diagrams, Use Case diagrams and Activity diagrams. However, none of these appear to be sufficient for the purpose as many authors add their own diagram types to this set.

Cohen and Northrop (1998) attempted to marry domain anlysis and object-oriented technology. They advocate the use of “use cases”, and “object models” but once again they have found it necessary to add a number of additional diagram types to cater for things like multiple related systems and variation between systems. They also highlight the difference between functions or features as understood by users/stakeholders and objects as understood by domain modellers.

Sewchurran and Petkov (2007) describe a complex business analysis process that combines SSM (Soft Systems Methodology) with UML (plus their own diagram types). They describe conceptual models, conceptual data flow diagrams, goal models, class diagrams (the only UML diagram type in the list) plus the Eriksson and Penker (2000) extensions to UML of business views, namely, Business Vision View, Business Process View, Business Structural View and Business Behavioral View. Although not all these diagrams/models are necessarily needed to specify system requirements, it is still rather complex and confusing. Users and other stakeholders in any specified domain are unlikely to spend the time attempting to understand and validate all of these diagrams.

Many writers consider UML with its 14 different types of diagram to be overly complex and confusing (Dori, 2002), (Kobryn, 2002). The addition of the other diagram types to fully specify user requirements further adds to the complexity and confusion.

2.3.3 Beyond UML

In an attempt to overcome shortcomings of UML (and its various extensions) to define user requirements, Baudry et al. (2007) describe model-driven engineering which uses metamodelling and a specialised modelling language called Kermeta to define requirements. This too is extremely complex and would be incomprehensible to the majority of stakeholders of any application domain.

Berenbach (2004) discusses the advantages and disadvantages of "text based requirements elicitation" versus "model-driven requirements engineering" where the models used in this case are UML use case models, activity diagrams and sequence diagrams. He concludes that neither are ideal and then describes a system whereby the system requirements are derived from/extracted from the UML diagrams and he proposes that this can be automated in a CASE tool. This means that the models themselves are not used to describe the requirements which might mean that system users, (as opposed to information systems professionals) by having only one document type to look at, can understand the requirements more easily. However, in order to see the complete picture they would still need to understand and read UML use case diagrams, activity diagrams and sequence diagrams, as well as text based Use Cases and the derived requirements document.

What is needed here is a simpler modelling tool that can be understood by stakeholders and information systems professionals alike and convey all the information relating to system requirements.

2.3.4 Ontologies

The answer possibly lies in ontologies. "Philosophical ontology is the science of what is, of the kinds and structures of objects, properties, events, processes and relations in every area of reality" (Smith and Welty 2001, piii). Applying this to information systems, Smith and Welty proceed to relate ontologies to knowledge bases, knowledge engineering, concpetual modeling, domain modeling, business purposes and finally, to reusability. They stress the importance of taxonomies where properties are inherited from general classes to the specific classes. One definition of ontology is "a taxonomy where the

meaning of each concept is defined by specifying properties, relations to other concepts, and axioms narrowing down the interpretation" and a taxonomy is "a controlled vocabulary which is arranged in a concept heirarchy" (Reimer 2001 cited by Prieto-Diaz 2003, p460). So an ontology is a taxonomy or a heirarchy of concepts or ideas or anything with their own vocabulary or language. Prieto-Diaz also goes on to say that these hierarchies can be built "bottom-up" i.e. from the specific to the general, or "top-down" i.e. from the general to the specific.

Lacy and Gerber (2004, p268) argue that with ontologies "it is often difficult to represent functional type relationships involving verbs or actions (e.g. task descriptions) directly with classes and properties" and they state that its best use is for representing objects. This would make it unsuitable for specifying systems requirements. However, Kaiya and Saeki (2006) do not agree as they propose developing a domain ontology to define requirements. This consists of a thesaurus of concepts and their relationships/attributes plus a series of inference rules that operate on them. In their paper of the previous year, Kaiya and Saeki (2005) discuss the possibility of automating the process of developing a domain ontology from natural language requirements specifications. However, the example given,of a simple music player with initially five simple requirements, gives rise to an extremely complex ontology (see Kaiya and Saeki 2005 p227) and it is doubtful if this technique could be successfully applied to a complex business applications area such a CRM.

One look at the examples in the paper by Kaiya and Saeki (2006) shows the technique using ontologies to define system requirements to be simpler and could possibly be more easily understandable by non-specialists than UML and its extensions because there are less diagram types to contend with. Li et al. (2007) also propose ontologies and they extend the concept to using four different ontologies per domain: a top level ontology, a domain ontology, a task ontology and an application ontology. Although this seems to be adding a level of complexity, it is not because the structure of all four ontologies is the same. They serve different purposes or are at different levels of detail. Thus the principle of using ontologies to specify requirements can be simple (a single model) or seemingly (but not in effect) complex (multiple ontologies) as the situation and the domain demands.

Lim and Ko (2009) take the use of ontologies to define domain requirements to its logical conclusion by describing how they used a template-based semantic Wiki to build a domain ontology in collaboration with other people. A collaboratively created semantic wiki

that can be easily modified seems like an ideal solution for requirements specification. There is however a major problem with this in that people involved in the case in point were all domain experts and ontology engineers rather than end users of the systems, i.e. the main stakeholders, so the question remains as to whether these stakeholders can understand this particular form of modelling.

2.4 Domain Analysis and Modelling Summary

2.4.1 Domain Analysis Literature

This section summarises the major issues that have been discussed in this chapter so far. These issues are:

- Defining the domain under investigation
- Modelling the domain
- Non-functional requirements
- Gathering requirements
- Completeness of requirements
- Level of requirements
- Use of domain experts
- Modelling techniques and tools.

Defining the domain under investigation

The aim of domain analysis is to define a set of requirements in a selected application area (John et al 2002). The first activity in domain analysis is to set the boundaries of the domain to be researched which also includes any sub-domains that can be identified (Cohen and Northrop 1998, Morandin et al. 1998, John et al. 2002). CRM in general is a large subject area and the NfP sector is complex and varied. It will be important to define at the outset what is included and what is not included in the research. Questions such as “What is the not for profit sector?” and “Who is the customer?” need to be answered before the domain of CRM for the NfP sector can be defined. Various techniques have been used to analyse domains including goals, scenarios and features, the most widely used being features but some authors recommend a combined approach using all three techniques.

Modelling the domain

Although requirements specifications are usually written in natural language (Hsia et al 1993), producing a formal model of the domain is necessary for later stages of systems development, but it can also aid in general understanding of the domain if the model is comprehensible to all interested parties. Models are an effective communication tool for any and all stakeholders interested in the domain. The challenge is to find a modelling tool that systematises requirements and can produce output that is as understandable to end users as it is to information systems professionals. Models should be developed in a structured 'top-down' manner always looking for patterns and always allowing for future requirements (Lam et al.1997) or they can be developed bottom-up by classification of base data into a hierarchy of categories (Prieto-Diaz 2003).

Non-functional requirements

The elicitation of system requirements always identifies certain requirements which are not purely functional but which represent qualities of the system (e.g. availability, extensibility, scalability, compliance, etc). It is not proposed to address such non-functional requirements as the primary objective of the work is to devise a taxonomy of functional requirements in the chosen domain.

Gathering requirements

The basic process of requirements gathering and definition has not changed significantly in the past 30 years and consists of fact finding in various forms from interviews, workshops, reading documentation and observation, then fact recording including notes and models, then analysis of facts, and finally the development of a formal statement of requirements or the development of a requirements model.

Completeness of requirements

A major challenge in defining requirements in a specified domain is how to know when the set of requirements is complete. Users often do not know what they want or what is possible with information systems (Paul 1993). The solution is to involve as many stakeholders as possible in the definition of requirements (Tran and Sherif 1995) and to amalgamate specifications from different projects in the domain (Mannion et al 1998). This translates in the current research to involving as many different NfP organisations as possible and examining as many diferent existing information systems as possible.

Level of requirements

Many authors warn of the dangers of defining requirements at too high a level (Lubars 1993, Kontio 1996, Maiden 1999, Lawlis et al. 2001). Detailed requirements are essential for completeness to ensure that every possible contingency has been catered for.

Use of domain experts

Domain experts often understand the complete domain better than most users (Lubars 1993) so it is important to collect and collate requirements from domain experts as well as users and other stakeholders. The reason domain experts often understand the domain better than users is that they are likely to have had a wider experience from working with people from many different organisations with different requirements and different ways of working, whereas most users will have worked in a much smaller number of organisations. Care does need to be exercised when involving domain experts, and the requirements they propose should be seen as suggestions or recommendations only so that the users are always in control.

Modelling techniques and tools

Domain modelling has a long history culminating in ontologies. An ontology, according to an often quoted work by Tom Gruber, is “A specification of a representational vocabulary for a shared domain of discourse - definitions of classes, relations, functions and other objects.” (Gruber 1993, p199) Gruber prefaces this definition with a remark that in order to share and reuse knowledge, a common vocabulary must be defined. In modern terms, Gruber’s specification would be a domain model, a model that contains the concepts in the domain and the relationships between these concepts, and a model that can be shared and reused.

Prior to this Prieto-Diaz (1990) had said that domain analysis was “a process by which information used in developing software systems is identified, captured and organised with the purpose of making it reusable”. These are the very items that are involved in this research where the NfP sector have their own specific terminology and we wish to develop a taxonomy for CRM systems requirements in the sector and a taxonomy that can be used and reused by multiple NfP organisations with similar or even with differing aims and objectives. The specific terminology issue is further complicated by the fact that there are major NfP verticals such as charities or membership organisations; however the terminology between these two major verticals differs. This is further complicated within the micro verticals, witness the terminology used within a trade association will be

different from a professional body which will be different from a sports' governing body which will be different from an Alumnus organisation, etc.

Assuming the issue of terminology can be addressed, the bottom-up construction of a hierarchy of concepts, as proposed by Prieto-Diaz (2003), fits well with the grounded theory approach for this research in terms of capturing data, coding it and arriving at an overall generic taxonomy that can be generally applicable to all NfP organisations.

2.4.2 Problems with Domain Analysis Literature

The investigations into domain analysis provide a useful background for this research which aims to define a currently ill-defined domain. However, there are a number of problems associated with most of the domain analysis literature in terms of relating it directly to this research. It is far too complex and sophisticated for the majority of the proposed participants in the research to comprehend. These people will be regular users (at various management and staffing levels within their own organisations, from directors at one extreme to keyboard operators at the other extreme) of NfP "CRM" systems. These people will be required to verify the results of the research, so these results must be documented in a manner which is understandable to all.

The research participants are likely to say things such as: "I want my CRM system to have an automated membership renewal and lapsing system" or "I want my CRM system to handle all the processes related to Gift Aid and produce HMRC (Her Majesty's Revenue and Customs) returns" and many more things in a similar vein. They are extremely unlikely to comprehend or even wish to comprehend many of the concepts discussed by domain analysis researchers such as:

- The feature triplet of requirements, assumptions and specifications as proposed by Classen et al. (2008)
- The formal semantics of Schobbens et al. (2006)
- The meta-modelling of Laguna and Marques (2009)
- The plethora of models proposed by many authors e.g. Cohen and Northrop (1998), Berenbach (2004), Baudry et al. (2007), Linic (2007), Sewchurran and Petkov (2007)
- The complex ontology of Lee and Zhao (2006).

Add to this the fact that most requirements specifications are written in natural language (Hsia et al. (1993) and many others), this leads to a major conclusion that the method of documentation is crucial and it must be simple in concept. A taxonomy of concepts written in natural language where each level of the hierarchy can be displayed and progressively decomposed should be suitable.

2.4.3 Key Lessons to Take Forward into the Research

Irrespective of the complexities detailed by most of the domain engineering authors, a number of general lessons can be drawn from the domain analysis and domain modelling literature which must be considered during the research. These are summarised in Table 2.1.

Item	Lesson	Applicability to Research
Domain boundaries	Clearly define the boundaries of the domain and any sub-domains under consideration.	The starting point for the research is to determine exactly what the NfP sector is and what is to be included or excluded.
Requirements Identification	Identify requirements in any suitable manner, be it goals, scenarios, features or a combination; using the tried and tested traditional methods of interviews, workshops, documentation review and viewing systems and processes in operation.	A taxonomy is more aligned to features than goals or scenarios, but the results of the research will be determined by the participants in terms of how they describe their requirements during interviews and workshops.
Requirements reusability	When defining requirements, keep in mind the concepts of reusability and adaptability to future needs	The development of a taxonomy of requirements that will be reusable by multiple NfP organisations is a key objective of the research.
Nature of requirements	Ensure that requirements are relevant, accurate and as complete as possible.	This will be determined by the participants who will be drawn from multiple NfP organisations and multiple system suppliers.
Level of requirements	Ensure that requirements are at a suitable level of detail.	This too will be determined by the participants.
Stakeholders and experts	Elicit the opinions of as many stakeholders as possible,	This will be the key to the relevance, accuracy and completeness above, users

	including domain experts.	and suppliers of different types and staffing levels.
Domain modelling	Use a documentation method and a modelling technique that is understandable and verifiable by all stakeholders and systems professional alike.	This will be the proposed taxonomy i.e. a structured breakdown of requirements written in the language of the NfP organisations.

Table 2.1: Lessons from Literature

The next section looks at well-defined domains and COTS systems before moving on to consider the well-defined domain of CRM and then the ill-defined domain of CRM in the NfP sector.

2.5 Well-defined Domains and COTS Systems

This research is primarily concerned with identifying the requirements of a currently *ill-defined* domain with the intention of eventually making it a *well-defined* domain so that suitable COTS systems can be specified and then selected.

A formal definition of a *well-defined domain* is difficult to find so the following is proposed.

***A domain can be said to be well-defined if there is general agreement by professional practitioners in the domain of: the boundaries of the domain, the major data items manipulated in the domain and the major processes / functions carried out in the domain*.**

Examples of well-defined domains that satisfy the above criteria are: Financial accounting (i.e. Sales, Purchase and Nominal Ledgers), Sales Order Processing, Stock Control, Asset Management and CRM.

If there is general agreement amongst professional practitioners in the domain as to what constitutes the domain, then there are likely to be a significant number of COTS systems available for the domain and a high degree of similarity between these systems in terms of the data items they maintain and the functions they perform. This is true of domains such

as Financial Management (Sales, Purchase and Nominal Ledgers) where in previous work the researcher has found that there are a very large number of systems available, there is general agreement between the system supplier and the user communities as to what is required, and that the systems share a 90 to 95 percent similarity in terms of the basic data items they maintain and the functions they perform. However, this is not true of the NfP CRM market where although there are a large number of systems available, there is no general agreement as to what is required and there is a great disparity between the available systems in terms of the data items they maintain and the functions they perform.

The next section investigates a well-defined domain with a history of more than 25 years, namely CRM (in the commercial or 'for profit' sector), as a pre-cursor to the investigation into what constitutes CRM in the 'not for profit' sector.

2.6 Traditional (Commercial) CRM

2.6.1 CRM Strategy

Definitions

Before considering CRM systems it is important to define CRM itself. A very simple definition was provided by the research and consultancy company Ovum as described by Bradshaw and Brash (2001, p520) "---a management approach that enables organisations to identify, attract and increase retention of profitable customers, by managing relationships with them". This introduces the major objective of CRM as to make more money, i.e. be more profitable, and this is to be achieved by managing the relationships with customers. However, it is unclear as to what "managing relationships with customers" actually means so a more in-depth definition is required.

When it comes to a more explicit definition of CRM there are many from which to choose. Some of these are set out below before a summary of key features is presented.

Pant and Wagner (2006, p346) define CRM as "CRM encompasses all the processes that increase the revenues, goodwill and profitability of the business via the acquisition, gratification and retention of customers by providing each customer with "customised" products and solutions that best fit their needs and criteria". Pan and Lee (2003, p96) define CRM as "an approach or business strategy providing seamless integration of every

area of business that touches the customer namely marketing, sales, customer service and sales force automation through integration of people, process, and technology". Kalakota and Robinson (2001, p172) define CRM as "an integrated sales, marketing, and service strategy that precludes lone showmanship and that depends on coordinated enterprise-wide actions".

CRM Strategy Concepts

The definitions above introduce the concepts of what could be termed 'end to end computing' *(Integration)* and of opening up organisational information and procedure silos so that, potentially, all of an organisation's interactions with their customers are visible to all employees of the organisation no matter what their job function *(Visibility)*.

Kalakota and Robinson (2001) discuss tracking *all types* of customer interactions with the organisation and how these interactions can also come from call centres and the Internet as well as the more traditional avenues of face-to-face meetings, via the telephone or via direct mail. Sweat (2000) discussed the benefits of a "360 degree view" of a customer's interactions with an organisation. This involves capturing information about customer interactions from every possible communications channel that they might use, be it mail, telephone, email or website (Fjermestad and Romano, 2003) *(Inclusiveness)*. This capturing of customer interactions from every possible channel has led in recent years to the introduction of the term eCRM (electronic CRM or e-commerce CRM) which Pan and Lee (2003, p95) define as "the ability to capture, integrate, and distribute data gained at the organisation's website throughout the enterprise". This needs to be expanded in today's wired and increasingly wireless world to include all multimedia technologies. People now interact with organisations and with their CRM systems via telephone and VoIP (Voice over Internet Protocol), SMS (Short Message Service) texting and MMS (Multimedia Messaging Service) with pictures and video clips, directly on the organisation's website and via social networking websites such as Facebook and Twitter.

Gummesson (2002) discusses the concept of 'relationship marketing' which he defines as "marketing based on interaction within networks of relationships" which he says is more extensive than the more common definition of "developing, maintaining and enhancing long-term customer relationships" although the latter seems more explicit. The history of relationship marketing as a defined concept goes back to the 1970s (Rao & Perry, 2002) who discuss the difference between transaction marketing and relationship marketing. Transaction marketing relates to single short-term communication exchanges whereas

relationship marketing relates to linked communication exchanges over a period of time that usually involves financial and personal elements. Gummesson (2002, p587) then links relationship marketing and CRM by describing CRM as "applying the values and strategies of relationship marketing in practice, with particular emphasis of the customer-supplier relationship, largely but not solely dependent on information technology". This relationship concept is both the central word and the central concept of CRM (*Relationships)*. Gummesson goes on to point out the need for eCRM to be counter-balanced by hCRM (where h stands for human). Although he doesn't explain exactly what he means by hCRM, it is clear that he is following the principle of a concept's success being based on the trinity of people, process and technology, as mentioned by Pan and Lee earlier, and the people element is fundamental to the maintenance of the relationship with the customer.

These relationships should be both long-lasting and profitable which requires knowledge about the customer and the customer's needs (Geib et al., 2005) (Massey et al., 2001) *(Knowledge).* Massey et al. (2001) describe how, after a fall from 30% market share to 19% market share over a six year period, IBM came to realise that they were spending too many resources on developing technology and not enough on satisfying the customer's major need which was advice on how to implement and use the technology. This knowledge of the customer, their needs and motivations is a highly complex area as indicated by Scullin et al. (2004) when they describe high and low involvement decisions made by customers. High involvement is when the customer investigates competitive products before purchasing and low involvement is when the customer simply accepts what is offered. In addition, customers' needs and motivations change over time and suppliers need to recognise this (Osarenkhoe and Bennani 2007).

Cunningham and Song (2007) have a slightly different perspective on CRM when they define it as "a data-driven strategy that utilizes organisational knowledge and technology in order to enable pro-active and profitable long-term relationships with customers" (Cunningham and Song 2007, p97). They are focussed on identifying profitable and less profitable customers, profitable and less profitable marketing campaigns and profitable and less profitable products by means of data analysis. Profitability in the guise of return on investments (ROI) is a subject mentioned by Fjermestad and Romano (2003) which again demands data analysis *(Analysis)*.

The above definitions are quite specific and practical but when considering CRM strategy at a more generic level, Donaldson and O'Toole (2002) identified six inter-related criteria. These do not provide a definition of CRM but they do indicate concepts that need to be adhered to. They are:

1. Emphasis on quality – this is primarily service quality not product quality *(Quality)*
2. Measure customer satisfaction but manage customer service – this is primarily understanding the customer's needs *(Analysis) (Knowledge)*
3. Invest in people – this is employees who can give the level of service required *(Quality)*
4. Maintaining dialogue with customers – building relationships with customers and taking notice of their changing needs (*Relationships)*
5. Setting realistic targets and assessing performance – understanding customer's needs and then analysing all types of data collected *(Analysis)*
6. Relationship-based interfaces – being flexible in responding to the customer's needs (*Relationships).*

The major objective of a CRM strategy mentioned by many of the authors quoted above is an improvement in profitability, which, in simple terms, is *make more money*. The key elements of a CRM strategy which must be embodied in an information system to support the strategy are summarised in Table 2.2.

Strategy Element	Description	References
Integration	Link all the organisation's customer-related information systems together.	Kalakota and Robinson (2001), Pan and Lee, (2003), Pant and Wagner (2006)
Inclusiveness	Track *all* types of customer interaction with the organisation.	Sweat (2000), Kalakota and Robinson (2001), Fjermestad and Romano (2003)
Visibility	Make these interactions visible to everyone in the organisation (or at least to everyone who can demonstrate a need to know).	Kalakota and Robinson (2001), Pan and Lee, (2003), Pant and Wagner (2006)
Relationships	Develop a relationship over time with customers which is both financial and personal.	Bradshaw and Brash (2001), Donaldson and O'Toole (2002), Gummesson (2002), Rao & Perry, (2002)
Quality	Give the customer the highest level of service possible (not just a high quality product).	Donaldson and O'Toole (2002), Pant and Wagner (2006)
Knowledge	Acquire knowledge about the customer and their specific needs.	Massey et al. (2001), Donaldson and O'Toole (2002), Scullin et al. (2004),

		Geib et al., (2005), Osarenkhoe and Bennani (2007)
Analysis	Analyse the knowledge gained in order to offer the customer the specific products and services they are likely to buy and which show the best return.	Donaldson and O'Toole (2002), Fjermestad and Romano (2003), Cunningham and Song (2007)

Table 2.2: Key Elements of CRM Strategy

Customers and other stakeholders

If the major objective of CRM is to *make more money,* then there does seem to be one issue missing from the literature. There are other stakeholders in the 'value chain' that can help make money; not just customers. These include: prospects, shareholders, partners, suppliers, lenders, press and agencies. Some prospects will become customers. Shareholders own the company and can have an effect on the running of the company. The performance of suppliers will affect the performance of the company. Lenders can impose conditions on the company that can affect company performance. The portrayal of the company to the public by the press will have a direct affect on the company's sales. And, finally, the performance of agencies, primarily, advertising agencies, will also have a direct effect on the company's sales.

The degree to which the relationships with these stakeholders can be managed to make more money depends on the power they have over the company (typically a bank / lender will have high power and low interest) compared to a supplier who has high interest but much lower power. In other words CRM can also be considered to be about managing relationships with people who are not customers. This is an important issue which will arise later when considering exactly "Who is the customer?" in the NfP sector.

2.6.2 CRM Systems Architecture

Moving on from the strategic elements of a CRM strategy to the practical aspects of an information system, or information systems, to support the strategy, Fjermestad and Romano (2003) discuss two types of CRM (or eCRM as they describe it). This consists of "operational CRM" and "analytical CRM", where the former relates to the customer's interactions with the company and the latter relates to the processing of customer data.

These functions are separate and distinct and not necessarily contained within the same system.

Bradshaw and Brash (2001) present the concept of the “virtuous triangle” saying that a successful CRM implementation will effectively combine “Front office systems”, “Back office systems” and “Analytic systems”. They give the major elements of a complete CRM system as:

- Front office functions (consisting of sales, service and marketing)
- Back office functions (consisting of manufacturing, fulfilment, billing and logistics)
- Analytic functions (consisting of data warehousing, establishing patterns in customer data and providing these to the front office).

The logic here would seem to be that front office functions are customer-facing, back office functions support the front office functions but have no direct interface with the customer and analytic functions also support the front office functions but are specialist activities requiring different database structures for effective operation. In fact there is little difference between the front and back office systems described other than the fact that front office has direct contact with the customer. However, fulfilment, i.e. getting the goods to the customer and billing, i.e. producing and sending the customer an invoice, can also be said to have a direct interface with the customer.

Other authors, for example Adebanjo (2003), Gebert et al. (2003), Geib et al. (2005) and Karimi et al. (2001) also break CRM systems down into three separate elements but they are subtly different from those of Bradshaw and Brash. These authors describe CRM systems architecture as consisting of “Collaborative CRM systems”, “Operational CRM systems” and “Analytical CRM systems”:

- Collaborative CRM handles the interactions with the customer from whatever communication channel they may come (face-to-face, letter, fax, telephone, email, web, etc). These are known as customer touch points.
- Operational CRM manages the automation of traditional marketing, sales and service functions.
- Analytical CRM consists of data warehousing, online analytical processing (OLAP) and data mining, in order to arrive at a better understanding of customers and their behaviour that can be fed back into the marketing function.

What is being described here is that collaborative CRM is truly customer-facing as it handles the communication with the customer, operational CRM handles the functionality required for or arising from the customer interaction and analytical CRM is understanding customer behaviour in order to better inform future communications with the customer. This appears more logical than the Bradshaw and Brash breakdown but there is a problem with the terminology here. The words collaborative, operational and analytical are adjectives describing a type of CRM system whereas what are being described are three different sets of functions (or systems) that together make up a complete CRM system. Consequently, the terminology should be either, Collaborative CRM functions, Operational CRM functions and Analytical CRM functions, or, CRM Collaborative systems, CRM Operational Systems and CRM Analytical systems.

2.6.3 First Level Functional Breakdown of CRM

Harej and Horvat (2004) and Kalakota and Robinson (2001) segment CRM functions into marketing, sales and service. They give the major elements of a CRM system as:

- Marketing functions (consisting of customer acquisition, segmentation and retention, campaign management, marketing content management, marketing analysis and effectiveness programs, continuity and loyalty programs)
- Sales functions (consisting of contact and contract management, opportunity management, order management, sales and revenue forecasting)
- Service functions (consisting of inquiry and service request resolution, service delivery, customer satisfaction measurement).

Anderson (2001) segments CRM functions into Pre-sales, Post-sales and Customer service. There is minimal reference to marketing. The sales area functions of Kalakota and Robinson are split over Anderson's Pre-sales and Post-sales areas. This is somewhat illogical as a major functional split because pre-sales and post-sales functions are all part of the overall sales process. Anderson's Post-sales area also contains some back-office functions, such as provisioning, that the other authors do not consider to be part of CRM systems. This is somewhat confusing and at odds with other authors. However, two other

important functional areas are introduced by Anderson. These are Multi-channel Communication and Systems Integration. Multi-channel communication ensures that the front office functions are carried out using every type of media possible to communicate with customers. These include web, telephone, email, direct mail, fax, interactive television, personal contact, shops and agents. This is important to the success of CRM in an organisation and it equates to the way in which the organisation communicates with the customer in the marketing, sales and service functions. Systems integration is important as Anderson says that new CRM systems will have to integrate with “legacy systems” as not all systems in an organisation will be replaced by a CRM implementation. Goldenberg (2006) quotes this integration as the latest industry challenge for CRM.

Combining all these various breakdowns of CRM together presents a complex picture (see Figure 2.1).

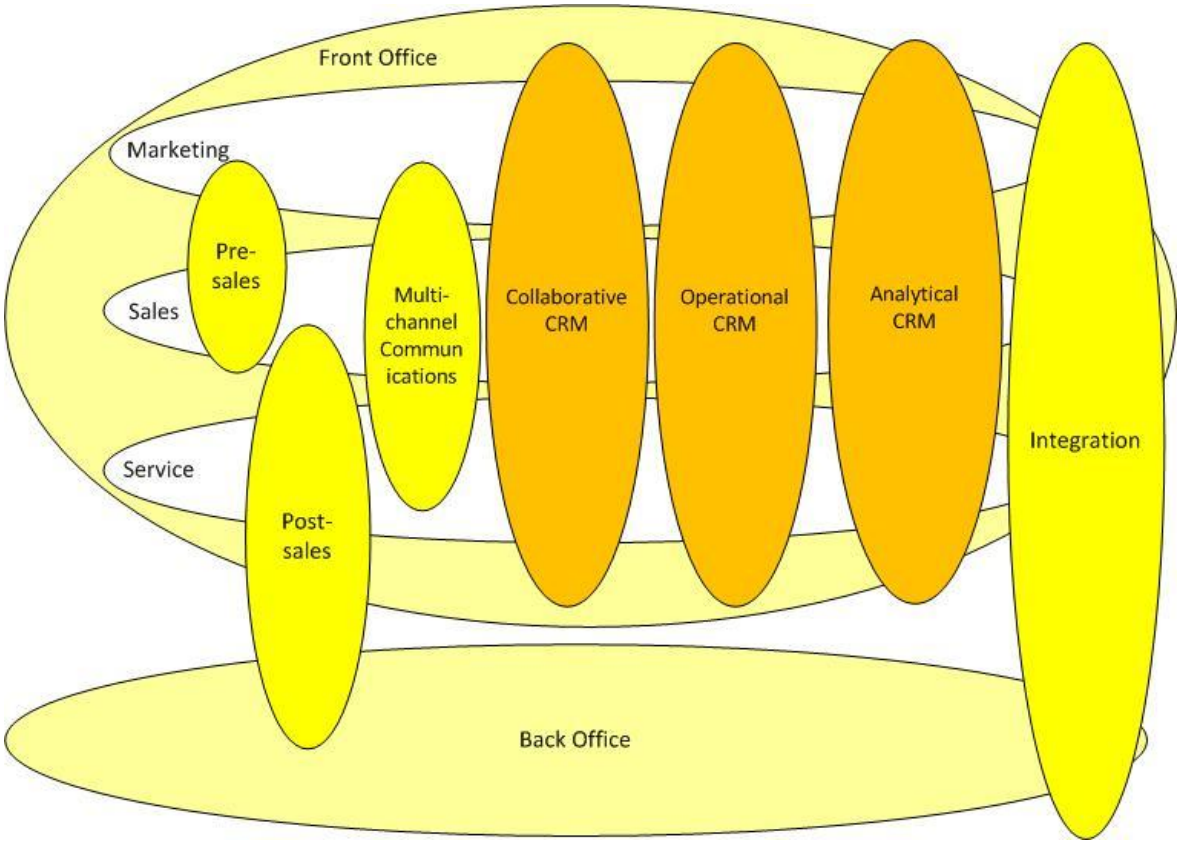

Figure 2.1: Comparative First Level Breakdowns of CRM

It would be helpful if this complex diagram could be simplified. When evaluating these different ways to segment the functionality of a complete CRM system the following is important. The 'back-office functions' of Bradshaw and Brash (2001), (e.g., manufacturing, fulfilment, billing and logistics) are usually carried out by existing 'legacy' systems and they have less direct impact on customers than the other functions listed. Consequently, these back-office functions can be eliminated from consideration other than the fact that they are necessary for a complete service to the customer. They can be catered for within a CRM system via 'integration' and Integration is a major area according to Anderson (2001) and Goldenberg (2006). This leaves the major functions of Bradshaw and Brash as front office and analytics. The front office functions of marketing, sales and service are major areas according to Harej and Horvat (2004) and Kalakota and Robinson (2001). Lee et al. (2007) give equal weight to "customer capture" (marketing), "customer purchase" (sales), "customer service" (service) and "customer analysis" (analytics). Analytics needs to be expanded to 'Reporting and Analytics' as every system needs a variety of 'standard' reports for day to day management that do not involve complex data analysis.

Adebanjo (2003) uses the following functional breakdown: Sales, Marketing, Finance, Logistics/Supply chain, Customer services/desk support, Business unit directors, Operations, Product development. This is a somewhat confused list but analysis of it shows that it can be reordered and restructured according to the categories already identified by other authors. Firstly in general terms, Finance, Logistics/Supply chain, Operations and Product development are most definitely back office functions and only very indirectly associated with customer relationship management. Customer sales history appears under Finance (Back office function) but definitely belongs under Sales because an effective sales process demands knowledge of customer sales history. That leaves the areas directly related to CRM as Sales, Marketing, Customer services/desk support (Service) and Business unit directors (which from its description is Reporting and Analytics) plus the implied area of Integration to link up with the other areas that have been removed as being back office functions and not directly related to customer relationship management.

There is one further area to add to the list and that is the area of Communications and Channels i.e. managing the actual communication with the customer in whatever medium is used, as described by all the authors who discuss Collaborative CRM and eCRM such

as: Adebanjo (2003), Fjermestad and Romano (2003), Gebert et al. (2003), Geib et al. (2005), Karimi et al. (2001) and Pan and Lee (2003).

Thus it seems reasonable to segment the complete CRM systems area into the major areas of Marketing, Sales, Communications and Channels, Service, Reporting and Analytics, and Integration. However, when considering the specification of functional requirements for a CRM system, there are two major areas missing from this high-level breakdown; these are the areas of 'Environment and Administration' and 'Contact Management'. The Environment and Administration area describes the basic ground rules under which the system operates, e.g. the operating environment, usability features, accessibility and general system administration. Without these there is no system and they cannot be taken for granted. Contact Management describes the sort of data to be recorded about contacts and basic functions to be performed for all types of contacts managed by the system, e.g. adding, amending and deleting contacts and managing duplicate records. Again, without these functions there is no system. The final highest level functional breakdown is shown in Table 2.3.

Functional Area	Description
Environment and Administration	The operating environment, usability features, accessibility and general system administration.
Contact Management	The data to be recorded about contacts and basic functions to be performed for all types of contacts.
Marketing	Customer acquisition, segmentation and retention, campaign management, marketing content management, marketing analysis and effectiveness programs, continuity and loyalty programs.
Sales	Contact and contract management, opportunity management, order management, sales and revenue forecasting.
Communications and Channels	Managing the actual communication with the customer in whatever medium is used.
Service	Inquiry and service request resolution, service delivery, and customer satisfaction measurement.
Reporting and Analytics	Day to day reporting, data warehousing, online analytical processing and data mining, establishing patterns in customer behaviour.
Integration	Linking with back-office functions such as manufacturing, fulfilment, billing and logistics.

Table 2.3: Major Functional Areas of CRM

2.6.4 Second Level Functional Breakdown of CRM

Beyond the most general groupings of functionality, such as Marketing, Sales and Service; there is no consistency in the further breakdown of CRM functionality in the literature. Eight first level groupings were defined in the previous section. These were: Environment and Administration, Contact Management, Marketing, Sales, Communications and Channels, Service, Reporting and Analytics, and Integration. In order to go to the next level of detail this requires an analysis of CRM vendor documentation. Four commercial systems were chosen for review, these being Microsoft Dynamics CRM, Pivotal CRM, Salesforce.com and Siebel CRM. These four were chosen for their prominence in the commercial CRM marketplace and the fact that they have some representation, albeit very small, in the UK not for profit marketplace.

The second level functional groupings shown in Table 2.4 were identified from documentation provided by the companies and from the respective organisation's Web sites: Microsoft Dynamics CRM (Microsoft 2008), Pivotal CRM (CDC Software 2008), Salesforce.com (Salesforce.com 2008) and Siebel CRM (Oracle 2008).

There are significant similarities between the four commercial products at the highest level as they all begin with the Kalakota and Robinson (2001) breakdown of Marketing, Sales and Service functions. However, beyond this there are significant differences between the suppliers in the way they structure their functionality and even within Marketing, Sales and Service, there is no consistency. Table 2.4 represents an attempt to impose a logical structure on the functional areas identified. This level of detail was considered necessary to provide a starting point for comparison with NfP functionality as the headings of Environment and Administration, Contact Management, Marketing, Sales, Communications and Channels, Service, Reporting and Analytics, and Integration, were considered to be too general.

Functional Area
Environment and Administration
- Document Management
- Data Cleansing
- Data Import/Export
- Security
Contact Management
- Prospect Management
- Customer Management
- Partner Management
- Relationship Management
Marketing
- Segmentation
- Campaign Management
- Event Management
Sales
- Lead Management
- Territory Management
- Call Scripting
- Forecasting
- Product Pricing
- Quotes and Orders
- Contract Management
Communications and Channels
- Multi-channel Communication
Service
- Case Management
- Service Scheduling
- Workflow Management
- Knowledge Management
- History Tracking
Reporting and Analytics
- Standard Reporting
- Custom Reporting
- Analytics
Systems Integration
- Microsoft Office
- Finance Systems
- Other

Table 2.4: Second level functions of Commercial CRM systems

2.6.5 Traditional CRM Summary

This section first identified the key objective of CRM which is to make more money by actively managing relationships with customers and the key elements of a CRM strategy which were categorised as: Integration, inclusiveness, visibility, relationships, quality, knowledge and analysis, before moving on to attempt a first and second level breakdown of the functions of an information system that can support the strategy. The next section discusses the nature of the NfP sector and the 'customers' they serve before describing how CRM can be applied to the sector as far as can be determined from existing literature and contrasts it against commercial CRM.

2.7 Not for Profit Sector CRM

2.7.1 What is the Not for Profit Sector?

At a high level of abstraction, society is divided into the Private Sector, the Public Sector and the Third Sector (see Figure 2.2).

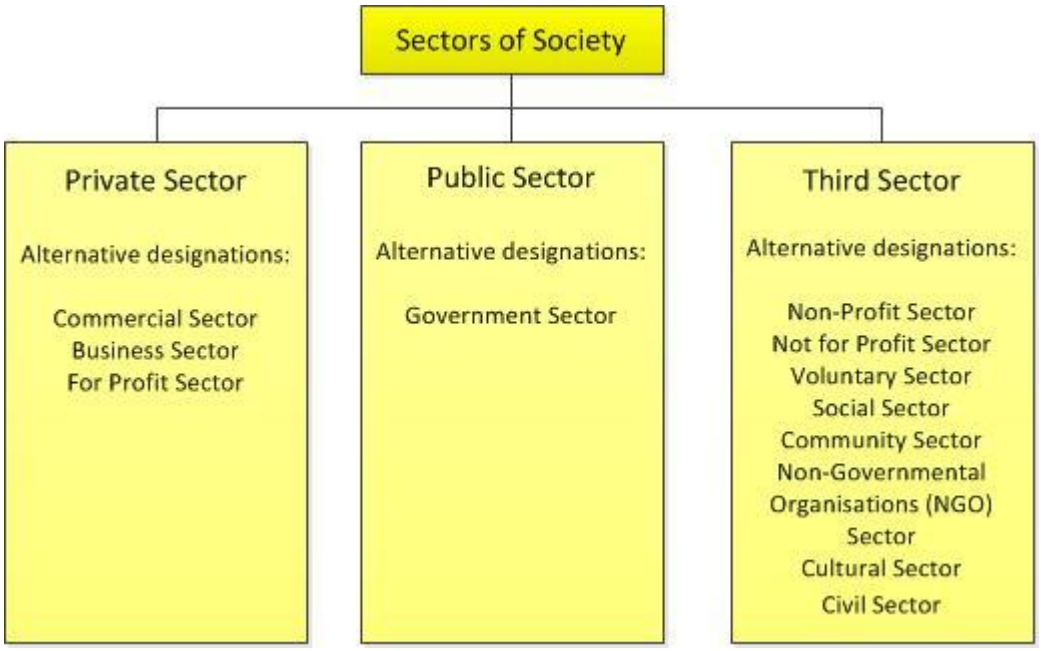

Figure 2.2: Sectors of Society

As can be seen from Figure 2.2 the Third Sector has many different designations each of which indicates the focus of different organisations within it. However, the name Third Sector is non-descriptive and means little or nothing to people outside of the sector (and even to many people within the sector). Consequently a more meaningful term, the Not for Profit (NfP) sector, is the term used in this research to cover all organisations that belong to the Third Sector as shown in Figure 2.2, i.e. all of those organisations which do not have shareholders who take profits out of the organisation (i.e. the Private Sector), and, which are not completely funded by the government (i.e. the Public Sector).

Olson et al. (2005) describe the three key "orientations" of NfP organisations as being economic, mission-related and operational. In the economic and operational orientations they differ little from for profit organisations. In the economic aspect they need to generate income, control costs and create jobs. In the operational they need to be efficient, effective, well managed and up to date, e.g. in their use of information systems. It is in the mission-related orientation that the NfP organisation differs from the for profit organisation. Olson et al. quote Quarter and Richmond (2001) who say that "nonprofits are organized around a social mission" (Olson et al. 2005, p 127). This use of the word "social" appears in other references (see Hudson below). Olson et al. say that whereas the prime motive for the for-profit organisation is economic, the prime motive for the NfP organisation is mission which links the organisation to "society at large". However, this does not adequately differentiate for-profit from not-for-profit as for-profit organisations can also be said to be linked to society at large and as regards "mission"; most for-profit organisations have a 'mission statement'. The word "mission" is too all-embracing and the word "social" is too vague and neither word helps to adequately describe what the NfP sector does and why it exists. The word "societal" would be better but it still remains vague.

Hudson (2009, p xvi) defines the NfP sector as encompassing "organisations whose primary objectives are social rather than economic. The core of the sector includes charities, religious organisations, arts organisations, community organisations, campaigning organisations, trade unions and other not-for-profit organisations". This is an extensive and diverse group, but the definition is far from complete as it does not mention other cultural organisations outside of the arts, such as museums, zoos and wildlife centres, nor educational establishments, nor hospitals and hospices, nor housing associations, nor sports clubs, nor trade associations, professional associations and other

membership bodies. Hudson's general definition of NfP organisations is "all organisations that:

1. exist primarily for a **social purpose** rather than having a profit-making objective
2. are **independent of the state** because they are governed by an independent group of people and are not part of a government or local or health; authority
3. **re-invest their financial surpluses** in the services they offer or the organisation itself" (Hudson 2009, p9).

The first point above does not go far enough and needs to be extended or the definition of "social purposes" needs to be expanded to include: educational purposes, vocational purposes, entertainment purposes, health purposes, housing purposes, environmental purposes, sporting purposes, and even political purposes, because all of these satisfy points 2 and 3. In addition, the phrase "profit-making objective" needs to be extended to say "profit-making objective for shareholders" because a key objective of an NfP organisation is to be as cost-effective as possible and make as much surplus or profit, as possible; because the more profit they make then the more money they will have to spend on their cause, whatever it may be. So they do exist for a social purpose but they have a significant profit-making objective as well.

All NfP organisations need to generate income in order to carry out their mission and as such they tend to fall into one of two general groups: fundraising organisations and membership organisations. This is reflected in the major system suppliers to the market who tend to specialise in fundraising based contact management systems or membership based contact management systems, although many NfP organisations both fundraise and run membership schemes so they need elements of both. There are a much smaller number of system suppliers who provide software systems dedicated to the service provision side of the NfP organisations, such as systems to manage projects or systems to administer the grant-making process, but these are relatively few in number compared with fundraising and membership.

2.7.2 Who is the NfP Sector *Customer?*

Customer Relationship Management systems are vital to the efficient operation of commercial organisations, but they are also vital to the efficient operation of not for profit

organisations. In relation to NfP organisations, the first question to resolve is 'Who exactly is the *customer*?' In order to answer this, it is necessary to examine the interactions that take place between the organisation and its environment. Hudson (2009) has a very simplistic diagram that provides a useful starting point, Figure 2.3.

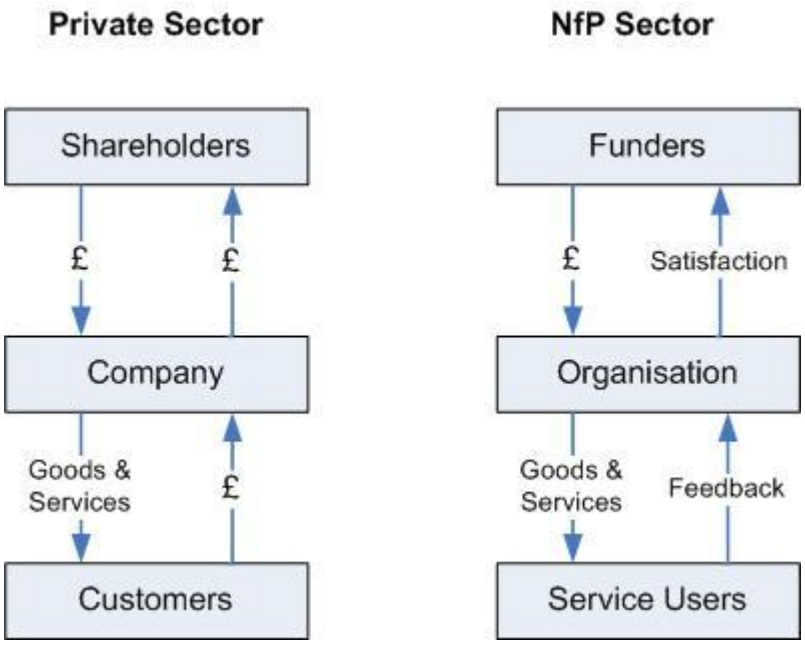

Figure 2.3: The Nature of Transactions in the Private and NfP Sectors (Hudson, 2009)

This shows that in the Private Sector, shareholders provide funds in the form of working capital and receive financial returns in the form of dividends, and customers receive goods and services and provide the vast majority of the income to the company. In the NfP Sector, however, funders (consisting of individual donors, members, companies, trusts, statutory bodies, etc) provide all of the income for which they get nothing in return other than a good feeling (although corporate bodies will often receive brand awareness and public relations exposure which could eventually lead to increased income) and service users (beneficiaries) receive goods and services upon which they give feedback to the organisation. Thus according to the diagram in Figure 2.3, it would appear that service users of the NfP organisation equate to the customers of the private company. However this is not correct as the NfP element of this diagram should be reversed, Figure 2.4.

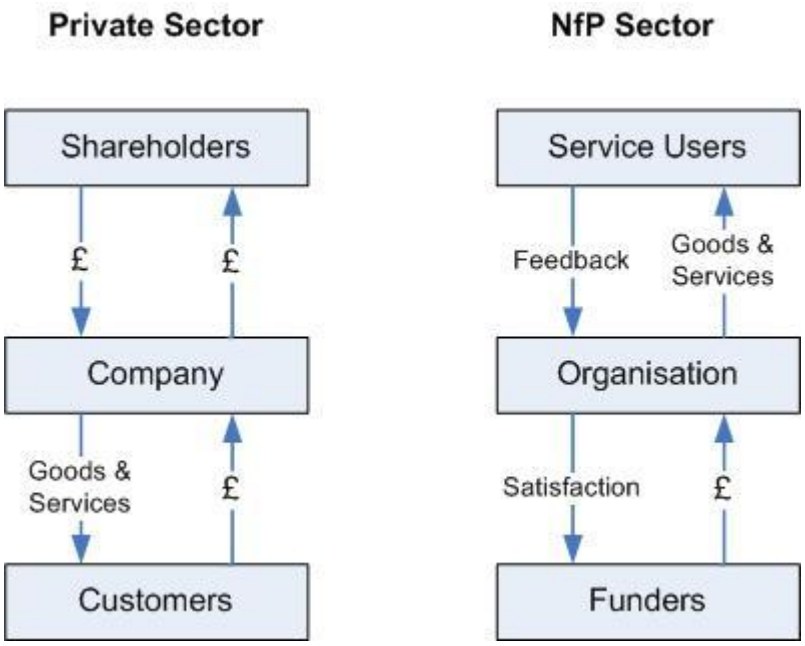

Figure 2.4: Alternative view of Transactions in the Private and NfP Sectors

This is more realistic as it equates Shareholders with Service Users and Customers with Funders. Shareholders want something out of the company (dividends) and Service Users want something out of the organisation (goods or services). Customers provide the income of the company and Funders provide the income of the organisation. Both Customers for the company and Funders for the organisation have to be kept happy to ensure the continued prosperity of both.

However, in NfP organisations it is not that simple. Some Funders are also Service Users and vice versa. For example a member of a professional body pays membership fees and receives benefits in return; a person living in sheltered accommodation may pay a proportion of the costs associated with the service they receive, which effectively makes them like customers in the Private Sector model. In addition, Funders will give feedback on what the organisation is doing and Service Users will obtain satisfaction from the service they receive, so consequently the NfP element of the diagram should appear as in Figure 2.5. This means that the definition of customer in the NfP Sector must include all funders and all service users.

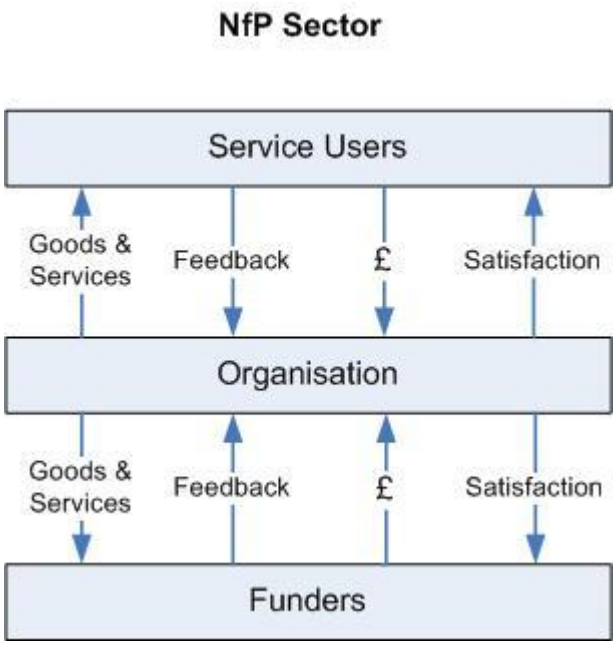

Figure 2.5: Extended NfP Organisation Transaction diagram

However, even this does not cover the full breadth of *customers* for an NfP organisation as there are large groups of people (and organisations) that come under the heading of Volunteers who provide goods and services to the organisation for no charge; as shown in Figure 2.6.

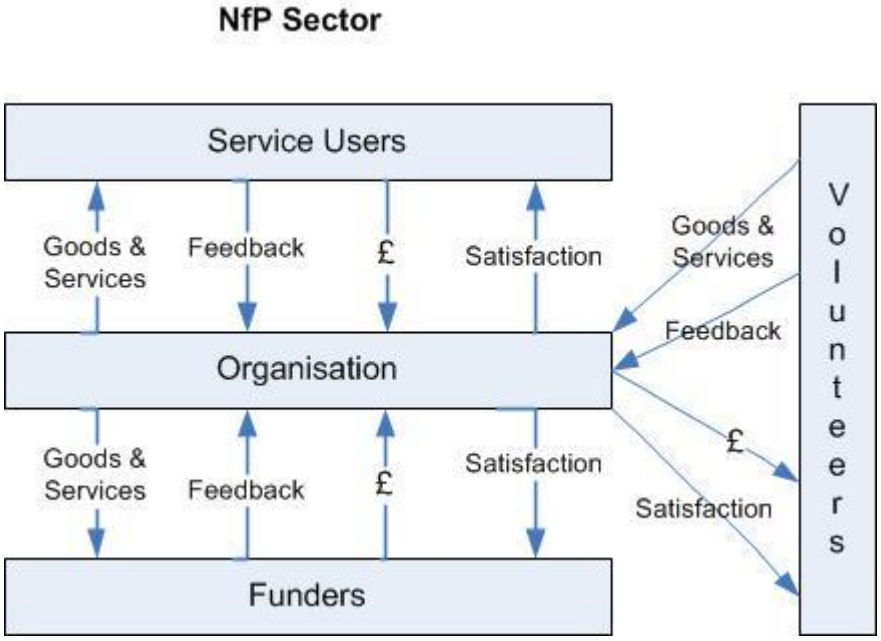

Figure 2.6: Further Extended NfP Organisation Transaction diagram

This Volunteers group includes the organisation's trustees or members of various committees, people who provide some of the organisation's services at no charge, supporters such as celebrities, advocates and former service recipients who help to publicise the organisation, sponsors who give goods and time rather than money (e.g. a company providing an event venue or paying for the printing of marketing material). (Note that the diagram shows money flowing from the organisation to the volunteer. This is simply to represent the case where a volunteer is paid expenses.) Consequently, the term *customer* in the NfP Sector must include: donors, members, supporters, volunteers and sponsors, which is a much broader remit than that of the Private Sector.

There is yet another group of people and organisations with whom the NfP organisation has relationships that need to be managed and these are suppliers or service providers. In some instances these are simple providers of goods or services to the NfP organisation itself but it can also include the provision of goods and services (particularly services such as health care) direct to the organisation's beneficiaries/service users. Commercial organisations also have suppliers but these are, on the whole, excluded from consideration within CRM as they are primarily suppliers who provide goods and services for their own benefit and they have little or no commitment to the objectives of their customers. In NfP organisations, each organisation has a closer association with their suppliers as these suppliers often exhibit a level of commitment to the cause of the NfP organisation and work with the NfP organisation for mutual benefit. Consequently the final NfP organisation transaction diagram is as shown in Figure 2.7.

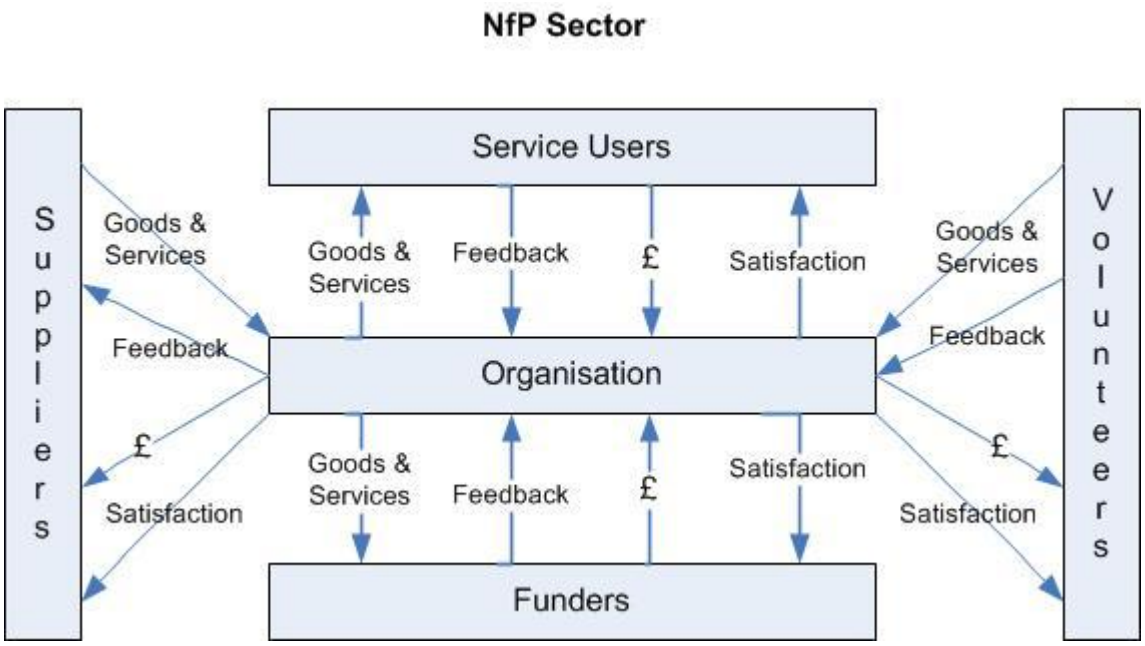

Figure 2.7: Final NfP Organisation Transaction diagram

To further complicate the picture, just as earlier it was pointed out that a funder could also be a service user, a supplier can also be a funder giving money or goods, or can also be a volunteer giving time. any individual or company or organisation might simultaneously fall into all 4 of the stakeholder groups either consecutively or over time and a key driver of many NfPs is to increase engagement through the use of CRM to position a single stakeholder into as many of these categorisations as possible, e.g. a funder who is a service user that also volunteers and through their knowledge in a given field is also a supplier (e.g. a trainer). For many organisations, this multi-faceted relationship is something which is very commonplace and one of the reasons for needing a CRM system is not only to develop these multi-part relationships but also to be able to identify and manage them.

2.7.3 NfP Sector CRM Strategy

There is no accepted definition of NfP CRM. That is what this research is addressing. This is highlighted by the fact that there is very little literature on the subject of NfP CRM in general or NfP CRM systems. The major source of information comes from suppliers of NfP CRM COTS systems. Their sales and technical literature shows little or no consistency in how each supplier specifies the functionality of their various products. This

is discussed later in this chapter when an attempt is made to match their functionality with the more widely recognised structure of commercial CRM systems.

There may not be a wealth of literature about NfP CRM but there is a lot of literature about concepts within the sector that in fact add up to CRM. For example, the central word of CRM and the concept around which everything is based is the word 'relationship' and in relation to charities Burnett (2002, p40) states "relationship fundraising is not just a series of isolated incidents, it is a total philosophy. It deals with every aspect of donor contact, channelling that contact toward building a lifelong relationship and ensuring that the relationship is as fruitful as possible for both parties". This relationship concept is also central to membership organisations. As Hill and Whitehead (2004, p6) state, "Those who join a membership scheme show a commitment to an organisation beyond that of simply being a 'customer'. These people reveal themselves to be willing to demonstrate their sympathies for an activity or cause and to build a relationship with an organisation that supports this activity or cause". Thus, the management of relationships with 'customers', is a crucial element in the success of an NfP organisation.

There are three themes that come up time and time again in the commercial CRM literature. These are *marketing*, *sales* and *service*. These themes are voiced regularly in the NfP Sector, although not under the umbrella of CRM. The first of these, *Marketing*, is very important for all NfP organisations. When discussing membership organisations, Hill and Whitehead (2004) discuss "aggressive marketing" to continually attract new members. They discuss the issues of branding, provision of benefits, identifying target markets, advertising, mailing, telemarketing, advocacy, personal approaches, incentives such as gift membership, and events such as open days. With charities, Maple (2003, p12) argues that "For individual charities marketing is, however, essential: to differentiate one charity from another and to help identify and sell the unique proposition of any organisation". He goes on to discuss the Five P's of Marketing, product, price, promotion, place and position, and how they relate to charities, before discussing branding, research and different marketing media. Burnett (2002) also rates marketing as vital to charities primarily because of the huge choice of organisations to support.

In the same way as marketing leads to sales with commercial CRM, *sales*, or trading, as it is usually referred to in the NfP sector, is another function mentioned by Hill and Whitehead (2004) in relation to membership organisations. This trading can encompass both products and services. Lawrie (2007) mentions trading, such as shops, in relation to charities as well.

In membership organisations, providing memberships is a sales function and in a charity context soliciting donations can be considered a sales function.

When it comes to *service*, Lloyd (2006, p52) says “donors want recognition for the interest, concern and passion that motivates them, and that they assume they share with trustees and staff of the recipient organisation (and in some sectors with the ultimate beneficiaries)”. She goes on to quote some charity donors: “I want a personal letter of thanks, that’s all” and “I would give 10 out of 10 to an organisation which came back after a year and asked for 30 minutes of my time to explain what had happened to the money and project and what was achieved” (Lloyd 2006, p55). This is a theme echoed by Burnett (2002) where he devotes a whole chapter to “keeping in touch with donors”. He discusses advertising, mailings (particularly thank you letters), telephone calls and even personal visits, and he says that “Customer service is another area where first-class training is paramount” (Burnett 2002, p210), thus emphasising its importance. “Aftercare” is a subject addressed by Mullin (2002) when he says that supporters want to know what the organisation is doing with their money and how organisations must keep up with their supporter’s changing needs over time. Hudson (2009) makes the point that it is not just charities where the funders want to know how their money has been spent but this also applies to all NfP organisations, e.g. “parents want to know how schools are performing, tenants want to know how quickly housing repairs are done, members expect organisations to report on what has been achieved with the subscriptions” (Hudson 2009, p218).

With regard to membership organisations, Hill and Whitehead (2004) stress the need for excellent “customer service” in order to retain members and even mention such commercial concepts of ‘up-selling’ and ‘cross-selling’ when this customer service is done well. The same tactics of up-selling and cross-selling employed by commercial organisations, are employed by many NfP organisations. Just as Amazon provides recommendations to a customer of books they might like to purchase based on past history, an NfP organisation can use the same tactics both to up-sell and cross-sell, as well as promoting its cause or non-financial mission. For example, a member books onto an event and subsequently receives recommendations of other events they might like to attend or products they might like to purchase (exactly equivalent to commercial up-selling and cross-selling). They can also receive recommendations on non-commercial items related to the cause, e.g. white papers, discussions, policy work, etc. It is still reliant on the same concept of targeting and personalisation based on past activity and profiling but the resultant action is often non-

commercial. However, as with the commercial, the aim is engagement and retention through demonstrated relevance.

Analytics is another much discussed subject in commercial CRM literature. This subject is also prominent in NfP literature. Burnett (2002) and Flory (2001) discuss two techniques in particular; Pareto Analysis and RFV (or RFM) which are particularly relevant to the charity section of the not for profit sector. Pareto Analysis is the 80:20 rule of business that says that 80 percent of your income comes from 20 percent of your customers, although Burnett mentions how in some organisations the ratio can be as high as 95:5. For charities, read donor for customer. RFV, Recency/Frequency/Value, (or RFM as it is sometimes known, Recency/Frequency/Monetary Value) is a process of allocating donors to a number of bands in terms of when they last donated, how many times they have donated and how much they have donated. Pareto is a simple analysis of the most valuable donors in monetary terms whereas RFV can be a simple single value calculation based on the position of the donor in the various bands as described by Burnett or a more complex three dimensional analysis of donors and their giving patterns as described by Flory (2001). These types of analysis, and others, are useful guides for the generation of future fundraising campaigns. However, there are rare exceptions as one research participant pointed out. An example of this is the annual Children in Need appeal where such analysis is of no value. Although complex data analysis is less of an issue in membership based organisations, Hill and Whitehead (2004) list a number of analysis type reports under their heading of marketing effectiveness including: proportion of members who move up and down between membership tiers, average length of membership and average lifetime value.

2.7.4 Commercial and NfP CRM Strategy Compared

The major objective of a commercial CRM strategy is to make more money, and providing a better service is a means towards achieving the objective, whereas in the NfP sector the major objective is to make more money AND provide a better quality of service i.e. the provision of a better service is an objective in its own right.

The key elements of a commercial CRM strategy which must be embodied in an information system to support the strategy were previously identified as: Integration, Inclusiveness, Visibility, Relationships, Quality, Knowledge and Analysis. Of these, all but Integration and Visibility are directly referred to by the NfP authors, and Integration and

Visibility are implied by statements like “it deals with every aspect of donor contact” (Burnett 2002, p40).

The NfP literature also directly covers many of the subjects that are grouped together under the heading of CRM in the commercial sector, these being: relationship management in general, marketing, sales, service and analytics, so from an overall strategic point of view the two sectors are broadly similar. In order to highlight the differences it is necessary to drill down to a greater level of detail.

2.7.5 Commercial and NfP CRM Systems Compared

Section 2.6.4 above identified a second level functional breakdown for commercial CRM systems. A number of leading NfP systems were selected in order to see how they compared at this level of detail. The four market leaders in the not for profit CRM marketplace focussed on charities in the UK are Iris Care, ProgressCRM, thankQ and The Raiser’s Edge. The leading not for profit CRM systems focussed on membership bodies in the UK are iMIS, Iris Member Strategy, Iris Integra and Sodalitas. Consequently these eight products were chosen for comparison with the commercial sector products. As with the commercial products, the information on the NfP products was again gathered from documentation provided by the companies and from the respective organisation’s Web sites; Iris Care (Iris Care 2010), ProgressCRM (Fisk Brett 2008), thankQ (ESiT 2008), The Raiser’s Edge (Blackbaud 2008), iMIS (ASI 2010), Iris Member Strategy (Iris Member Strategy 2010), Iris Integra (Iris Integra 2010) and Sodalitas (Miller Technology 2010).

With the NfP CRM suppliers, there is even less consistency in the way they segment the functionality of their products than there was with the commercial products. Table 2.5 shows how the NfP products compare with the commercial products. In this table a tick (√) in the cell indicates that the function exists to what appears at first reading to be a similar level of functionality. Note that in terms of the eight NfP products listed above, all eight contained functionality in the areas with a tick in the NfP column and in terms of the four commercial products reviewed, namely, Microsoft Dynamics CRM, Pivotal CRM, Salesforce.com and Siebel CRM, all four incorporated all of the functions listed.

Functional Area	Commercial	NfP
Environment and Administration		
- Document Management	√	√
- Data Cleansing	√	√
- Data Import/Export	√	√
- Security	√	√
Contact Management		
- Prospect Management	√	√
- Customer Management	√	√
- Partner Management	√	
- Relationship Management	√	√
Marketing		
- Segmentation	√	√
- Campaign Management	√	√
- Event Management	√	√
Sales		
- Lead Management	√	
- Territory Management	√	
- Call Scripting	√	
- Forecasting	√	
- Product Pricing	√	
- Quotes and Orders	√	√
- Contract Management	√	
Communications and Channels		
- Multi-channel Communication	√	√
Service		
- Case Management	√	√
- Service Scheduling	√	
- Workflow Management	√	√
- Knowledge Management	√	
- History Tracking	√	√
Reporting and Analytics		
- Standard Reporting	√	√
- Custom Reporting	√	√
- Analytics	√	
Systems Integration		
- Microsoft Office	√	√
- Finance Systems	√	√
- Other	√	√

Table 2.5: Second level functions of Commercial and NfP CRM systems compared

Table 2.5 shows many similarities between the two types of CRM systems, but it also has some very distinct differences. The Marketing area is exactly the same in both cases. The Service area of commercial systems is more extensive than that of NfP systems where there is no concept of service scheduling or knowledge management. In terms of major differences though, the sales function exists in NfP systems, but it is completely different from that in commercial systems. Where the sales function exists in the NfP systems, it is simply a case of processing orders and managing stock levels, whereas the commercial systems are much more focussed on the pre-sales cycle. Reporting and Analytics is similar on the surface, but this hides the fact that Analytics are far more extensive in commercial systems and, where they exist at all in NfP systems, there is little concept of backward feeding of results into the Marketing area to inform and direct future marketing campaigns which is enormously important in improving the performance of marketing. There is some element of this within some NfP CRM systems, such as Pareto and RFV (Recency/Frequency/Value) analysis where customer segments can be selected, but these systems are the exception rather that the rule and their facilities are simplistic compared with those of the leading commercial CRM systems.

A number of functional areas from NfP products that did not appear to fit into any of the first or second level categories have been grouped together in Table 2.6.

Functional Area	Commercial	NfP
Other Functional Areas		
Stock Control		√
Fundraising		√
Fund Management		√
Project Management		√
Membership Management		√
Publications and Subscriptions		√
Committee Management		√
Education and Examinations		√
Surveys		√
Ballots and Elections		√
Legacy Administration		√
Finance		√
Fulfilment		√
Alumni Tracking		√
Volunteer Management		√
Sponsorship		√
Grant Giving		√

Table 2.6: Other major functions of NfP CRM systems

Table 2.6 shows the major differences between commercial and NfP systems. There are 17 other functional areas that are required for comprehensive NfP CRM systems. These areas represent a very large part of any NfP CRM system. The largest of these areas is Fundraising which itself contains more than 10 sub-areas and accounts for approximately 30 to 40 percent of a complete NfP CRM system.

Table 2.7 summarises the overlap of functional areas between commercial and NfP CRM systems. Column 2 (Commercial) shows the number of functional areas, within each major grouping, that are unique to commercial systems. Column 3 (Both) shows the number of functional areas that are in both Commercial systems and in NfP systems and column 4 (NfP) shows the number of functional areas that are unique to NfP systems. This shows that the number of functional areas that are unique to either commercial or to NfP systems is more than those that are common to both types of system; 27 compared with 20. Add to this the fact that the Fundraising area within the ‘Other’ category is very large, then it can be concluded that there are definitely more differences than similarities between the two types of CRM system.

	Unique to Commercial	Exists in Both	Unique to NfP
System Environment and Administration	0	4	0
Contact Management	1	3	0
Marketing	0	3	0
Sales	6	1	0
Communications and Channels	0	1	0
Service	2	3	0
Reporting and Analytics	1	2	0
Integration	0	3	0
Other	0	0	17
Total	**10**	**20**	**17**

Table 2.7: Number of functional areas of Commercial and NfP CRM systems compared

The examination of the commercial CRM system suppliers' documentation and Web sites reveals very little mention of the NfP market or facilities for this specialised market. Microsoft, CDC Software (Pivotal) and Oracle (Siebel) do not mention it at all. Many references can be found to non-profit functionality by Salesforce.com, but all under the banner of other companies who use Salesforce.com as a basic platform upon which to develop additional functionality. The problem with this is that in order to obtain a complete NfP solution, modules have to be purchased from multiple suppliers. There is no complete solution. This indicates that the commercial CRM suppliers have little or no knowledge of the functionality required for the NfP sector. To reinforce this point some research on CRM systems conducted for a very large UK charity (Charity 2008) uncovered a case study of another major UK charity who had NfP functionality added to one of the commercial systems being examined in this paper, the result of which was considered to be a complete disaster. The report stated that much of the required functionality was missing; other functionality was so complex that it was extremely difficult to use, it was impossible to obtain some of the required management reports and the concept of analytics was missing completely.

On the other side of the equation, an examination of the NfP CRM system suppliers' documentation and Web sites reveals a significant lack of knowledge of CRM in general. Only one of the four uses the phrase Customer Relationship Management and even this

one does not characterise CRM at the very basic level as marketing, sales, service, analytics and integration. One of them has in recent years added CRM to the name of their product, but the words do not appear anywhere in their documentation. In addition, in two other case studies in the research for the charity above highlighted (Charity 2008) where two of the NfP products had been extended to have more commercial facilities, particularly in the area of analytics, the resultant systems were also considered to be disasters. One example was a data analysis routine that took 30 hours to run. Data analysis is an area highlighted by Ahn et al. (2003) when they discuss data mining in order to discover patterns of customer behaviour for application back into marketing, particularly one-to-one marketing as opposed to mass marketing. 'Customer-centric marketing' to individuals and 'personalisation' are key CRM concepts discussed by Sin et al. (2005). Personalisation of web content to give the customer a unique and personal experience each time they visit a web site is a subject discussed by Eirinaki and Vazirgiannis (2003). However, with their emphasis on selection and segmentation, mass marketing is the area with which NfP CRM systems are most familiar. None of the NfP systems reviewed has any concept of data mining nor pattern identification nor one-to-one marketing nor personalisation. Where such things do exist within NfP organisations, they are carried out via separate Analytic/Campaign Management systems which have an off-line link with the main CRM system. With regard to personalisation, two participants in the research pointed out the possible exception of 'thank you' letters (acknowledgements of donations or fees) as they are often tailored according to the individual supporter, the amount they gave and the campaign they gave to, and such letters often contain further marketing messages.

There are more differences than similarities between commercial and NfP CRM systems. Although both have the same objective of understanding customers better in order to serve them better and make more 'sales', the nature of the interaction with their respective customers is fundamentally different. With commercial systems the objective is to sell more products whereas with NfP systems the group of customers who are providing the money are getting little or nothing in return (except the feeling that they are doing something altruistic). In addition, they have three other classes of customer: those people for whom they provide services (usually for no payment), volunteers who provide services for the organisation or for its beneficiaries and suppliers who provide goods or services for the organisation or for its beneficiaries. This fundamental difference is highlighted by the abbreviated sales function and the inclusion of specialist functions such as fundraising, membership, fund management and grant giving in NfP CRM systems.

2.7.6 NfP Sector CRM Summary

This section defined what is meant by the not for profit sector and who the 'customer' is if the term CRM is to be meaningful in the sector. It then moved on to examine 'CRM' strategy in the sector and found that there is no concept of CRM strategy but there are a number of individual concepts that in effect add up to what the commercial sector accepts as CRM strategy. A number of leading NfP "CRM" systems were examined and compared with the commercial systems second level functional breakdown in order to determine the overall scale of similarity or difference between the functions provided in each sector.

2.8 The Research Aim and Why it is Needed

When considering new concepts in information systems, Swanson and Ramiller (1997) describe their "organising vision" which is the process by which the idea for an information systems innovation takes shape, gains general acceptance, alters over time and is eventually adopted and taken for granted. This takes time and if CRM in the NfP sector is considered to be an information systems innovation, then it seems that 8 years has not been enough for that to happen within the sector. CRM as a concept (or organising vision in Swanson and Ramiller's terms) is well established in the 'for profit' sector but it is not well established or even well understood in the 'not for profit' sector. This is partly because it has not yet had time to mature and partly because it is so different from the accepted concept of (commercial) CRM. Something is needed to accelerate the process of understanding, adaptation and acceptance of the concept. That is what this research is attempting to address with its aim to identify a standard definition of and a generic functionality taxonomy for; NfP CRM.

Given that most commercial CRM suppliers do not understand the NfP market and that most NfP CRM suppliers do not understand true CRM, and the fact that most NfP organisations are likely to have the same or generally similar requirements of a CRM system, it is important to document a generic set of such requirements that can be re-used multiple times for different NfP organisations when selecting a new CRM system.

In terms of the benefits to be gained by reuse in general which applies equally to systems requirements and to the development of software components, various authors in different environments (for example: Roudies and Fredj (2001), Ahmad and Aziz (2004), and Leah et al. (2010)), appear to agree on the following:

- the result is a higher quality product (or specification)
- development and maintenance costs are reduced
- product (or specification) delivery times are shorter.

An attempt to verify these benefits (better quality, less cost and faster production) will be made during the testing of the taxonomy resulting from this research.

2.9 Summary

The first part of this chapter presented a review of existing literature commencing with the issues involved in domain analysis and requirements reuse, domain modelling, well-defined domains and COTS systems. Conclusions that can be drawn from this are:

- The fundamental principle behind domain analysis is reuse of requirements.
- The need for clear definition of domain boundaries.
- The need to identify requirements in the traditional manner (interviews, workshops, documentation review, viewing systems and processes in operation) but using techniques such as gaols, scenarios or features as appropriate.
- The need to keep reusability and future adaptability in mind at all times.
- The need to ensure that requirements are relevant, accurate and as complete as possible to ensure that every possible contingency has been catered for.
- The need to gather requirements at a detailed level.
- The need to elicit the opinions of as many stakeholders as possible including domain experts.
- The need to use documentation and modelling techniques that are understandable and verifiable by all stakeholders. (Many tools and techniques have been used over the years to model domain requirements, most of which have been complex and potentially confusing to many stakeholders. The solution may lie in the use of ontologies).

- Many application domains are “well-defined” and have many pre-packaged COTS systems available in the marketplace.

The next part of the chapter looked at what CRM is in general terms before moving on to developing a logical structuring of the major functional areas of a CRM system. It then looked at what is meant by the not for profit sector, identified who the *customer* is in this sector, began to discover the elements of CRM strategy in the sector and then moved on to compare the functionality of so-called NfP CRM systems with that of commercial CRM systems, the main conclusion of which was that there were more differences than similarities between the two.

Finally the chapter concluded with a restatement of the research aim. The next chapter describes the methodology to be applied for this research, the actual process that was undertaken to collect and analyse data in order to achieve the objectives and the testing and evaluation of the results.

CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter firstly describes the methodology to be applied for this research in order to collect data from both not for profit organisations and from not for profit system suppliers, and the process of the collation, organisation and analysis of that data.

Action Research was considered as a possible methodological approach as working within one or more NfP organisations and/or NfP system suppliers along with full-time members of staff from those organisations would lead to the collection of in-depth data relating to the subject area for the organisations in question. However, this approach was rejected as the researcher would only be able to work with a very small number of organisations and the data collected would be very narrow in focus. An objective of the research was to spread the net as widely as possible and cover as much of the NfP sector as possible. Consequently, a methodology was required that could involve the collection of data from a much larger number of organisations. The methodology chosen was the Grounded Theory Method (GTM) within a Design Research framework. Design research consists of five stages: awareness of problem, suggestion, development, evaluation and conclusion. The bulk of the effort is in the development stage which is where Grounded Theory was applied. Grounded Theory Method also has a number of distinct stages which are: data collection (in this case from a large number of organisations), coding and analysing/theorising.

The second part of the chapter describes how the GTM method was applied in practice, and the chapter concludes with a description of the testing and evaluation process that was carried out on the resulting taxonomy and its supporting documentation.

3.2 Research Approach

3.2.1 Design Research

Design research aims at proposing solutions to recognised research problems via the development of conceptual or physical artefacts and consists of the stages of awareness

of problem, suggestion, development, evaluation and conclusion as shown in Figure 3.1 (Vaishnavi and Kuechler, 2004).

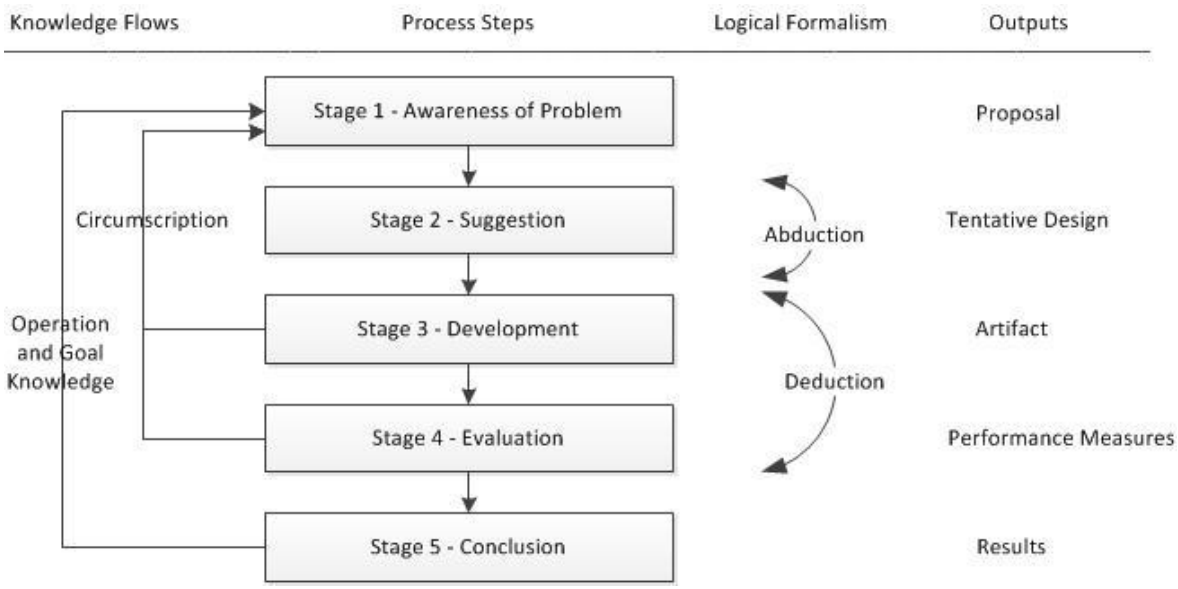

Figure 3.1: Design Research Stages (Vaishnavi and Kuechler, 2004)

Stage 1, Awareness of Problem, is the fact that there is currently no general agreement within the NfP sector as to what constitutes CRM in the sector. It is an *ill-defined* domain but it could, and indeed should, be a *well-defined* domain.

Stage 2, Suggestion, is the aim of this research, namely, to bring together a number of people from both NfP organisations and from NfP information systems suppliers, and attempt to define a generic set of functional requirements for NfP CRM systems and an overall definition of NfP CRM.

3.2.2 Grounded Theory Method

Stage 3 of design research is development. The overall approach for this stage of the research is based on Grounded Theory Method (GTM). The first consideration is the applicability of GTM in the context of this research. The prime objective is to develop an artefact, a functional requirements taxonomy, and use it to propose an overall definition of NfP CRM. Can this be considered to be a theory? There are many differing views as to

what constitutes a theory. Gregor (2006) discusses a number of information systems approaches including design science (which includes the development of artefacts) and concludes that they all satisfy the criteria for a theory. These criteria include:

- The identification of constructs
- The identification of relationships between the constructs
- The originality of the totality of the constructs and their relationships
- The ability to test and verify (or falsify) this totality
- The acceptance (or a move towards acceptance) of the totality by the relevant user community.

Gregor (2006) also states that a theory can encompass "conjectures, models, frameworks or body of knowledge". Accordingly, the development of a taxonomy and the derivation from it, of a definition is the development of a theory, so GTM would appear to be a valid method to use for the research.

GTM is the process of generating a theory from collected data (Glaser & Strauss, 1968). The process starts with the collection of data which can be in any form and come from any source; "anything that may shed light on questions under study" (Corbin and Strauss 1990, p5). The data is then codified by defining and allocating categories to each item of data. More data is collected and coded at the same time as a process of "constant comparison" is undertaken to verify and if necessary, modify the codes or categories. As Corbin and Strauss (1990, p5) say "phenomena are not conceived of as static but as continually changing in response to evolving conditions". These categories are grouped, related together where possible, and generalised until a single overarching theory is arrived at. This grouping process is complicated and iterative with many different interpretations and changes in structure as ideas develop and change during the process as exemplified by Hansen and Kautz (2005) in their study of the use of information systems development methodologies during which they made extensive use of GTM.

However, there is a problem with the Glaser and Straus methodology as explained by Kelle (2005) who describes the concept of "emergence" versus "theoretical sensitivity". Emergence is the concept of demanding that the researcher have no pre-conceived ideas of any sort when examining the data and developing codes and ultimately theories, i.e. the theories do "emerge" directly from the data. Theoretical sensitivity is the concept that a researcher can never approach a subject with a completely blank mind and that they will

always have a theoretical perspective in mind when coding by virtue of the fact that they are working in and have prior knowledge of the subject area, i.e. codes and theories emerge from the data but are influenced, developed and moulded by the researcher's background. Glaser and Strauss disagreed over this issue with Glaser preferring the concept of "pure" emergence and Strauss preferring the concept of theoretical sensitivity and also recognising the need to be more structured and methodical in the coding process.

The process of coding is given more form by Strauss and Corbin (1998) when they describe open coding, axial coding and selective coding. Open coding is the initial basic coding of the original data, Axial coding is the drawing together of categories and sub-categories into a hierarchy, and Selective coding is the process of integrating and refining categories in order to arrive at a theory. This whole process is summarised by Strauss and Corbin (1998, p21) as "Theorising as work that entails not only conceiving or intuiting ideas (concepts) but also formulating them with a logical, systematic, and explanatory scheme". This methodology can be applied to the modelling of the NfP CRM domain because as Prieto-Diaz (2003) states, domain modelling can be developed both top-down or *bottom-up.*

3.2.3 Grounded Theory Data Collection

Corbin and Strauss (1990) indicate that data can come from a wide variety of sources, interviews, observations, documents, video tapes, newspapers, letters and books, in fact "anything that may shed light on the questions under study" (Corbin and Strauss 1990, p5). For this research data will be collected from the following sources:

- NfP organisations; this will be a number (at least 4) of high profile NfP organisations who consider that they have a CRM strategy
- NfP system suppliers; this will be a number (at least 4) of the major 'CRM' system suppliers to the NfP marketplace. It will consist of a twofold approach of analysing the systems they provide in order to ascertain what they provide as CRM functionality and interviewing them to obtain their views on what CRM is or should be.

Strauss and Corbin (1998) discuss obtaining “multiple viewpoints”. This is a key element in the data collection exercise for this research as it is studying an area which is currently ill-defined and one on which many people have a view. Obtaining the views of as many stakeholders as possible was also a key issue mentioned by many authors discussing the elicitation of system requirements. Consequently, the decision has been made to select four or more different NfP organisations and four or more NfP system suppliers, all of whom are likely to have differing viewpoints.

3.2.4 Grounded Theory Coding

The process of open coding followed by axial coding followed by selective coding as described by Strauss and Corbin (1998) will be carried out but with one major difference. The data collected from interviews and workshops will be functions or features of a CRM system so the open coding will be identifying which of these are related to each other and grouping them together under functional headings. The data collected from literature and from examination of supplier systems is likely to have already been coded in this way, for example, a supplier’s system will have a pre-defined menu structure for related functionality. This is where the bottom up approach of Grounded Theory Method and the top down approach of information systems analysis will meet but the approach that will be taken will be to ignore the menu structures and code them at the bottom level of the hierarchy like everything else. Then as the analysis and axial coding progresses, these pre-defined structures will assist with the identification and creation of higher level codes.

At the heart of Grounded Theory Method as Glaser and Strauss first put it is “the rule for the generation of theory is not to have any pre-set or valued hypotheses” (Glaser and Strauss 1967, p194). This is very much the Glaser view that “all is data” and everything must flow from the data. This would mean ignoring the menu structure of the supplier systems and starting the relationship finding from scratch. However, Strauss and Corbin (1998) argue that it is acceptable to use existing literature with its pre-defined concepts as long as during the analysis the researcher remains objective. It will be instructive to compare the existing structures with each other and also with the structure arrived at from the axial coding of the data gathered from the interviews and workshops.

Utilising the various menu structures and the researcher's own knowledge of part of the overall domain, means that the research will follow the pattern of "theoretical sensitivity" as preferred by Strauss.

3.2.5 Grounded Theory Analysing/Theorising

The analysis will be the rationalisation of all of the different coding structures in an attempt to arrive at a 'standard'. There will be at least seven coding structures to examine: one from the literature review of traditional (or commercial CRM), one for each of the four supplier systems reviewed, one from the interviews and workshops with the suppliers and one from the interviews and workshops with the NfP organisations. The final stage of the analysis, i.e. the development of the theory, will be the development of a single sentence which summarises what NfP CRM is.

The final element of grounded theory as expressed by Corbin and Strauss (1990) is that the results are verifiable, i.e. they can be tested. This leads to **Stage 4** (Evaluation) of Design Research method and consequently, testing and evaluation will form an additional and final phase of the research.

3.3 Application of Grounded Theory Method

3.3.1 The Participants

The original plan was to gather data from "at least four" system suppliers and from "at least four" not for profit organisations. One of the key lessons from the literature review was to involve as many stakeholders as possible in the process. As the research commenced, it soon became clear that four was nowhere near enough in either case for a number of reasons. In the case of the system suppliers, there were several different focuses in terms of functionality provided by their systems. Although most suppliers had a great deal of overlap in functionality as their systems were all based around a central CRM core, some were focussed on fundraising, some on membership, some on grant giving, some on event management, etc. In the case of the not for profit organisations there were many different types of organisation all serving different types of beneficiary each of which required different functionality, all of which are reflected in the different supplier focuses. A decision had to be

made at this stage regarding the boundaries of the research domain. Collecting data from just 4 NfP organisations and 4 system suppliers would have meant narrowing the focus of the research down from the complete NfP sector to a part of the sector. The decision was made to keep the boundaries of the domain as the complete NfP sector and treat areas such as fundraising, membership, event management and grant-making as sub-domains.

In the end, data was collected from 16 system suppliers and from 25 not for profit organisations.

The 16 system suppliers were selected on the basis of their prominence in the sector and the number of NfP customers they have. In terms of functionality focus they were:

- 7 whose focus was CRM/Fundraising
- 7 whose focus was CRM/Membership
- 2 whose focus was CRM/Grant Making/Project Management.

It was felt unnecessary to include any suppliers who provide Event management only as many of the suppliers in the other three categories provide extensive Event Management facilities.

In terms of the NfP organisations, there is great variety in terms of the type of organisation they are (e.g. charity, professional membership body, community group, etc.), the type of cause they support (health, education, culture, environment, etc.), the manner in which they raise funds (sales, donations, fees, etc.) and the manner in which they use the funds (grant making, project managing, service providing, etc.). Early investigations of the organisations in the sector showed that irrespective of their type, cause, method of raising funds and method of spending funds, their information system needs related to CRM fell into the areas of general contact management, general relationship management, fundraising, membership, grant making and project management. The organisations taking part in the research were selected on the basis of some that the researcher knew already from previous contacts, some who were suggested by NfP system suppliers and some who were suggested by other NfP organisations. Care was taken to select organisations that represented all the categories listed above and a range of size in terms of income and staff and a range of complexity in terms of their operational practices. The 25 NfP organisations were:

- 8 whose focus was fundraising

- 4 whose focus was membership
- 3 whose focus was both fundraising and membership
- 3 whose focus was fundraising and grant making
- 2 whose focus was membership and grant making
- 4 whose focus was fundraising, grant making and project management
- 1 whose focus was fundraising, membership and grant making.

The organisations were of varying sizes with total incomes ranging from £2m to almost £200M. They were almost equally divided into 9 large organisations (annual income in excess of £50M), 8 medium sized organisations (annual income in the range £10M to £50M) and 8 small organisations (annual income less than £10M).

3.3.2 The GTM Research Activities

The overall GTM process undertaken was as shown in Figure 3.2. It consisted of a number of iterative steps: initial data collection, main data collection, analysis, and further data collection and analysis.

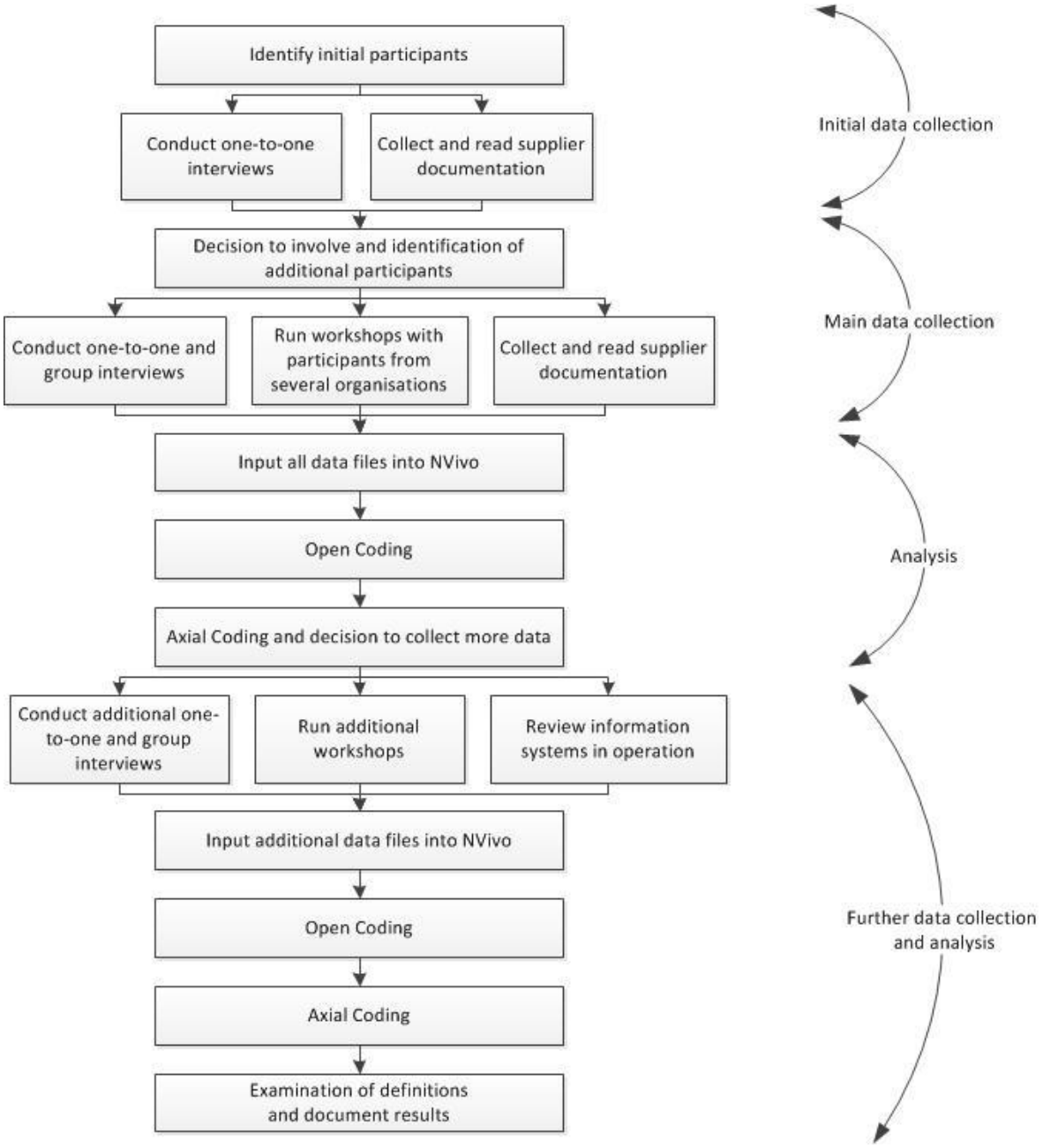

Figure 3.2: Grounded Theory Process Flow in Practice

3.3.3 Initial Data Collection

As originally proposed, four NfP organisations and four NfP system suppliers were selected, interview sessions were held with each and supplier documentation was examined. The interviews were one-to-one with the researcher and a single representative from each organisation. In these and all subsequent one-to-one interviews the researcher took detailed

notes which were then typed up using Microsoft Word. Consideration was given to recording the one-to-one interviews but a decision was taken not to do this because it would involve a huge amount of additional work in transcription and analysis for very little benefit as most of the data being collected was specific rather than subjective/qualitative.

At the end of these sessions it was decided that the focus of both the NfP organisations and the system suppliers chosen was too narrow and a much larger number of organisations were selected to participate in the data gathering exercise, namely 12 additional systems suppliers and 21 additional NfP organisations.

3.3.4 Main Data Collection

As with the initial data collection, one-to-one interviews were conducted with representatives from the additional participants, plus supplier systems documentation was collected and examined. In addition, a number of group interviews were undertaken with people from participating organisations in order to broaden the scope of the data being collected. Also at this stage, a number of workshops with representatives from several (up to 10) not for profit organisations were undertaken. In these workshops, the researcher acted as a facilitator and detailed notes were taken by an independent person familiar with the subject area who took no part in the actual discussions.

Data collection sessions were conducted in a number of different ways:

- Some sessions were completely unstructured with participants encouraged to discuss whatever subjects related to CRM were of prime importance to them
- Some sessions were focussed on the participants' existing systems and their positive aspects or deficiencies
- Some sessions revolved around a specific topic e.g. strategy, communication channels, fundraising, membership, etc. Some subjects were suggested by the researcher and others by the participants themselves.

3.3.5 Tools for Coding and Analysis

In Chapter 2 a conclusion was drawn that the most appropriate method for modelling the requirements of the domain was by use of ontologies. Consequently, an early trial was conducted using OWL (Web Ontology Language). This worked to the extent that a hierarchy of requirements could be constructed easily. However, it became extremely complex when analysing base data where there was huge duplication i.e. where several participants said a similar thing; sometimes using the same terminology and sometimes using different terminology. A simpler method was required. Microsoft Excel was then trialled as hierarchies can be constructed using the 'group' and 'ungroup' functions. This solution also suffered from the same problems as OWL. At this point it was decided to trial a number of specialist CAQDAS (Computer Assisted Qualitative Data Analysis Software) systems.

The specific purpose of CAQDAS systems is to assist in the application of grounded theory. They have been designed for the specific purposes of organising, categorising, annotating and searching textual, recorded and visual data. In addition, the link with ontologies is clear as a major objective of these systems is to build a hierarchy of concepts. Some of these systems were found to be simplistic and lacking in functionality, some were found to be technical and difficult to use, and others were found to be complex, error-prone and lacking in output facilities. Eventually NVivo8 was chosen for the task. NVivo8 was found to be comprehensive in its functionality, stable in its operation, easy to use, error free, and had a large number of standard reports and export facilities. It proved to be ideal for manipulating and analysing the data gathered in this exercise. Once the final coding hierarchy was constructed, it could be exported into Excel with the group and ungroup functions defined at every level which made the output easy to display, further manipulate and be easily understood by all participants from NfP organisations and system suppliers alike.

3.3.6 Coding and Analysis in Practice

Interview notes and workshop notes were typed up in Microsoft Word. Supplier documentation was provided in Word format, text format or as PDF files. NVivo8 supports all of these formats so all notes and documentation were imported into the system for analysis. The first activity in the Grounded Theory Method is Open Coding. Each imported file was reviewed and every significant sentence, phrase or even word, was allocated a

code (a Free Node in NVivo terms). Note that where supplier documentation had been grouped under headings (such as modules and menus) these headings and menus were coded at the same base level as all the other data items, i.e. the supplier's own hierarchy was ignored.

These base codes were then reviewed and a process of consolidation took place to merge codes which had, or appeared to have, the same meaning. Axial Coding was then undertaken whereby all the remaining codes (Free Nodes) were reviewed, and codes that were considered to be related to each other were grouped together under a new higher level code. Note that at this point the higher levels in supplier documentation hierarchies were useful in developing the higher level codes although many differences in terminology were found, e.g. the words "Relationships" and "Links" which referred to the same functionality.

These groups themselves were then examined and grouped and eventually a five level hierarchy was obtained (Tree Nodes in NVivo terms). Each group node in the hierarchy can be expanded and contracted in the same way as Microsoft Windows Explorer can for viewing a hierarchy of folders on the computer. This hierarchy can be exported to Excel and the expansion and contraction of nodes can be accomplished by means of the Excel Group and Ungroup functions. This process of Axial Coding underwent several iterations as ideas changed and new relationships emerged. This is the "constant comparison" which is a key feature of the Grounded Theory Method as defined by Glaser and Strauss. It also equates to the circumscription feedback loop of the Design Research stages as defined by Vaishnavi and Kuechler (2004) and in practice meant that the taxonomy underwent a number of iterations where sometimes the changes were minor and sometimes the changes involved a major restructuring of the hierarchy.

The last stage of Grounded Theory Method is a Selective Coding exercise which takes place in order to arrive at an initial over-arching theory (or in this case, a definition of CRM in the NfP sector). However, this was not done at this point in the research as it was decided to collect more data.

3.3.7 Further Data Collection and Analysis

During the process of Axial Coding it became clear that there was a problem in that the supplier data was focussed on functionality, as was the aim, but the NfP organisation data was focussed on strategy and tactics in using CRM plus issues related to the systems architecture and references to functionality were low in number and were at a high level of abstraction. The major reason for this was that the interviews and workshops were attended by NfP staff and management at too high a level in the respective organisations. They were the people who required the results from the system but they were not the people who used the system at a detailed level on a day to day basis. Consequently, a number of additional one to one interviews and group interviews and workshop sessions were undertaken in an attempt to focus on required functionality. As in the earlier workshop sessions, in these group interviews and workshop sessions, detailed notes were taken by an independent person familiar with the subject area who took no part in the actual discussions

In addition, supplier documentation generally tended to be at a relatively high level, so an examination of supplier software systems on site at various not for profit organisations was undertaken and detailed notes were made by the researcher. Once again, as per the supplier documentation, existing system menu structures were initially ignored in that they were all coded at the base level before the process of axial coding.

These additional interviews and workshops plus the notes from the review of operational systems provided a large number of additional data files that were imported to NVivo and the process of Open Coding and Axial Coding (several iterations) was repeated in each case creating a new version of the taxonomy. However, it is important to note that none of the data was wasted as the strategy and tactics data obtained from senior staff was useful for relating back to the functionality provided by the suppliers in order to satisfy requirements at that level. In point of fact what happened was that all of the data collected fell into three separate but related areas, those of CRM Strategy, CRM requirements/functionality and CRM systems architecture.

Although the objective of this research was to consider NfP CRM requirements or functionality, the results of this research show that this cannot and should not be considered in isolation, as the strategy informs the requirements/functionality which in turn is delivered by the architecture. The main results of the research, namely those related to

NfP CRM requirements/functionality are described in the following chapter, Chapter 4. The subsidiary, but related, areas of NfP CRM strategy and NfP CRM architecture are described in Chapter 5. A final iteration of coding took place during the writing of the two chapters as the process of detailed examination of the raw data and writing about it changed some of the ideas behind the coding primarily because of the emerging relationships between elements of the data. The changes were relatively minor but it proved to be an important final iteration of the coding process.

The final analysis activity of traditional Grounded Theory Method is the Selective Coding stage which arrives at an overall theory. A slightly modified version of this stage was necessitated by the nature of the research undertaken because according to Gregor (2006) the taxonomy can be considered a theory. However, the taxonomy was developed according to GTM by coding and consolidating in a bottom up manner to create a 4 level hierarchy from which an overall definition of NfP CRM was to be developed. This definition can be equated to the overall theory of GTM. Consequently, the Selective Coding stage of GTM consisted of drawing conclusions from the highest level of coding i.e. the top level of the taxonomy, and, examining a number of previously identified definitions of CRM in the light of the data gathered, particularly that on NfP CRM strategy, and their relevance, or otherwise to the NfP sector, was considered. The result of this activity was the development of a single overarching statement of the meaning of NfP CRM.

3.4 Testing, Evaluation and Conclusion

Corbin and Strauss (1990), state that the results of grounded theory must be verifiable and “Evaluation” is **Stage 4** of the design research approach. Accordingly, the requirements taxonomy was tested with an NfP organisation that was looking to replace a number of database systems with a single new CRM system. The taxonomy was used as the basis of their requirements specification. The users were taken through the taxonomy in a structured manner and they removed any items that did not apply to them and added a priority rating to all the remaining items. The result was a requirements specification that they incorporated into an invitation to tender (ITT) that they subsequently sent to packaged system suppliers.

In terms of evaluation, the results of the research were evaluated in two ways: the first being a report by the staff of the aforementioned organisation who used the taxonomy as to the usefulness and effectiveness of the taxonomy, and the second being an evaluation of the taxonomy and supporting documentation by a number of people from both the NfP community and the system supplier community.

Stage 5, the final stage, of the design research approach is “Conclusion”. Conclusions were drawn from the results of the research and from the testing and evaluation, and a number of significant contributions were identified. This is covered in the final chapter of the thesis.

3.5 Summary

This chapter described the research approach of Grounded Theory Method within a Design Research framework and the manner in which the theory was applied. Grounded Theory Method has the major stages of data collection, coding and analysing/theorising. Raw data about the subject under review is collected from a variety of sources all of which may have different viewpoints. The raw data is coded in three phases: Open coding where every significant data item is allocated a category, Axial coding where open codes are consolidated and grouped and Selective coding where a single over-arching theory (or definition in this case) is arrived at.

With regard to the application of the theory, the data was collected by one-to-one interviews, workshops, supplier systems documentation and hands-on usage of a number of software systems. The analysis followed the Grounded Theory Method of Open Coding and Axial Coding. Because of a perceived lack of detailed functional requirements data collected from NfP organisations initially, a further round of interviews and workshops was conducted and the coding process repeated. This time the process of Selective Coding was conducted to arrive at the overall NfP CRM definition. Finally, the taxonomy and its supporting documentation was tested in a real-life environment with an NfP organisation and then evaluated by that organisation and number of NfP professionals who work with CRM on a daily basis.

The next chapter is the main results chapter. It discusses the analysis of the collected data that relates to the functionality that is required from NfP CRM systems and describes the taxonomy that was developed from the data collection and analysis exercise. This resulting taxonomy incorporated both functional and non-functional requirements.

CHAPTER 4: ANALYSIS AND RESULTS – NFP CRM REQUIREMENTS

4.1 Introduction

This chapter describes the results of the research related to the functionality required of an NfP CRM system to manage the relationships with all types of customer. (These customer types are described in Chapter 5). It reflects the views of both NfP organisations themselves and NfP software system suppliers. Some 25 NfP organisations were directly involved in the data gathering exercise to a greater or lesser degree, but in effect some hundreds of NfP organisations have been indirectly involved as the system suppliers all say that their products have been shaped by the requirements of their customers. The data gathered was coded and analysed according to Grounded Theory Method and the resulting codes (or categories) were consolidated into a four-level hierarchy (or taxonomy) with 5 highest-level groups, 17 major groups, 88 sub-groups and 183 sub-sub-groups (see Appendix A for this in tabular form).

In terms of domain analysis as discussed in Chapter 2 and the debate between goals, scenarios and features, this chapter is firmly about features as described by Kang because it relates to “user-visible aspects, qualities or characteristics of a software system or systems” (Kang 1990 cited by Classen et al. 2008, p16). Each line of the taxonomy is a feature and each feature is described in some detail in this chapter.

During the literature review eight high level functional groupings of CRM were identified. These were described in Chapter 2 and are:

- Environment and Administration
- Contact Management
- Marketing
- Sales
- Communications and Channels
- Service
- Reporting and Analytics
- Integration.

These groupings, with some minor modifications, were found to apply equally to the NfP sector but during the coding and analysis phase of GTM, and as a result of a number of iterations of coding and analysis, a number of changes to the structure were made. The first change was to separate out from the Environment and Administration section all those items considered to be non-functional requirements. The next alteration was to separate Communications and Channels into two separate groups as there were significant differences between them and one led into the other rather than them being part of the same functionality. The final alteration was to draw a distinction between Analytics and Analysis and consequently, change Reporting and Analytics into Query, Reporting and Analysis (QRA) and incorporate Analytics within Marketing because sophisticated analytical processing of data is the start of the Marketing process. In addition, five new groupings were identified. These were:

- Fundraising
- Membership Management
- Event Management
- Financial Management
- Beneficiary Services.

Given that general CRM literature as discussed in Chapter 2 almost always starts with just the major groups of Marketing Sales and Service, to which should be added a Non-functional Requirements group and a General group to cover anything else, these 13 groups were re-organised and structured into 5 highest-level groups and 17 major groups as shown in Figure 4.1. The purpose of this restructuring exercise was to end up with a structure that was logical and recognisable to the majority of NfP Organisations and to NfP information system suppliers. This then provides the starting point for discussion of lower level functionality in a manner that everyone can relate to.

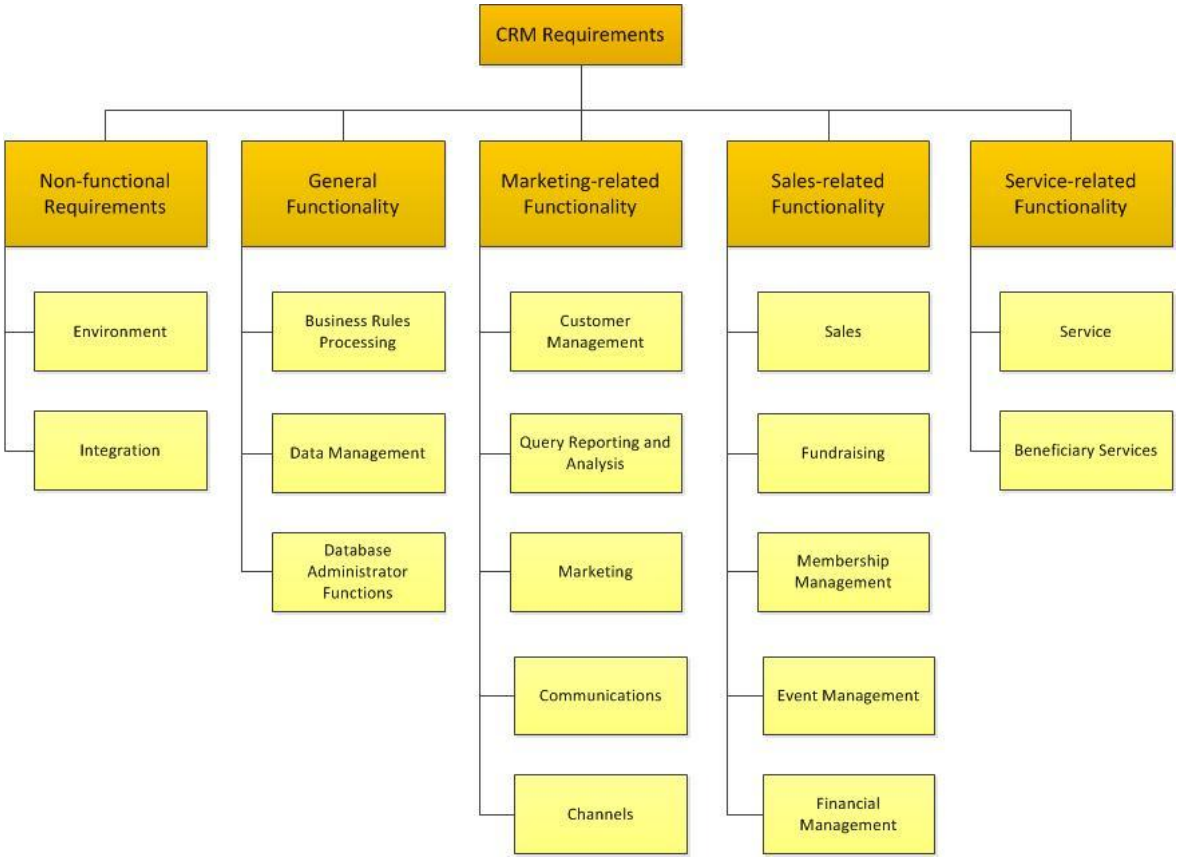

Figure 4.1: First and Second Level Functional Groups

Note that Non-functional Requirements were not originally within the scope of the research but have been included as they formed an integral part of the data that was collected and have been given a highest level grouping of their own (this is explained further in Chapter 6). This is in line with many other authors who have found it difficult to separate functional requirements from non-functional requirements when analysing a domain, for example, Mylopoulos et al. (1999) in their discussion on object-oriented analysis, Chung and Supakkul (2006) in their goal-object pattern approach to capturing and re-using requirements, and Jiang et al. (2007) with their discussion on goal-oriented domain analysis.

Note that in terms of the earlier discussion on domains and sub-domains, Fundraising, Membership, Event Management and Financial Management have been considered to be sub-domains of Sales, and Beneficiary Services was considered to be a sub-domain of Service, as they satisfy the two major constraints for a sub-domain as identified by John et al. (2002) namely that they have “natural boundaries” and have “minimal dependencies on other sub-domains”. Each of these areas serve specific business functions within an NfP organisation, e.g. the raising of funds or the management of membership subscriptions, with

no overlap with other business functions and each have their own unique requirements. Fundraising, Membership and Event Management are different methods of generating income, consequently that are classified under the general heading of Sales. Financial Management is also classified under Sales as it is primarily the processing of income generated by all of the Sales functions and warrants a grouping in its own right as the process within an NfP organisation is far more complex than that required for commercial organisations. Beneficiary Services covers the provision of specific services to the beneficiaries/service users of the organisation over and above the general service functions covered by the Service grouping of commercial CRM. Consequently, the very highest level designations of CRM in terms of Marketing, Sales and Service still apply.

4.2 General Discussion

4.2.1 Functionality Discussions

Discussions held with system suppliers relating to functionality commenced in general terms and quickly turned to an examination of the detailed functionality as exhibited by their respective software products. The discussions held with NfP organisations relating to functionality varied greatly from one organisation to another. In general terms, the larger the organisation the greater amount of detail they wanted to go into. Some small organisations listed less than 50 requirements, most of which were at a high level of abstraction whereas the larger organisations listed many hundreds of requirements which were often very specific. In addition, different organisations discussed different combinations of requirements, for example, some of the NfP organisations do no fundraising, some run no membership schemes, and some manage no grants programmes. In a similar manner, some of the NfP system suppliers specialised in different sub-domains such as fundraising or membership or grant-making. Consequently, these organisations were not interested in the requirements for some of the functional areas under consideration.

In addition, some NfP organisations, particularly the smaller ones, did not see the need for complex information systems in some areas in which they were involved, for example the organisation which runs 4 very small conferences and an annual dinner and was happy to continue to manage them using spreadsheets, and several organisations which manage a

small number, usually less than 10, grants programmes, with simple procedures and were happy to manage them via the financial management systems currently in place.

Many NfP organisation participants commenced discussions with a critique of their current systems. A common theme was the lack of functionality in various areas. These ranged from minor data issues such as the participant who said *"There is nowhere to store the supporter's T-shirt size other than in a notes field and we cannot use notes fields in selection statements"* to issues related to major functional areas such as the participant who said *"We fundraise, we run a membership scheme, we give grants of money to our members and we purchase equipment that we loan out to our members. We want a single system that encompasses all of these things so we have a complete picture of our members in one place"*

Participants were encouraged to discuss their requirements in the sequence with which they were most comfortable and although there was no single overall pattern to the discussions, they tended to start with issues that can be categorised as non-functional requirements or as general systems issues, such as *"It must be a Microsoft based system"* or *"It must be web-based"* or *"It must have facilities for us to add our own data fields"*. The exception to this rule was the manager who said *"I don't care what it is as long as it works".* These issues included the subject of integration where the discussion was always about system boundaries, i.e. what functionality should be expected of the CRM system and what should be provided by other systems? After this integration discussion the participants usually started with *"I want to be able to ….."*. In the vast majority of cases these statements, although quite specific, were about the general ability to query the system in a variety of ways or report from the system in variety of ways. Consequently, the QRA (Query, Reporting and Analysis) grouping was developed and included in the Marketing group.

Participants generally chose to follow the marketing, sales and service sequence although several of the smaller organisations did not differentiate between marketing and sales. These organisations tended to have very simple selection and segmentation processes and were not interested in analytics as defined in this thesis. In fact, one organisation, apart from thank you letters and other ad-hoc letters, sent every mailing to everyone on the database every time with no segmentation at all.

A restructuring of the functional areas within the global headings of Marketing, Sales and Service was carried out as a result of discussions and agreement with participants after the data was analysed and similarities and relationships between functional areas were identified.

In terms of the **Marketing** super-group, the Customer Management, Communications and Channels groups have been added at the same level as the original Marketing group which itself consists of the sub-groups of Analytics, Prospect Research, Campaign Management, Segmentation and Selection, and Customer Journeys. Customer Management is a group that must exist before any marketing, sales or service activity can take place. It covers the areas of name and address management, common data for all customers, specific data for each customer type, relationships (or links between records), activity tracking and action management. There was considerable discussion as to whether the Customer Management group should be a major section in its own right or added to the General Requirements super-group as it contains functions required by all users of the CRM system. However, the final decision was to add it to Marketing as it is required for the start of the marketing process, the nature of the General Requirements section is subtly different in that it contains general functionality such as workflow which is applicable to all other functions of the system, and finally, it keeps the top level simple and consistent as Marketing, Sales and Service. The same arguments apply to the Communications and Channels groups that manage all the communications with the customer including such things as mail merges (paper and email), communication logging and website interaction, so these too were added to the Marketing super-group.

The **Sales** super-group covers the areas of traditional sales order processing and stock control (used by a limited number of NfP organisations), and the specialist income-generation areas of Fundraising, Membership and Event Management, each of which contain their own sub-groups. One other area has been added to this super-group; that of Financial Management. This group which does not exist in commercial CRM has been added to the Sales super-group because following the sales process which within NfP organisations has many different facets, the processing of financial transactions is complex. It requires invoicing (for some items for some organisations), multiple types of income processing, sending of acknowledgements (receipts and/or thank you letters) refunds, reversals, transaction amendments, maintenance of financial history, and sales ledger or even full financial ledgers in some cases.

The **Services** super-group has had the Beneficiary Services group added to it. These are the requirements for managing processes related to the management of various services provided by the organisation to its beneficiaries or service users. The main functional areas within Beneficiary Services are: fund management (tracking where the income is used/expended), grant making (awards of money to beneficiaries), project management and sponsorship (managing programmes of work) and case management (managing support for individuals). Depending on the focus of the different NfP organisations, some use none of these functions, some use one or two and a few use all of the functions.

4.2.2 Using NVivo8

When using NVivo8 for a research project to analyse and code data, the NVivo8 workspace contains 8 separate components (see Figure 4.2).

Figure 4.2: NVivo8 Components

Sources are the data files to be analysed and coded which can be imported to the system or which can be external files with links to them from the system. Nodes are the codes, categories or classifications assigned to the data. Sets are for grouping source files together. Queries are for analysing the data and finding patterns. Models are for drawing very simple relationship structures. Links are to attach notes to source files or nodes. Classifications are used to set up an alternative method of categorising data. Folders

allow the configuration of the system navigation. Note that Sources and Nodes were the main components used in this research.

All files of data (Microsoft Word and document PDFs in this case) were imported to the system as separate sources known in the system as “Internals”. Each source can be opened as a window within the NVivo8 workspace (see Figure 4.3). The final source count was 104.

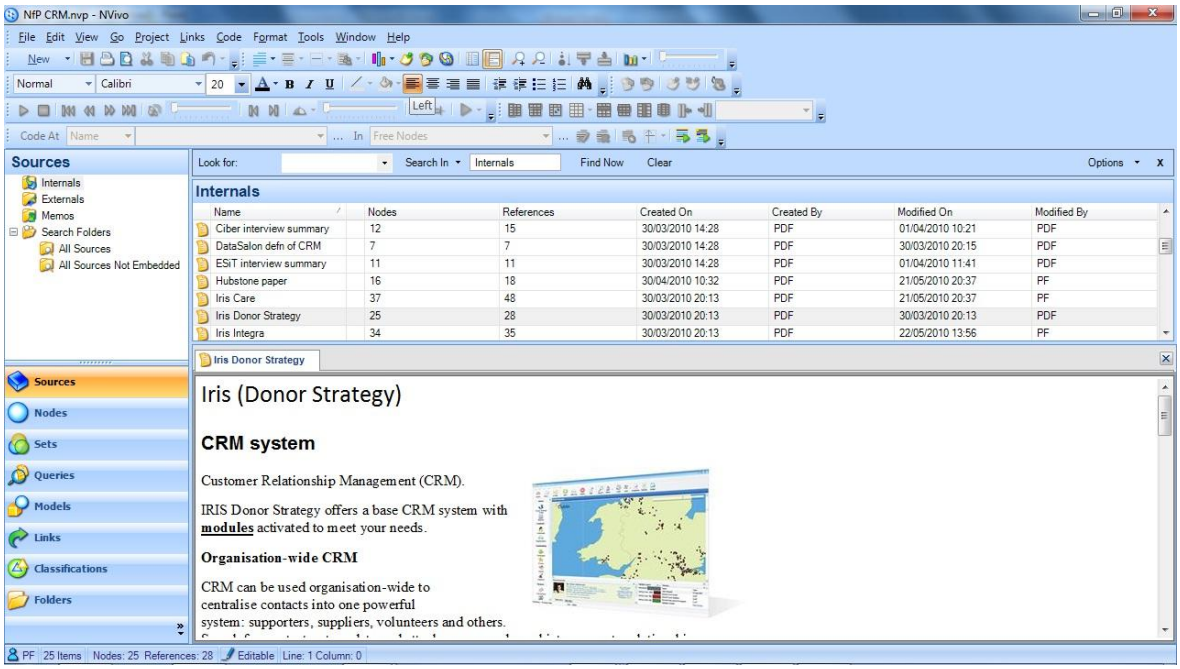

Figure 4.3: Sample NVivo8 Sources

The text of each source file can then be reviewed and each significant word, phrase or sentence can be highlighted and allocated a code (a Free Node in NVivo8 terms). These codes were descriptive words or phrases such as: Security, System security, User permissions, Record ownership, Data encryption, etc. These codes (or free nodes) when analysed and rationalised are then developed into a hierarchy; Tree Nodes in NVivo8 terms (see Figure 4.4). This tree structures looks and operates in a similar manner to Microsoft Windows Explorer, including the ability to open and close any level of the structure. Coding, recoding, structuring and restructuring of Nodes and Tree Nodes is extremely simple with extensive use made of the “drag and drop” facility. The final result of this exercise is the taxonomy as shown in Appendix A. NVivo8 can output the tree node structure as an Excel table with the “Group” function defined so that each level can be

opened and closed in exactly the same way in Excel as in NVivo8. However, a significant amount of reformatting is required in Excel to make the final taxonomy clearly readable as per Appendix A.

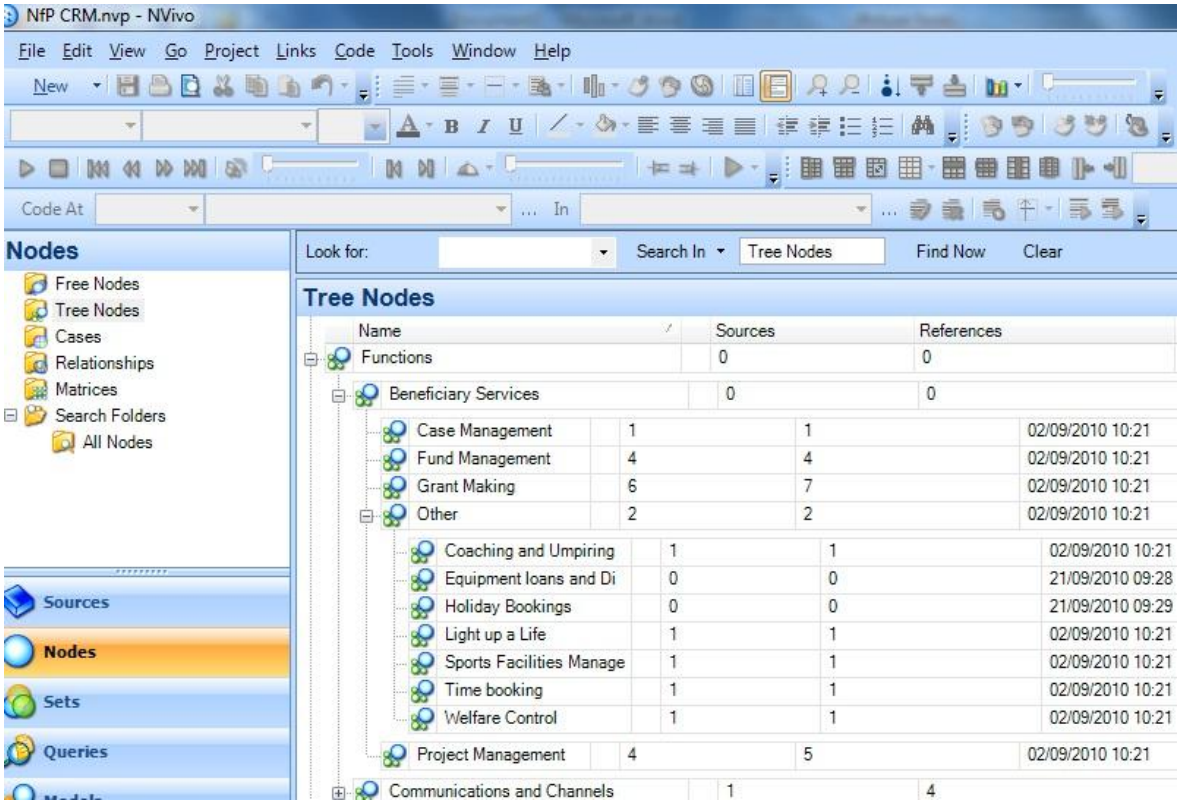

Figure 4.4: Sample NVivo8 Tree Nodes

Each tree node can be opened to show all the references to it and the sources of the references (see figure 4.5) and conversely each source can be opened to show the words, phrases and sentences that have been coded (they are highlighted) and the codes that have been allocated to them (see Figure 4.6).

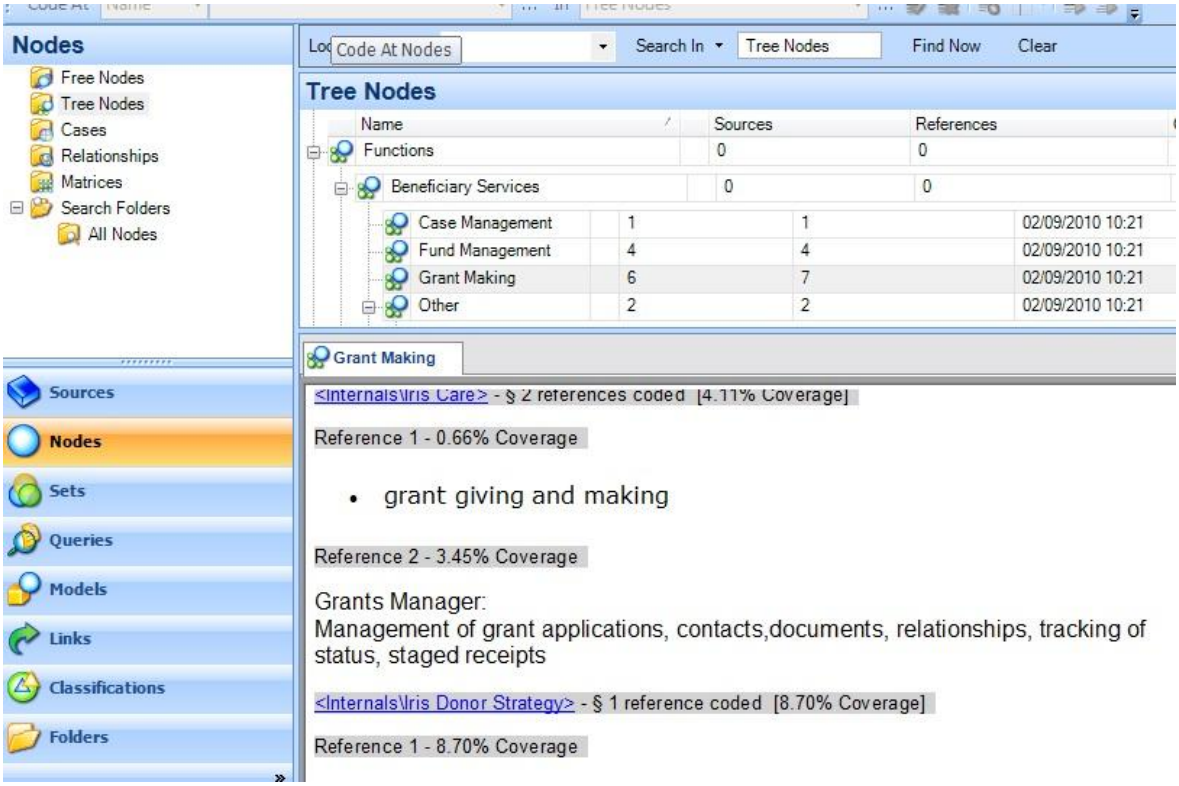

Figure 4.5: Sample NVivo8 Tree Node References

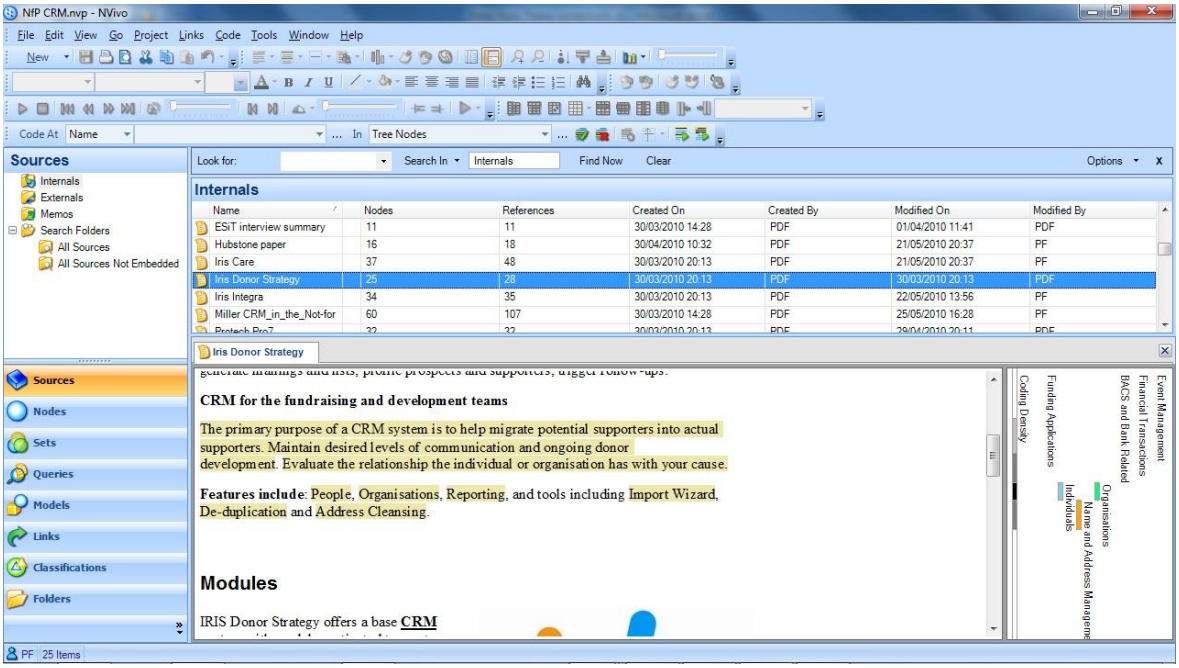

Figure 4.6: Sample NVivo8 Source Coding

Most of the workshop sessions were free-flowing with a pre-determined theme. In many of the interview sessions a number of specific questions were posed. Table 4.1 shows a sample of part of an interview session with the questions, the responses and the codes allocated to the responses.

Question	Response	Codes (NVivo8 Free Nodes)
Who do you see as your major customer groups?	Members	Members
	Volunteers	Volunteers
	Trustees (some of whom are not members)	Trustees
	Corporate subscribers	Corporate subscribers
	Politicians	Politicians
	Journalists	Media
	Event managers e.g. catering	Staff
	Suppliers	Suppliers
	Associates e.g. individual members who have retired	Members
	General Public	?
What do you see as the major functional areas of a CRM system for your organisation?	Relationship trees and history	Customer Relationships
	Direction of views e.g. from corporate, from individual	Customer Relationships
	Events	Event Management
	Membership	Membership Management
	Publication Sales	Subscriptions
	Communication records e.g. phone, email, etc.	Communication Logging
	Mailing e.g. to groups	Mail
	Benchmarking data e.g. for organisation size of organisation, turnover, who uses whom??? For individuals qualifications, years in sector	Performance Measurement

Table 4.1: Sample Code Allocation

The following sections present a summary of the discussions and data in the areas described in Figure 4.1, and as analysed and structured using NVivo8. The discussion and data summaries follow the sequence of: non-functional requirements, general requirements, marketing-related requirements, sales-related requirements and service-related requirements.

4.3 Non-functional Requirements

This section consists of two groups of requirements that refer to the characteristics of the system rather than to the functions that it performs. These characteristics need to be identified in conjunction with the functions. The groups are structured as shown in Table 4.2.

Environment	
	Technical issues
	Configuration and Customisation
	Security
	Audit Trail
	Compliance
	Documentation/Help
Integration	
	Other Types of CRM
	Standard Systems
	Optional Systems

Table 4.2: Non-functional requirements functional groups

4.3.1 Environment

This group documents the technical environment of the CRM system. Sub-groups identified under this heading were: Technical Issues, Configuration and Customisation, Security, Audit Trail, Compliance (with legal requirements), and Documentation/Help.

Technical Issues

The technical issues of interest to NfP organisations are: the operating environment, database technology, method of deployment, hosting and support for specialist devices.

Operating environment – this specifies the server and workstation operating system under which the CRM system will operate. Most NfP organisations are completely Microsoft based, but a very few are system agnostic.

Database – most NfP organisations are database agnostic as one participant observed *"I don't care what it is as long as it works"*, whereas some express a preference for Microsoft technology (usually SQL Server as Access is seen as too lightweight in terms of the number of users that it can effectively support for the majority of organisations), and a very small number express a preference for Open Source technology.

Deployment – this covers the issues of thick client versus thin client versus smart client. The decision usually revolves around the question of remote access. If there are few remote users then a thick client system is often preferred, whereas, if there are remote offices each containing several staff then a thin client or smart client system is preferred. There appears to be a steadily increasing move towards organisations demanding a fully web-enabled system such that every single function is available via a web browser.

Hosting – this is a method of deployment and assumes that the system is fully web-enabled but the key factor here is a point of principle for the organisation as to whether they want the system hosted externally at a data centre or running on a server in their own office. Many organisations are reluctant to allow their data, which is a key asset of their organisation, to leave their premises, primarily for security reasons, but also for availability reasons as a hosted system would be unavailable if the organisation's internet link failed for any reason.

Specialist Devices – the system must support a direct interface with devices such as barcode readers, scanners and specialist label printers.

Configuration and Customisation

When a CRM system is first deployed it is rarely deployed in its standard form ('out of the box'). Organisations normally require the system to look the way they want it to look and to operate in a way that suits their business processes in the best manner. This configuration and customisation needs to be carried out in such a way so as to not compromise future upgrades to the standard system. In addition to the original deployment, the facilities need to be available during the lifetime of the system as business needs change over time. The requirements here come into seven categories: the handling multiple organisations in a

single database, the user interface, data validation, initial data values, maintenance of system tables, additional data items, and system extensions.

Multiple Organisations – some organisations manage the CRM functions for other organisations as well as their own. The traditional method of meeting this need is to have multiple copies of the system; one for each organisation. The more sophisticated systems will have functionality to handle multiple organisations within a single database. This demands facilities to keep the data separate and be able to extract and remove a single organisation's data if required.

User Interface – a major requirement is to have a screen designer so that the organisation, or its individual departments, can see only the data fields they want to see on each screen i.e. standard fields within the system that are not required are hidden and they can see the required data fields grouped on screens as they prefer them to be grouped.

Data validation – this identifies mandatory fields, standard individual field validation, inter-field validation and consistency checking.

Initial Data Values – this entails being able to define default values for data fields when new records are added and being able to define which data fields are mandatory.

System Tables – the values in all of the drop-down lists within the system must be under user control (with a suitable level of security, see the later section on Security).

Additional Data – the system should allow the user to add new data fields, and even entire new data tables, linked to existing data tables, at any time in the life of the system. This data must be available for inclusion on user-defined screens and for querying and reporting.

System Extensions – some systems allow the user to add their own complete sub-systems to the main system, but this is not a common requirement.

Security

Security within a CRM system goes far beyond the simple User Id and Password to log on to the system. It encompasses general system controls, a complex user permissions matrix, ownership of customer records and data encryption.

System Security – this is the general security of the system in terms of such things as: user access, system controls (undo functions, confirming entries, batch controls, etc.) completeness, data integrity and backups.

User Permissions – individual users, or groups of users, can have access restricted at a number of levels. These range from the basic ability of viewing only, adding new records and updating existing records, up to the ability to access, or not, complete menus, screens, parts of screens or individual data fields on screens. A typical example of the last point is hiding celebrity addresses from all but a small number of staff.

Record Ownership – some organisations require an extension of the user permissions from what is ostensibly a function based level as defined above, to defining which customer records an individual user, or group of users, can view, add or amend. This could be the case where a Care department don't want other departments to know who their clients are in order to safeguard them from inappropriate or unwanted communications and certainly want to restrict access to sensitive and confidential data.

Data Encryption – additional safeguards on important data such as passwords, credit card and bank details is desirable and encryption of these details gives users and customers a sense of security.

Audit Trail

There are three aspects to the audit trail within the system: the first is a financial audit trail, the second is a data change audit trail and the third is the user actions audit trail.

Financial Audit Trail – this is the ability to follow every financial transaction from its point of entry to the system right through to its input into the financial accounting system and back the other way.

Data Audit Trail (or audit logging) – this is capturing the date, time and user id of, not just the entry of all new records, but also of every change made to every record (and the before and after images of the data field or fields).

User Actions Audit Trail – this capturing the date time and user id not just of record changes but what other actions the user carried out e.g. selections they ran or reports they produced.

Compliance

There are various legal requirements and codes of conduct that have to (or should) be complied with which have ramifications for information systems. The most notable of these is the Data Protection Act. Others include: Privacy and Electronic Communications Regulations, Credit Card Regulations, the Institute of Fundraising's Codes of Practice, Charity Commission Regulations and the Direct Marketing Association's DM Code of Practice.

Documentation/Help

This identifies the manuals, help text and tutorials that the user expects to receive with the operational system.

4.3.2 Integration

This group of categories covers functionality that is not always provided directly by the CRM system itself but with which the CRM requires links. It represents functionality that is required by CRM but where specialist software already exists, so integration with these systems is usually (but not always) preferred to redeveloping the facilities within the CRM system. There are three types or levels of integration. These are Integration between the main database (the Operational CRM system) and:

a) Other types of CRM - Websites (a subset of Collaborative CRM) and analysis and marketing systems (Analytical CRM);
b) Standard Systems – systems in common usage that could be considered "standard". These are systems for information systems areas that can be considered as well-defined domains in their own right (or as sub-domains of CRM). Examples are: office systems (e.g. Microsoft Office), addressing software, banking/card payment systems;
c) Optional Systems – systems for areas that can be considered as well-defined domains in their own right (or as sub-domains of CRM) but which many NfP organisations (particularly the smaller and medium sized organisations) often do not require at all or for which they require a lesser level of functionality than the larger organisations. In these instances the larger organisations will require integration with these systems and the small or medium sized organisations will be satisfied with simplistic facilities developed by CRM system suppliers.

Other Types of CRM

Websites – Integration of the CRM system with the organisation's website is of vital importance to every NfP organisation in order to allow customers to carry out a variety of functions such as: make donations, renew their membership, buy products or book places on events; on the web (see later section on Channels for a full list). This integration can be of three different types:

- Provision of fixed format web forms that can be accessed by simple links on the existing website. These web forms are implemented utilising the organisation's website style sheets in order to give the appearance of being an integral part of the website;
- Provision of web tools so that the organisation can design their own web forms that can be linked to from their existing website, again utilising the organisation's style sheets;
- Incorporation within the system of a complete CMS (Content Management System) such that the organisation can not only design their own web forms related to the database but can create a complete website that incorporates the forms.

A small number of NfP CRM system suppliers provide a single database that feeds data to and accepts data from the website directly. The majority of suppliers prefer a less direct approach where they have a web database which is separate from the main organisational database. These two databases then exchange/synchronise data at regular intervals or as and when requested. Some NfP organisations require the facility to check and approve (or not) the data coming from the website before allowing it to update the main database. This is commonly called a 'gatekeeper' function. The example that is often quoted is so that they can stop someone on the web changing their name to Mickey Mouse and changing their address to Disneyland, although no-one who took part in this research has ever had this happen!

Analysis/Marketing – All CRM systems will contain some degree of data analysis and campaign management functionality, but many organisations, particularly the larger ones, require a high degree of sophistication and functionality that is the domain of specialist systems. An example would be when they require such facilities as data mining and predictive modelling.

Standard Systems

Office Software (usually Microsoft Office) – Integration with MS Word for producing ad-hoc and mail-merged letters, MS Excel for reports, graphs and further data analysis, and Outlook for sending and receiving emails, plus management of tasks and calendars, is essential. In theory, this could be integration with any office suite e.g. open source alternatives, but all NfP organisations who took part in this exercise, use Microsoft products.

Bulk Email – Microsoft Outlook is considered by many NfP organisations to be lacking in feedback features and inadequate in performance for large numbers of emails, so integration with other third party email management systems is preferred for bulk emailings of several thousand and more.

Address Management – Specialist software exists to manage addresses such as: by providing a house number and a postcode and the system returns the full address, determining which political constituency or NHS district an address is in and many, many more facilities, so the CRM system is required to integrate with this software. The companies providing this software supply regular updates so the data is accurate when entered and kept accurate during its lifetime in the CRM system.

Geographic Mapping – Linking to mapping software allows organisations to see visually on a map exactly where their customers are located. From there they can target their marketing campaigns geographically.

Telephony (CTI – Computer Telephony Integration) – Some organisations have linked, or wish to link, their CRM system to their telephone system. This allows users to click on a link and have the system dial the number (auto-dial) and have the system display the caller's CRM record immediately when they telephone the organisation (screen popping).

EPOS (Electronic Point of Sale) – These are specialised systems for managing traditional sales transactions from shops, which are usually based on electronic tills.

Banking and Credit Card Systems – Specialist software exists for organisations to find bank addresses from bank sort codes, check the validity of bank account numbers, perform credit card authorisations, send data to and receive data from, banks, etc.

Financial Accounting – A very small number of NfP CRM systems (one in our sample of 16 systems) provide a full set of financial ledgers (Sales, Purchase and Nominal) within their system, whereas almost all NfP organisations use one of the many industry standard financial accounting systems such as Sage, Sun, Microsoft Great Plains and Access Accounts. Consequently, the CRM system is required to transfer details of income (in detail or summary form) to these systems. There are a few variations, for example, where the CRM database takes the place of the Sales Ledger, or where Purchase ledger information is fed back into the CRM system to allow for return on investment (ROI) calculations to be performed for marketing campaigns.

Report Writing – Although all CRM systems will have a set of pre-programmed standard reports, system users will always require additional reports, the need for which can arise at any time in the lifetime of the system. Consequently, facilities are required to build these reports from scratch and also be able to modify existing standard reports.

Optional Systems

Sales Order Processing – Selling and invoicing products and services.

Stock Control – Systems to ensure that stock of products is always available.

Sales Ledger – Managing the invoices and payments received.

Legacy Administration – Legacy administration exists as a major area within the Fundraising grouping under the major heading of Sales-related functionality. However, there is a specialist legacy administration in existence which is considered to be ‘best of breed’ by many legacy managers. Consequently, some organisations wish to use it and therefore a level of integration between it and the main CRM system is required.

Media Systems – Similar to legacy administration, there are a number of specialist systems that maintain an up to date database of media organisations (newspapers, magazines, radio, and television) and people within those organisations. Consequently, some organisations also wish to use one of these systems and have some level of integration with the main CRM database.

Raffle Management – Monitoring ticket sellers, ticket distribution and winners.

Lottery Management – Monitoring players, collectors, rounds, payments, selecting winners and printing cheques.

Event/Conference Management – Managing all aspects of setting up and running events of all types.

Survey Software – Defining, distributing, collecting results, and analysing results of; surveys.

Call Centre Management – Information and Helpline management including call monitoring and outcome recording.

Case Management – Managing all aspects of support for beneficiaries including document management, calendar functions, professional links and progress.

Grant Making – Maintaining grant programmes, tracking applications for grants and making payments once grants have been awarded.

Project Management – Monitoring project dates, activities, resources, costs and progress.

Volunteer Management – Monitoring skills, training, availability, activities and payments to volunteers.

Other systems – Some CRM systems allow links and data exchanges with other less often required specialist systems that are based on customers in the broadest sense, i.e. based on names and addresses. Examples of such systems are: ticketing, patient tracking and subscriptions. There is another type of system requiring integration and these are specialist systems for the disabled such as screen readers.

4.4 General Functionality

This section covers general functionality that applies to the CRM system as a whole and/or which does not come under the heading of marketing, sales or service. The groups are structured as shown in Table 4.3.

Business Rules Processing	
	Simple Rules
	Wizards
	Workflow
Data Management	
	Document Management
	Global Updates
	Data Cleansing
	Import and Export
	Deleting/Archiving

Table 4.3: General functionality functional groups

4.4.1 Business Rules Processing

The objective of this functionality group is to align software system processes with business processes and automate them as far as possible. There are three sub-groups in this category: simple rules processing, wizards and full workflow processing.

Simple Rules

These are straightforward rules of the type; if field A is not blank then field B must be not blank also, or data entered with a future effective date such as an address where on the effective date the system marks the current address as a previous address and puts the new address in the current address field.

Wizards

These can be used to lead the user through a complex, but single, process, in a structured manner. A common example is setting up a new customer record where data is required to be entered on several screens.

Workflow Processing

This is an extension of wizards where a sequence of tasks is set up, including multiple streams with decision points. Some of these tasks will be automated and some will depend on user action. The tasks do not have to be, and are usually not, all carried out by the same user and do not have to be, and again are usually not, all carried out on the same day. Each

user receives an automated notification of their next task to be carried out when it is due. A typical example would be a grant application that has to be reviewed internally then sent to referees, then put to a decision-making panel, the result communicated to the applicant and a schedule of payments initiated if it is successful.

4.4.2 Data Management

This covers the general processing of the following data issues: management of documents, bulk or global updating of data, cleaning data, import and export of data and deleting or archiving of data.

Document Management

Document management covers everything from scanning documents and linking them to customer records e.g. membership applications, to the retrieval of all documents of specified type e.g. gift aid declarations, to the storage of general documents e.g. project descriptions, to the generation of web pages tailored from these documents depending on the customer's interests, and to the destruction of documents after a given length of time.

Global Updates

This is the bulk updating of records according to specified criteria e.g. increase all fees for membership type A by 5 percent and all fees for membership type B by 8 percent, or change all relevant phone numbers when a phone number prefix changes.

Data Cleansing

This section is about the quality of data in the system and processes to keep it as accurate as possible. Areas covered are: data validation and auditing, data de-duplication and record merging.

Data Validation and Auditing – validation is the checking of data for accuracy as it is entered into the system by comparing against system tables or checking that it is within specified parameters. Auditing is a batch function run at any time that does the same type of validation, often with different parameters and including consistency checks between different fields. For example, checking that post codes are correct or that a person applying for student membership is under a certain age. The auditing function should first of all

produce a report on the results and ask the user whether they wish to proceed with the cleaning of the data.

De-duplication (often referred to as 'de-dupe') – duplicate records are a common problem within NfP CRM systems and a function is required to scan the database to identify possible duplicate records. The parameters for de-duplication should be under user control, as should be the decision as to whether to delete or merge duplicate records.

Record Merging (often referred to as 'merge-purge') – This is a complex task because if two records are found to be the same customer, there could be personal, transactional and communication data on both that have to be consolidated and decisions required on data that is inconsistent between the two records.

Import and Export

The ability to import data into the CRM system from other sources and to export data from the CRM system for use in other systems is of vital importance to NfP organisations. The major reason for this is the fact that NfP organisations often utilise the services of third party agencies and fulfilment houses for some functions, e.g. large-scale capturing of donations or outbound telephone campaigns. Most of these third party organisations will have their own information systems with which some level of integration is required. In the vast majority of cases the integration is carried out by the export of data, e.g. a complete file of names and addresses, to the third party, and an import of data captured by the third party.

Import – any and all data in the system must be capable of being imported. There are a number of aspects to importing data. These include: an initial data load when first deploying the system, importing files of names and addresses received from various sources, importing files of financial transactions from fulfilment agencies and importing files of communication records from specialist agencies like those who undertake telephone fundraising on behalf of charities, and importing any data to update existing records e.g. the results of external demographic profiling. Business functions such as duplicate checking and individual field and inter-field consistency checking are essential during data import.

Export – as with import, any and all data (including linked documents) must be capable of being exported. This particularly includes files of selected names and addresses for sending to a mailing company or to a profiling company, files of names, telephone numbers and other relevant data for sending to a telephone agency e.g. lapsed members in an attempt to get

them to renew their membership, transactional and other relevant data for uploading to an analysis or marketing system, and the complete database in the event of a change of system.

Reciprocal Processing (and Rented Lists) – organisations sometimes swap a number of their customers with another organisation or they rent a list of names and addresses (or phone numbers or email addresses). In each case the rules of the arrangement are that the reciprocal or rented customers can be communicated with a specified number of times in a specified period of time. If they respond, they can be added to the organisation's database. If they don't respond then they have to be removed completely from the organisation's system.

Deleting/Archiving

This is the deletion of customer records (or parts of records) on a permanent or temporary basis, and the retrieval of this data if required.

4.4.3 Database Administrator Functions

Facilities are required to provide one or more persons with full control over the set up, amendment and deletion of user ids, passwords, system tables (look-up values), wizards, workflows, job scheduling and in many instances: record deletion, global data updates, data imports and data exports.

4.5 Marketing-related Functionality

These are the functional groups that relate to the marketing of the organisation's products and services. The major groups are Customer Management, Query Reporting and Analysis, Marketing, Communications and Channels. The groups are structured as shown in Table 4.4.

Customer Management	
	Types of Customers
	Name and Address Management
	Common Data
	Unique Data
	Marketing Data
	Prospective Support
	Individuals
	Media Management
	Special Customer Relationships
	Volunteer Management
	Organisations
	Other Customer Groups
	Customer Relationships
	Customer Maintenance
	Activity and Communication Tracking
	Action Management
	Action Pledges
	Non-Monetary Support
Query Reporting and Analysis	
	Query
	Reporting
	Analysis
Marketing	
	Planning Budgeting and Forecasting
	Prospect Research
	Analytics and Data Mining
	Campaign Management
	Selection and Segmentation
	Customer Journeys
Communications	
	Simple Mail Merge
	Complex Mail Merge
	Conditional Processing
	Communication Logging
Channels	
	Traditional Channels
	Website

Table 4.4: Marketing-related functional groups

4.5.1 Customer Management

This is the first group of categories that is directly related to customers. There was some debate as to whether it should appear under the Marketing super group or under the General super group but the eventual decision was to include it under Marketing. This group is the cornerstone of CRM because it contains all of the functionality that must exist before the traditional elements of marketing, sales and service can be carried out. The major categories in this group are: Types of Customers, Name and Address Management, Common Data, Unique Data, Marketing Data, Prospective Support, Individuals, Media Management, Special Customer Relationships, Volunteer Management, Organisations, Other Customer Groups, Customer Relationships, Activity and Communication Tracking, Action Management, Action Pledges and Non-monetary Support.

Types of Customer

This first section is Types of Customer which simply lists all the possible types of customer with which the organisation may have a relationship i.e. the 42 different types of customers listed in the section entitled "Who is the Customer?" in Chapter 5. It serves solely as a checklist for each organisation to determine the boundaries of their CRM system.

Name and Address Management

The initial entry and later maintenance of name and address data is the starting point for CRM. Names of individuals need to be structured with Titles and Honours and Qualifications verified. Names of organisations need to be captured along with their common abbreviations in order to make searching for them easier. In addition, one or more named contacts, and their position/job title should be maintained for each organisation entered on the database. Addresses need to be validated, preferably using specialist addressing software and kept up to date when postcodes change. Facilities must exist to allow multiple customers at the same address and multiple addresses for each customer, with an indication of what they are/why they are used e.g. current address and previous address. Each address should have an associated date range to indicate when it is relevant. Where the NfP organisation has structured itself geographically into Branches and/or Areas and/or Regions, then this Branch/Area/Region should be defaulted from the postcode. The concept of an address should be extended to capture and maintain; multiple if necessary, telephone numbers and email addresses plus web addresses for organisations. Systems should allow for the creation and maintenance of customer records with no mailing address, but with one or more

email addresses or telephone numbers as some customers may prefer to have email or telephone contact only.

Common Data

A large number of data items common to every type of customer record need to be maintained. The most important of these are the communication indicators which signify which types of communications the customer wishes to receive, by which method and when. These indicators can range from simple Yes/No flags such as No Mail, No Telephone calls, Christmas catalogue only, etc, to complex three dimensional matrices of communication type, method and timing. Each indicator should have a start date, an end date and a source code to indicate when and why it was set. Other common data to be maintained includes any number of customer categories or profile codes, interests, types of support provided, notes and bank account details.

With regard to the management of notes, all CRM systems have the ability to add general notes to customer records but there are some special requirements. These include: important notes that 'pop up' like a post-it note as the record is accessed, date, time and user id stamping of all notes and structured notes so that they can be categorised.

Unique Data

There are data items unique to almost every type of customer, that have to be maintained. Some examples are: classes, years and qualifications obtained for alumni, political party, specific interests and voting patterns for politicians, SIC (Standard Industry Classification), turnover and number of employees for companies, giving policy and meeting dates for trusts, etc.

Marketing Data

These data items are transaction summary information for each customer: such as income and expenditure to-date, average income value, etc. plus demographics such as age group, social demographic group, counties, constituencies, regions, LEAs (Local Education Authorities), etc.

Individuals

This is the maintenance of all general data related to individuals of all types. It includes such things as name (and its various elements), salutation, National Insurance Number, data of birth, gender, interests and a host of other personal items.

Media management

There are two aspects to this: customers who are usually beneficiaries of the organisation who speak to the press about the organisation and the media people themselves. In the first case it often involves maintaining case studies related to the beneficiary and in both cases it involves security procedures so that only specified people within the organisation communicate with these people.

Special customer relationships

This is normally related to people such as VIPs or celebrities or major (high value) donors who support the organisation. Security procedures as per the media apply but also procedures to ensure they get special treatment and are never sent 'standard' communications. For example, if they send a donation of any amount, or renew their membership, they do not get a standard receipt or thank you letter but they get a personal communication from their designated contact within the organisation.

Volunteer management

This can be a complex area of, not just maintaining unique data items such as: skills, training courses attended and availability, but also, job and time recording, and expenses management and payment.

Organisations

This designation can cover companies, grant giving trusts, statutory bodies (e.g. National Lottery, Local Authorities, etc.), Lions and Rotary Clubs, etc. The major functional requirement over and above, name and address management, common data and unique data revolves around the maintenance of multiple contacts at the organisation and the circumstances under which each contact is communicated with. These organisations can be formed into hierarchies, e.g. a company with many offices/branches. There is also the complication that the contact of the organisation can be a customer in their own right with their own addresses, telephone numbers and email addresses.

Other Customer Groups

There are a number of other groupings of customers that need to be considered and for which there are a number of functional areas over and above those of name and address management, common data and unique data. These groupings include: joint or family customers, committees, special interest groups, support groups and regions.

Joint or family customers – facilities are required to manage single, joint and family communications with appropriate salutations, e.g. one mailing per family, and to be able to record and view activities for each individual or the group.

Committees – committee management functions include: maintaining records of positions and dates held, communicating with the committee as a group, managing committee meetings and diaries, recording minutes, managing and recording ballots.

Special interest groups – similar functions to the committees plus the ability to access a special subset of the website which contains items relating to the interest.

Support groups – again similar functions to the committees plus the ability for the members of the group to share information regarding their group's activities.

Regions – similar functions to the committees if the region (or a complete hierarchy of geographic breakdowns) has post holders such chairman, secretary, etc, plus the ability to manage and report on income and expenditure at the regional level.

Customer Relationships

This is maintaining records of the links between customers of all types. For example, companies and their subsidiaries, companies and their individual contacts, links between people such as family relationships and who knows whom. These links can form a hierarchy with many levels which is best displayed as a tree structure in a form similar to Microsoft Windows Explorer. A six level hierarchy is quite common. It is essential to be able to move freely around the hierarchy and jump to any record in the hierarchy and return to the hierarchy. Additional functionality is usually required to maintain a history of past relationships e.g. to chart an individual's career movements.

Activity and Communication Tracking

This consists of logging every communication with and activity undertaken by or in relation to; the customer. Typical examples are records of every communication sent to the customer (with a link to the Word letter or the actual email; or to their templates if it was a standard communication) when it was sent and what it was about, records of every communication from the customer (including storage and links to scanned incoming letters, emails in, etc), records of all telephone calls, meetings, event attendances, other activities the customer has

undertaken, promises the customer has made, etc. These, along with financial transactions which are usually held separately, provide a full history of the customer's relationship with the organisation and can be analysed to help predict the customer's future behaviour.

Action Management

Actions are activities as defined above, but which will be carried out in the future. These actions are often recorded along with the past activities, so that ALL activities, past and future, can be viewed together. Action management provides the facility to record future actions that should be undertaken and a system of reminders to the user when the actions are due e.g. write to the customer next week reminding him about X or a reminder for six months time to start preparing the submission for a grant from trust Y. Typically the reminders for actions due each day should appear automatically on the due date when the user first logs on to the system that day, although the reminder list can be viewed at any time.

Action Pledges

This is the ability to record the fact that customers are willing to do something for the organisation, e.g. speak to the press. It also includes the ability to store and recall 'case studies' for marketing purposes.

Non-Monetary Support

This is the ability to capture the ways people support the organisation which are not transactional, e.g. they take clothes to the organisation's charity shops or they sponsor friends to do things for the organisation.

4.5.2 Query, Reporting and Analysis

This section covers searching for individual customer records, regular and ad-hoc reporting and simple data analysis (as opposed to analytics which is described under Marketing).

Query

Search Facilities – Search or query functions are of four types:

1. Simple; with a small number of data fields that can be used to find customer records
2. Query by example; where any number of fields from the entire database can be used to find customer records. These fields can also be searched for the absence of data
3. Query builder; where complex Boolean expressions can be constructed
4. 'Google search'; where quasi English language expressions can be entered and records returned in the sequence of those most likely to fit the criteria.

Each of the first three above can be with or without; fuzzy/sounds like searching.

Search responses – there is usually a standard set of data about the customer that every user wants to see when they retrieve a record (name, address, communication preferences, etc.), but equally there are different sets of data that users with different job responsibilities wish to see on the first screen returned by the system. For example, a Trust fundraiser wishes to see details of the latest funding proposal put to the customer whereas the Membership manager wants to see the status of the customer's membership (and one is not interested in the other).

Reporting

The subjects in this group are list management, standard reports, parameterised reports and report writing facilities.

List Management – this is a simple list generator, usually to produce just names and a limited set of fields such as the address or the telephone number, with the ability to merge lists, export lists and input the list to a process that will carry out any number of set functions e.g. set the Do not telephone communication indicator for every record on the list.

Standard Reports – every CRM system comes with a set of standard reports and every NfP organisation expects the system to have a number of standard 'out-of-the-box' reports that cover everyday reporting and monitoring needs. There is no generally agreed 'standard set' but with a little effort one could be developed.

Parameterised Reports – the same report often needs to be run but with different selection criteria. For example, it could be for a different date range or for a different class of customer. Thus the need for run-time parameter driven standard reports.

Report Writer – although most systems are delivered with a set of standard reports, every organisation will have its own reporting requirements which will change over time. Consequently, a report writing tool is an essential element of the CRM system. This means a fully featured flexible report writer that can access every data field in every table in the database (and run-time calculated fields) and report it in any way required.

Analysis

Performance Measurement – A number of real-time monitoring reports that measure response rates and return on investment (ROI) are essential to know at any point in time how a campaign is performing. Also required is the ability to compare current campaigns with similar campaigns from previous years. In addition, 'dashboards' are becoming popular as a way of instantly viewing key performance indicators (KPIs) in a graphical form. These KPIs will vary from organisation to organisation and from department to department. A fundraising or membership department might want to measure donor or member attrition whereas a service delivery department might want to measure the number of new beneficiaries assisted.

Pareto Analysis – this is the 80:20 rule which says that 80 percent of an organisation's income comes from 20 percent of the customers (the same holds true in the NfP sector although sometimes the figures can be as high as 95:5). This is common in fundraising charities but less useful in other NfP organisations.

RFV (Recency/Frequency/Value) Analysis (sometimes known as RFM; Recency/Frequency/Monetary Value) – this analysis method which is also common in charities, is a 3D matrix of; the time since the customer last gave money, how many times they have given and how much they have given.

Further Analysis – other common analysis requirements are, drill-down from individual or groups of Pareto or RFV segments, calculation of lifetime value, and predicted cash flow reporting.

4.5.3 Marketing

The major marketing functions are seen as Planning Budgeting and Forecasting, Prospect Research, Analytics and Data Mining, Campaign Management, Segmentation and Selection, and Customer Journeys. In this thesis a difference is defined between Analysis and Analytics. Analysis is defined as the reporting of figures using simple mathematical operators and formulae such as: sums, averages and budget versus actual variance as described in more detail in the previous section under Query, Reporting and Analysis. Analytics, on the other hand, is defined as the gaining of insight into given data by means of complex analysis and pattern identification utilising modelling, forecasting and 'What if?' techniques in order to assist in decision making.

Planning Budgeting and Forecasting

These functions which are often carried out within a Financial Management system include: creating income and expenditure budgets against departments and costs centres (e.g. Fundraising department and within that Direct Marketing, Trust Fundraising, Corporate fundraising etc. or Membership department and within that Standard memberships, Special memberships, subscriptions, etc.), budget update and approval process, and monthly re-forecasting.

Prospect Research

In charities the objective of prospect research is usually to identify potential givers of large gifts (although in truth, it could be to identify potential givers of any value of gift or even potential givers of time i.e. volunteers). One method is to analyse the demographics of customers currently on the database, searching for example, for specific titles, specific postcodes or specific words in an address. In membership organisations the objective is to identify potential new members. This could entail for example, targeting companies in a specific business area or people with specific job titles.

Analytics and Data Mining

This is the area referred to by many authors as Analytical CRM. However, it is included here as a fundamental element of Marketing, rather than as a major group in its own right, as its results are always used to inform future marketing campaigns. Huge amounts of data, both transactional and demographic, can be extracted from the CRM database into a data warehouse (or more accurately, a data mart, as there is only one major source of data; the CRM system). Numerous analytical techniques and data mining tools can then

be applied to the data such as: analysis of variance, regression analysis and Chi-squared analysis to arrive at suggestions for marketing campaigns. This analysis can be used to group customers together and to identify trends.

Campaign Management

Once the analytics and the research have identified groups of customers to be targeted, campaigns can be constructed. Campaign management consists primarily of two categories: campaign set-up and campaign monitoring.

Campaign set-up – marketing campaigns are usually constructed as a multi-level hierarchy, three levels often called Campaign, Appeal and Segment are common but campaigns can be developed with any number of levels. Campaigns with 50 groupings of customers at the lowest level of the hierarchy are not uncommon. Data associated with any and every level of the campaign structure includes income and expenditure targets (or budgets), actual income and expenditure realised, and even the allocation of resources for the campaign i.e. who is doing what. A diary feature related to the campaign is often included as the set-up of every marketing campaign involves many tasks over a period of time and many people including outside agencies e.g. designers and printers of marketing material.

Campaign monitoring – once the campaign has commenced, for example after a mailing or emailing has gone out, real-time monitoring of responses becomes important. At a high level this is tracking the total income and expenditure against the targets, and at a lower level it is tracking any number of key performance indicators e.g. number of responses and response rates (percentages), number of new donors or members, average income item value, return on investment (ROI), etc. In addition, reports are required that don't just show the latest position but which chart the progress of any of these factors over time. Producing all of these statistics at any time in graphical form is also seen as an important requirement.

Segmentation and Selection

Segmentation and selection is merely the process of querying the database to extract the groupings of customers as identified by the analytics and research so that they can be added to the appropriate level of the campaign hierarchy. However, segmentation does have another slightly different meaning in that, a group of customers once selected as having satisfied a set of criteria, are marked as belonging to that segment, e.g. all

customers who have given a single gift of more that £1,000 in the last 3 years are classified as major donors, and are treated in the same way and their behaviour monitored, including their movement between segments, e.g. a customer can move in and out of the major donor segment.

Customer (or Supporter) Journeys

The concept of customer journeys is a very inexact science and no two NfP organisations will agree on what constitutes a customer journey. In essence it means tracking the customer's behaviour and allocating them to different campaigns depending upon their previous actions and which campaigns they have been selected for in the past. It has the dual purpose of; attempting to predict what customers will respond to next and allocating them to the appropriate campaign, and, attempting to push the customers down a particular path and get them to respond to what the organisation wants them to respond to e.g. getting a purchaser of a single product to become a regular subscriber.

The ultimate aim of many NfP organisations is to treat every customer as a segment of one i.e. appropriately tailoring each message to every customer so that the concept of a multi-customer segment disappears. However, a number of participants considered it to be impractical in general terms and only applicable to a small set of specially selected customers e.g. high value donors or celebrities.

4.5.4 Communications

Once the campaigns have been set up and the customers have been selected, the next step is to communicate with them. This section sets out the general communications processing functions of Simple Mail Merge, Complex Mail Merge, Conditional Processing, and Communication Logging.

Simple Mail Merge

The simplest mail merge is the production of a file or files of names and addresses (and a very few other data fields such as the campaign code) for transmission to a mailing house who will send out the letters, magazines or other physical media. Similarly, the production of labels for attaching to standard mail packs.

Complex Mail Merge

Complex mail merges include within each communication; numerous data fields from the customer record and numerous other different items, or entire paragraphs, of information (e.g. project descriptions) which are dependent upon the values of various data fields from the customer record.

Conditional Processing

There are a number of standard processes that can be carried out once the customers have been selected and the communication media (files, letters, and emails) prepared for transmission. These include maintenance of communication preferences, selective sending and mail checking.

Communication Preferences – these can range from a simple set of flags or indicators e.g. Do not mail, Do not telephone, Christmas appeal only, etc.; up to a matrix of Communication indicators of Channel (e.g. mail, email, telephone, etc) versus Product (e.g. appeal mailings, newsletter, annual review, etc.)

Selective sending – these are optional processes that may or may not be relevant depending on the particular campaign. They include sending only one communication per household or per organisation no matter how many customers are registered at that address, not sending the communication if the customer has already received a specified number of communications this year, and a one-in-N facility with roll-out e.g. send the communication to every 10^{th} contact and then send it to the rest at a later date if the one-in-10 responses were deemed to be adequate.

Mail checking – this is the process of including certain special customer records in every single communication selection in order to check that the communication was sent, was accurate and how long it took to arrive. Such customers are called ‘seeds’ or ‘sleepers’. There is a variation on this theme called ‘dummies’ where specific customer records are included in every reciprocal list that has been swapped with another organisation to check that the other organisation obeys the rules and doesn’t communicate with their customers too many times.

Communication Logging

All bulk communications sent to customers should be logged so that a full record is readily available showing what they have been sent and when. These were traditionally called

'mailing histories' and the principle is now applied to all communications irrespective of the channel. A key requirement is the ability to link from a customer's communication log record to the actual text that was sent.

4.5.5 Channels

This section covers the different ways in which communication with customers exists i.e. the channels (often known as 'touch points'). It is separated into Traditional Channels and Website. Communication via the organisation's website is separated out because it is a large and complex area and quite different from all other channels.

Traditional Channels

These are the different media by which the communication with the customers is made. This can be in bulk as for the campaign selections described above or singly for one-to-one contact. They include: traditional or direct mail, email, telephone (a list and a script), fax and SMS texts. Other channels related to marketing campaigns but which do not require selections and mail merges are: personal approaches (usually known as 'face to face) which are of two types; planned where the person being approached is known and unplanned such as approaching the public in the street, also DRTV (Direct Response Television) i.e. television advertising, plus inserts (usually in magazines) and other advertising, all of which request people to respond in a variety of ways.

Website

Communication via the organisation's website (not by email) is becoming increasingly important to every NfP organisation. Customers can arrive at the website directly from their own searches or by clicking a link sent to them in a marketing campaign email. Customers want to able to carry out all data entry functions themselves via the website that would previously have been requested via mail, email or telephone and entered by the organisation's own staff. This is commonly referred to as 'customer self-service' (see Table 4.5).

Registering as a customer (of any type)
Amending personal details e.g. address changes, interest indicators, communication indicators, etc.
Making donations; one off by credit card
Setting up a regular payment by direct debit
Making Gift Aid Declarations
Membership sign-up and renewal
Subscription sign-up and renewal
Searching membership directories
Entering CPD details
Purchasing products
Booking onto events
Responding to surveys
Requesting downloadable or printed information
Requesting contact from the organisation
Applying for grants
Volunteering
Complaints/Positive feedback

Table 4.5: Customer Self-service Functions

Other website related communication issues include: recording customer's social networking site links (e.g. for direct access to customer's Facebook page), web forums and other web community links, monitoring the customer's web activity e.g. pages viewed, clickthroughs, etc, and producing tailored web pages for each customer based on their personal profile and activity.

4.6 Sales-related Functionality

These are the functional groups that relate to the selling of the organisation's products and services or other forms of income generation. The major groups are Sales (conventional), Fundraising, Membership Management, Event Management and Financial Management. The groups are structured as shown in Table 4.6.

Sales	
	Product Catalogue
	Order Processing
	Stock Control
	Facilities Hire
	Other Sales Functions
Fundraising	
	Applications and Pledges
	Donations
	Legacies
	Raffles and Lotteries
	Events and Sponsorship
Membership Management	
	Membership
	Subscriptions
	Examinations and Awards
	CPD
	Elections and Balloting
	Member Case Management
Event Management	
	Venue Management
	Event Management
	Abstract Management
Financial Management	
	Multi-currency
	Invoicing
	Income Processing
	Acknowledgements
	Expenditure Processing
	Refunds Reversals and Transaction Amendments
	Financial History
	Financial Ledgers

Table 4.6: Sales-related functional groups

4.6.1 Sales

Almost every NfP organisation sells products of some sort, even if it is only charity Christmas cards. However, although the functions traditionally associated with a sales operation are used extensively by some NfP organisations, they are not used at all by others who designate say, Christmas card sales as just a special type of donation. The

major sales functions identified in the data collected are: Product Catalogue, Order Processing, and Stock Control. Other sales functions that are used by a small minority of NfP organisations are grouped under the heading of Other Sales Functions and include: Lead Management, Contract Management and Sales Force Automation.

Product Catalogue

The sales process starts with the production of a catalogue of products, both in printed form and available on the web. The web system requires full search facilities on multiple criteria.

Order Processing

The functions under this heading cover the creation of quotations and the processing of sales orders via back office sales, telesales (including call guides) and eCommerce.

Quotations – in some circumstances a quotation is produced for a customer prior to them placing an order. These quotations are monitored and followed up on a regular basis until they are translated into invoices or deemed to be dead.

Back office sales – orders placed by customers over the telephone, or received in the post or by email are entered to the system by the organisation's staff. This requires processes to enter order details, calculate VAT and postage and packing, handle discounts, sale or return items, returns, refunds, credit notes and back orders, produce picking lists and delivery notes, and process payments (see the section on Financial Management below).

Agent sales – this is the sending of products to agents for them to sell on a 'sale or return' basis.

Telesales (including Call Guides) – this requires pre-selected lists of people to phone, scripts of what to say with decision points in depending upon the customer's responses, access to all data held about the customer, in particular, the customer's record of previous purchases, and then all the processes listed under Back office sales to process orders that are given.

eCommerce – this is a slightly modified form of all the processes listed under Back office sales that enables people to place orders themselves via the organisation's website.

Stock Control

Real-time maintenance of stock levels (at multiple locations/warehouses if appropriate) may be required as orders are being taken and deliveries of stock are received. Other functions such as, parts explosion, automated re-order reports, suggested alternative items and stock-taking, may also be also required by some organisations.

Other Sales Functions

Other sales functions used by a very few NfP organisations include lead management, contract management and sales force automation.

Lead Management (or Prospect Management) – this consists primarily of capturing customer enquiries, prioritising them and following them up in order to turn the enquirer (or prospect) into a customer proper.

Contract Management – contracts are sometimes made with customers of different types and the main function is recording and monitoring the terms and conditions of the contract.

Sales Force Automation – the prime functions here are tracking the stages of the sales process, managing follow-up actions and ensuring that duplication of effort by different staff members is avoided.

4.6.2 Fundraising

There is a strong argument for incorporating Fundraising under the general heading of Sales because it is a sales process in that the customer gives the organisation money and in return they get, not a product but, the satisfaction that they have done something useful for a cause (plus they sometimes receive other benefits from the organisation such as discounted entry to events). However, Fundraising is a very large and complex section of the NfP CRM requirements, so it warrants a major section of its own within an overall super group of Sales related functions. It consists of the following functional areas: Applications and Pledges, Donations, Legacies, Raffles and Lotteries, and Events and Sponsorship.

Applications and Pledges

The functions under this heading cover the process of applying for funds from various agencies such as grant-giving trusts and statutory bodies, and the promises from these agencies (and individual donors) to provide funds to the organisation in the future.

Funding applications – This is the recording and monitoring of requests for funding sent to grant-giving trusts, companies, the National Lottery and statutory bodies such as the European Union and Local Authorities. It incorporates maintenance of contacts, recording of research data, logging of all activities related to the application, and a diary and reminder facility.

Income Pledges – This is the recording of promises by the customer to give money to the organisation in the future; either one-off amounts or multiple payments. It incorporates recording amount/s and dates due and a reminder facility to check if the payments have been made as promised.

Donations

This section covers all types of donations made to the organisation from all types of funder.

Ad-hoc donations – This is the recording of single amounts of money given by customers to the organisations.

Regular (or Committed) Giving – This is the recording and monitoring of regular financial commitments made by customers to the organisation. This includes the amounts, the payment method, the payment frequency and financial reconciliations e.g. reporting on missing, incorrect or extra payments. The primary methods of payment are by direct debit or standing order; subjects which are covered later under Financial Management.

In Memoriam Giving – Facilities are required for managing donations given in memory of someone who had died. There are two methods of recording this type of income: donor related and fund related. Donor related; the income is recorded against the donor and also against the deceased as a soft credit so that reports on the total amount given in memory of the deceased can be produced easily for the next-of-kin by viewing the deceased's record. Fund related; a fund (or destination code) is set up in the name of the deceased

and income is recorded only against the donor and allocated to the appropriate fund so the total given can be obtained by viewing the fund.

Tribute Funds – These are similar to In Memoriam but for long-term tributes that always necessitate a formal Destination (Fund) code.

Light up a Life – These are similar in concept to Tribute Funds but which are a special form of time-limited dedications.

Matched Giving – This is the recording and monitoring of pledges from organisations which agree to match their employees' donations to the NfP organisation.

Payroll Giving – This is the recording and monitoring of donations from individuals made from their salary before taxation, plus records for their employers and the agencies who collect the money.

Standing Orders from Giving Agencies – This is the collection and management of standing orders in favour of the NfP organisation, but which are set up by people with organisations other than banks.

Static Media – This is the recording and monitoring of static collection media e.g. collection boxes in shops and hotels, who has them, when they were sent, monies received from them and reminders for situations where nothing has been received for a specified period of time.

Public Collections – This is the recording and monitoring of collectors, their rounds if appropriate e.g. house to house (or door to door) collections, items sent to them e.g. collection tins or envelopes, all money received, and reminders when no income has been received after a specified time period.

Telephone Fundraising – This section has many similarities with Telesales and Call Scripting in that it requires pre-selected lists of people to phone, scripts of what to say with decision points in depending upon the customer's responses, access to all data held about the customer, in particular, the customer's record of previous donations, and the ability to enter donations (via credit card) or set up direct debits or create income pledges.

Gift Aid – This is the recording of Gift Aid Declarations made by the customer, monitoring of the donations made by the customer which qualify for Gift Aid, and the production of Gift Aid Claims to HMRC (Her Majesty's Revenue and Customs) at regular intervals listing the donations made by customers and the amount of tax to be reclaimed.

Legacies

This section covers the sending and recording of legacy marketing materials to prospective legators and the administration of bequests made in favour of the organisation when the legator dies.

Legacy Marketing – Legacy marketing could be considered under the general heading of Marketing but there are special circumstances that warrant it being considered under the Fundraising heading. It is necessary to record who has received legacy marketing material and who has pledged to remember the organisation in their will. These people are then treated personally and with extreme care by fundraising staff.

Legacy Administration – The average time from notification of a bequest to an organisation until the case is closed and all the money is received is usually between one and two years and can in extreme cases be many years. Consequently facilities are required to manage the process which includes: record legacy details, executors, solicitors, next-of-kin, type of bequest, conditions, amounts expected and received, correspondence, actions and reminders.

Raffles and Lotteries

This section is the administration of raffles and lotteries run by the organisation to increase the funds of the organisation.

Raffles – This is the recording and monitoring of raffle ticket sellers, ticket distribution, ticket sales and winners.

Lotteries – This is the recording and monitoring of lottery players, the collectors and their rounds, the lottery payments and players 'paid-up-to dates', plus the selection of winning numbers and the printing of winners cheques.

Events and Sponsorship

This section relates to events run, not by the organisation, but by supporters (customers) of the organisation and to sponsorship both of the organisation in general and of the organisation's supporters and what they do, by other supporters.

Gifts in Kind – This is the recording of non-monetary gifts made by the customer to the organisation. These gifts will have a nominal value associated with them. It must be possible to report on the sum of the nominal values of gifts in kind along with the actual monetary gifts made in order to ascertain the true value of the customer to the organisation.

Corporate Sponsorship – This is the recording and monitoring of the sponsorship of marketing campaigns or events by organisations, usually companies. This involves maintaining lists of items that can be sponsored and their values, recording who is sponsoring what, allowing multiple sponsors per event, invoicing sponsors, recording income and gifts in kind received, and recording benefits the sponsor receives in recognition of their sponsorship.

Auctions – This is recording the items donated or purchased (often things like cars, holidays, dinner with a celebrity, etc.) that are to be auctioned, along with details of the date of the auction, people associated with the auction e.g. a celebrity auctioneer, the cost of the items, the price realised and details of the successful bidder.

Supporter Fundraising Events – This is the recording and monitoring of the intention of a supporter to hold a fundraising event e.g. coffee morning, bring and buy sale, etc., promotional items requested and/or sent to them, income received and reminders when income has not been received after a specified time period.

Supporter Sponsorship – This is the recording and monitoring of all the data and activities associated with a supporter being sponsored by other individuals (or organisations) to undertake an event such as the London Marathon. Some of the complexities to be taken into account include: individuals competing as teams, some sponsorship money being available for Gift Aid and some not, some income coming from the participant and some coming from third parties e.g. Just Giving, some individual income items need to be split into part as fees (e.g. an entry fee) and part as a donation, and some sponsors do not pay up. Some events (often referred to as 'Challenge Events') have special requirements and

entail legal obligations, expenditure, insurance and third party organisers e.g. skydiving, mountain climbing and foreign treks.

4.6.3 Membership Management

Like the area of Fundraising, Membership could be considered under the general heading of Sales because it is a sales process in that the customer gives the organisation money and in return they get, not a product but, the kudos of belonging to an organisation (usually a professional body but also fundraising charities in some cases) plus they get a variety of membership benefits such as: specialist magazines, discounted entry to venues e.g. a museum, and discounted attendance at conferences and other events. Also like Fundraising, Membership is a very large and complex section of the NfP CRM requirements, so it also warrants a major section of its own. It consists of the following functional areas: Membership, Subscriptions, Examinations and Awards, CPD (Continuing Professional Development), Elections and Balloting, and Member Case Management.

Membership

Membership management consists of processes for: New memberships (Joining), Renewal of existing memberships, Gift memberships, Members' affiliations, Members' directories and Elections and Balloting.

Joining – The processes related to joining a membership scheme include calculating fees which can be extremely complex with multiple membership types, multiple grades, multiple rates, different time periods, different statuses and different benefits. Some applications require a workflow process for obtaining and checking references and further information, and an internal approval process. Payments have to be checked, processed and reconciled and in many cases membership cards have to be printed and distributed.

Renewing – Renewing memberships involves an automated sequence of renewal and reminder notices, a lapsing process, a re-instatement process, and payment and card printing processes.

Gift membership – Sometimes a third party pays the member's fees e.g. a family member or an employer. This entails keeping records of the giver and the member and processes to remind the giver for renewals, or not as the case may be, and ensuring that although no

money appears against the member's record, the member is considered to be 'paid up' and receives all the usual benefits associated with their membership type and grade.

Affiliations – Members can be associated with branches or regions depending upon where they live and the allocation to these branches or regions should be automatic dependent upon their home or work address. The branches can be in a hierarchy e.g. Branch / Area / Region. In addition, most membership schemes have any number of 'special interest' groups to which the member can belong. All of these may or may not involve additional fees and act as memberships within a membership each with its own benefits.

Directories – many organisations publish directories of members, some of which are available to members only; in printed form and on-line, and some of which are available to the general public to view and search for members.

Subscriptions

This encompasses processes for members, and non-members, to sign up to receive regular publications, printed or on-line, with varying rates, multiple copies and varying time periods. Renewal and reminders, lapsing, re-instatement and payments, as per Membership are required. Formal invoices are often required by subscribers.

Examinations and Awards

The major requirements are for maintaining candidate records, maintaining course records and entry of results.

Candidate records – maintain records of every candidate's courses, dates, results and qualifications obtained.

Course records – maintain records of courses, their pre-requisites, their dates and locations, their examination dates and locations, lecturers, assessors, etc, and candidates taking the courses each year.

Results entry – rapid data entry of results, assessments and grades is required.

CPD (Continuing Professional Development)

CPD is assessed in different ways by different organisations, some use a points system with a number of points to be accumulated each year e.g. attending conference X results

in 10 points (and 50 points must be accumulated every single year), some use hours with a number of hours of specified activities to be undertaken each year, and some use a simple list of activities to be undertaken each year. Data entry of activities undertaken is required, including automatic updating of members' CPD records if attendances at events or conferences run by the organisation qualify for a specified number of points, hours or activities. In addition, it is acceptable in some organisations for members to update their own CPD records with activities they have undertaken.

Elections and Balloting

Many membership organisations hold elections and ballots of various types, e.g. officers such as chairman, secretary, etc, or rules and regulations of the organisation, or issues affecting the membership, so processes are required to print and distribute ballot papers and reconcile responses.

Member Case Management

Some professional membership organisations have procedures for managing complaints against members. This is a workflow process for stages of the case with review points, linked documents, alerts for when things are diarised to occur, records of hearing dates, witnesses, assessors and outcomes.

4.6.4 Event Management

In Chapter 2 Event Management was recorded under the major heading of Marketing as it was considered that the main objective of it was to raise awareness of the organisation and its aims and objectives. Further examination has revealed that the various different types of events run by NfP organisations are primarily run for the benefit of the organisation's customers, be this educational, general interest or social, but in many cases, the organisation receives considerable financial benefit by way of attendance fees. It should noted that within charities some events are purely for fundraising purposes, so although the customer obtains some benefit, such as a dinner, the main benefit is financial for the NfP organisation. Like Fundraising and Membership, Event Management is a very large functional area in its own right as is witnessed by the fact that many NfP organisations have Events and Conferences departments. Consequently, a decision was taken to remove the section from Marketing and place it within the Sales-related super group. The major functional groupings are: Venue Management, Event Management

(including: Event Planning, Event Sponsorship, Invitations and Bookings, Reserved Tickets, Ticketing, Seat Planning, Travel and Accommodation, Event Reporting), and Abstract Management.

Venue management

This consists of maintaining details of venues, their contacts and their facilities, matching these facilities against the needs of the events, booking venues and equipment, and liaising with the venue.

Event Management

Event planning – This is the process of constructing the event. This includes event structure; different streams and sessions (even managing an event within an event e.g. a separately costed dinner within a 3-day conference), identifying speakers and other event personnel, income and expenditure budgeting, target attendance, pricing.

Event Sponsorship – There are three types of sponsorship for events: one where the sponsor provides money to pay for items such as venue hire or printing, one where the sponsor provides goods or services themselves free of charge, and one where the sponsor buys something such as exhibition space or advertising in the event documentation.

Invitations and Bookings – Attendance at some events is by invitation and some by response to advertising in different forms. Where this is by invitation, invitees must be recorded in order to determine who responded and who did not. Bookings can be self-served e.g. a person booking themselves on the event via the organisation's website or they can be data entered by staff. Bookings can be complex; book a single event at a time, book several events at the same time, book multiple attendees at the same time (some may be named and on the database, some may be named and not on the database and some may not be named), waiting lists must be maintained for events that are full and for sessions that are full, cancellations and transfers to other events must be catered for, special requirements e.g. diet and disability must be documented and allowed for, and acknowledgements and other delegate information must be printed and distributed.

Reserved Tickets – The ability to manage "sale or return" tickets sent to agents and other interested parties.

Ticketing – Admission to events and sessions within events is sometimes by ticket only, so tickets must be printed, distributed and monitored as delegates arrive.

Seat Planning – Some events, e.g. an annual dinner, require table plans and seat allocation. Automatic system allocation, delegate self-allocation and individual allocation by staff preferably via a drag and drop facility along with visual seat representation is required by some organisations.

Travel and Accommodation – Some events require the organisation to make and manage travel arrangements and accommodation arrangements for the delegates. This involves liaising with third parties like travel companies and hotels and checking, monitoring and paying their invoices.

Event Reporting – On the day reports (badge labels, delegate lists, session lists), after event reports (attendees, income and expenditure).

Abstract Management

This is the process of managing abstracts of authors' papers / presentations for the event and planning the sessions and the content. It can also be extended to cover managing the entire session content.

4.6.5 Financial Management

Financial Management is a major grouping of functionality in an NfP CRM system primarily because the processing of income is complex. Some income is processed as a result of a response to an invoice but most is not. It is this latter case that necessitates sophisticated input and control procedures. The major functional groupings in this section are: Multi-currency handling, Invoicing, Income Processing, Acknowledgements, Expenditure Processing, Refunds Reversals and Transaction Amendments, Financial History and Financial Ledgers.

Multi-currency

Many NfP organisations receive income in different currencies, Euros and US Dollars being the most common. Some organisations maintain accounts within the CRM system

in multiple currencies so the system needs to be able to record income in different currencies separately. Most organisations, however, record transactions only in Sterling but have to accept and process foreign currency income. There are three methods of dealing with this which depend on the individual organisation. The first is simply to not enter the income into the system until such time as it has been converted to Sterling at the bank. The second is to enter it as a currency amount and then enter the Sterling amount after it has been converted by the bank. The third is to maintain a currency conversion table within the system, enter the currency amount and the system converts it immediately, and has a process for dealing with the small differences that occur when the currency is converted by the bank.

Some NfP organisations also pay out money in foreign currencies e.g. for the payment of grants to overseas beneficiaries, so processes are required for the converse of foreign income.

Invoicing

Some systems pass details of sales orders to a financial accounting system for the production and management of invoices, and indeed some NfP organisations prefer this way of operating. However, the production and management of invoices within the CRM system is the method preferred by most organisations with invoice details passed to the Sales Ledger within the finance system if required. Most invoices are produced as a consequence of product sales as defined earlier under the major functionality group of Sales. However, there are sometimes cases where invoices are required by individuals or organisations for some of the functionality in sub-sections of other major NfP CRM functionality groupings, such as: Corporate Sponsorship under Fundraising, Subscriptions under Membership Management and Event Attendance under Event Management. Consequently, Invoicing appears here as a sub-section of Financial Management.

Income Processing

This is the most complex functional grouping within the Financial Management section. The first sub-grouping is Payment Methods describing the different types of income. Then follow the sub-groups that encompass processes for: simple income entry, simple batch entry, entry of income via controlled batch procedures, the handling of at least seven different types of income, processing Gift Aid reclaims, Standing Orders, Direct Debits, the handling of VAT (Value Added Tax) and the process of ‘soft credits’.

Payment methods – this is simply a list of the types of income that can be accepted by the organisation because they are many and varied and require several different procedures to process them. Income can be in the form of cash, postal orders, cheques, credit cards, debit cards, bank direct credits, Standing Orders, Direct Debits, charity cards, charity vouchers.

Simple income entry – When a small number of income items are received on a single day they can be entered to the system by searching for the customer record and entering the income details one at a time.

Simple batch income entry – This is known as 'end of day batching'. It is the creation of a batch of income transactions, entered singly, since the last time it was requested (e.g. at end of day), with the system calculating the of number of items and the total value.

Regular batch income entry – Many NfP organisations, especially the larger ones, receive hundreds of income items in the mail or over the telephone or via files imported from the website or fulfilment agencies, every day. Very few of these items will have been expected, i.e. will have been invoiced, therefore control procedures are required to manage the process of data entry, protect against data entry errors and to prevent fraud. These procedures consist of collecting the items into batches of usually 20 to 50 items and pre-processing them by adding the values and producing control totals that are checked when entry of each batch is complete.

Income entry – Different processes are required for each type of income. The types include: cash, cheques, credit cards, debit cards, vouchers (there can be many different types of vouchers that are sent to different agencies for encashment), standing orders, direct debits and direct bank credits.

Gift Aid Reclaims – Some organisations post Gift Aid reclaim amounts against the donor at the time that the claim file for HMRC is generated. Other organisations hold the file of reclaim amounts in suspense and run a batch function to post these reclaim amounts against the donors when the payment is received from HMRC.

VAT – When the NfP organisation produces invoices for goods and services, some items attract VAT and some do not, so procedures are required to account for VAT.

Soft credits – This is the process of recording the same income items against more than one customer. The customer sending the money has the 'real' income recorded against their record and the other customer has the same income recorded against their record as a 'soft credit' which is specially marked and not taken into account when reporting actual money. Examples of soft crediting are: in memoriam donations where money is given in memory of a deceased person, and gift membership where one customer pays another customer's membership fees and the second customer receives all the membership benefits as if they had paid for themselves. Special processes are required to ensure financial integrity and that income is not counted twice.

Manual banked direct income entry – This is the entry of *ad-hoc* income received direct into the bank, manually from Bank Statements. The process is similar to regular batch income entry.

Manual Standing Order entry – This is the entry of *regular* income received direct into the bank from Bank Statements, usually using a process of 'standing batches' that can be reproduced each month and any necessary adjustments made.

Automated Standing Order entry – Ability to import standing order transaction files provided by the bank and apply the transactions to the appropriate committed giving records associated with customers.

Direct Debits and credit card revolving authorities – Ability to generate direct debit files for the bank and apply the transactions to the appropriate committed giving records associated with customers. Also, the ability to set up and manage paperless direct debits, and apply the various feedback files provided by the bank; to the database.

Acknowledgements

In almost every instance, once a financial transaction has been processed, an acknowledgement is sent to the person or organisation making the payment. This is normally in the form of a word processed 'thank you letter' or a formal receipt or sometimes both. The exception to this rule is regular payments, standing orders, direct debits and payroll giving, where a single acknowledgement is usually sent on the setting up of the regular commitment and then once per year. Recording of the acknowledgements against customer records is important in order to complete the relationship cycle.

Expenditure Processing

Many NfP organisations wish to record expenditure within their CRM system. Typical examples are payments of grants to beneficiaries or volunteers' expenses. Facilities are required to enter these transactions singly or in batches. The batches are often created automatically by a regular process that searches for all due payments. Much of the functionality is identical to income entry but creating negative transactions.

Refunds Reversals and Transaction Amendments

Functions are required for:

- refunds where the money has been banked and the customer requests the return of their money
- reversals of income where a payment fails to complete for any reason, e.g. a bounced cheque or non-approved credit card transaction
- and to cater for changes to transactions after they have been entered e.g. where the income was allocated to the wrong customer or allocated to the wrong campaign code.

Financial History

Detailed recording of all financial transactions, including refunds and reversals, are a fundamental requirement (along with the recording of all non-financial communications) of relationship management. The details must include: when, how much, why, for what purpose and in response to what campaign or other stimulus.

Financial Ledgers

This section is included for completeness. Most NfP CRM systems have functionality to integrate with financial accounting systems; usually the Nominal ledger, but sometimes the Sales and Purchase Ledgers as well. However, some systems incorporate the functionality associated with a traditional Sales Ledger to enable the full financial control of income within a single system and an even smaller number contain the functionality of Purchase and Nominal Ledgers as well thus obviating the need for a separate financial accounting system.

4.7 Service-related Functionality

These are the functional groups that relate to the provision of services (as opposed to products), to the organisation's customers. The section consists of general service functions and functions related solely to the organisation's beneficiaries (i.e. the functions on which the organisations funds are expended). The groups are structured as shown in Table 4.7.

Service	
	Call Centre
	Complaints Handling
	History Logging
	Knowledge Base
	Surveys and Questionnaires
Beneficiary Services	
	Fund Management
	Case Studies
	Grant Making
	Project Management and Sponsorship
	Case Management
	Other Beneficiary Services

Table 4.7: Service-related functional groups

4.7.1 Service

The Service section covers those activities where the NfP organisation provides a service, usually (but not always) free of charge, to the customer. These services revolve mainly around the concept of a 'call centre' or 'service centre' although the NfP terminology is usually a Helpline or an Advice Line. Pre-requisites for managing a call centre are customer communication history logging and a computerised knowledge base. Customer complaints are often handled and recorded separately from other call centre activities. To provide more information on individual customers and to add to the knowledge base in general, Surveys and Questionnaires need to be managed.

Call Centre

The prime function is to respond to telephone or email (or even printed letter) complaints or requests for information or action. This demands fast access to customer records (often

via 'screen popping' – see earlier section on CTI Integration, and fast access to all relevant information – see Knowledgebase below). Also required is the ability to capture call durations and notes related to the calls and their outcomes.

Complaints Handling

Some organisations require the facility to record and manage complaints against the organisation separately from all other communications recording (although the actual processes are the same).

History Logging

The most important requirement is to have immediate access to every previous communication with the customer, whether initiated by the customer or by the organisation.

Knowledgebase

It is essential for call centre staff to have fast access to all information that might be needed to answer customer queries. This entails the storage and searching of structured and unstructured information. This information is normally contained within documents such as: corporate brochures, policy statements, newsletters, project reports, meeting minutes, etc.

Surveys and Questionnaires

Questionnaires are an important source of information for any organisation. They are of two main types; personal information and opinions. The former are used to gather previously unknown information about customers and the latter are used to find out the customers' reactions to the organisation's activities e.g. feedback on an event they attended. All participants agreed that care needs to be exercised with this facility. If the purpose of the survey is to gather opinions and statistics and there is no need to store the responses against individual customers then this should be kept out of the CRM system. The facility is only relevant where it is important to gather and record personal information. When used, the facilities required are: define questions and a new data set in the database (linked to customers) to capture the responses, select who will receive the questionnaire, publish the questionnaire (mail, email, telephone list, website), fast data capture and then analyse the results.

4.7.2 Beneficiary Services

In a similar way to Fundraising, Membership Management and Event Management initially being considered as subsets of Sales before each being given a section of their own, the functional areas described below were initially considered as subsets of Service before a decision was taken to give them a major grouping of their own, that of Beneficiary Services. The reason for creating a new major grouping is that these areas cover services provided to a selected set of 'customers' i.e. the beneficiaries of the NfP organisations. This represents where the money raised is spent or distributed to, and as such is fundamentally different from the general concept of Service within traditional CRM. These subsets are: Fund Management, Case Studies, Grant Making, Project Management and Sponsorship, Case Management and Other Beneficiary Services.

Fund Management

Fund Management within Beneficiary Services is the analogue of Campaign Management within Marketing. Funds in this context are designations for where income (money) will be spent. Confusion can occur between the use of the word Funds in this context and the use of the word funds meaning money in general. Consequently other terms, such as, 'Earmarks', 'Restrictions' or 'Destinations', are sometimes used. A Campaign represents the source of money and a Fund represents the destination or use of the money. In most instances the objective of a campaign is to raise funds for a specific purpose, therefore the Fund (destination) can be inferred or defaulted from the Campaign. However, this is not always the case and the two concepts of Campaigns and Funds have to be managed independently. In a similar way to Campaign Management, Fund Management usually consists of a multi-level hierarchy (often Funds / Projects / Sub-Projects). Data associated with any and every level of the structure includes income and expenditure targets (or budgets), and actual income received and expenditure made, often split over calendar or financial years.

Case Studies

This is the maintenance of details of beneficiary cases/stories that can be used to assist in marketing initiatives.

Grant Making

Another area of some confusion is in the use of the terms 'grant giving' and 'grant making'. Many NfP organisations both apply for and obtain grants of money from funders

such as trusts and companies (who make or give the grant), and they also make or give grants of money themselves to their beneficiaries. In this thesis the distinction between the two terms will be; 'grant giving' will refer to Fundraising where the NfP organisation obtains money from grants because the word 'giving' is normally associated with fundraising, and 'grant making' will refer to the NfP organisation making or giving grants out to their beneficiaries. The grant making process has three main areas of functionality: Maintaining grant programmes, Handling applications and Making payments.

Maintaining grant programmes – this is the setting up of basic details such as the types of grants to be made, the number of grants to be awarded, the Funds from which the grants will be drawn, the amounts to be awarded and the conditions that will apply. In some cases it can be a series of linked grants where a beneficiary can apply for one grant and then on completion of certain activities apply for a different grant. In some cases it can be matched funding whereby the organisation is only matching other external funding.

Handling applications – this entails managing the application and an approval/rejection process. This will be a series of linked tasks (requiring a flexible 'workflow' tool) that need to be completed e.g. check application form for completeness and accuracy, send to referees for approval, put to an awards panel, communicate decision to applicant, etc.

Manage grants and make payments – once an award has been made then payments are calculated and made according to a pre-defined schedule. Conditions often have to be met before each payment is made e.g. a project report received.

Project Management and Sponsorship

These are processes to set up, manage and monitor projects that the organisation is carrying out or for which it is paying. This requires data to be maintained on start dates, end dates, activities, resources, costs and progress. Often specific funders can be linked to the projects i.e. a funder is paying for a particular project or element of a project and receives reports on progress e.g. a third world education project where an individual funder is paying for the primary education of an individual child. Facilities are required to allow multiple funders per project and allow a funder to sponsor multiple projects. Other requirements are the management of and payments to third parties who may be undertaking some of the activities.

Case Management

This is the management of activities related to individual beneficiaries who may be receiving a variety of support, not just financial. The main functions are: the recording of documents (incoming and outgoing) which may be confidential e.g. medical records, the use of a calendar function for appointments, referrals and treatments, setting links with professional people e.g. doctors and social workers, and the recording of progress and outcomes. This is all the basics of standard CRM but drawn together into a separate place because it is usually highly sensitive and confidential information rather than information available for general use within the organisation.

Other Beneficiary Services

There are innumerable other functional areas that could be considered under the heading of Beneficiary Services because of the diverse nature of the NfP sector. Some of those that appeared in the data once only are listed below. They have a limited audience and should not be considered within a generic NfP functionality set. They are listed here for completeness because they did appear in the data. They are: Coaching and Umpiring, Financial Loans, Equipment Loans and Distributions, Holiday Bookings, Wish Granting, Sports Facilities Management, Time Booking, Welfare Control.

4.8 Summary

This chapter discussed the results of the research related to the functionality required of a complete NfP CRM system. This represents the bulk of the data collected. The functionality was discussed under 17 major functional groupings within 5 highest-level groupings which were the top level of the Grounded Theory Axial Coding exercise. Given that general CRM literature as discussed in Chapter 2 starts with just the major groups of Marketing, Sales and Service, to which should be added a Non-functional Requirements group and a General group to cover anything else, the 17 major groups were re-organised and structured as follows:

Non-functional Requirements

These are the characteristics of the system rather than the functions that it performs. They include:

- Environment – the technical environment in which the system operates
- Integration – links with other systems that provide specialist functionality such as Microsoft Office, address management and financial accounting.

General Groups

These are general functions that apply to the entire range of other functionality. They include:

- Business Rules Processing – rules for single automated actions, wizards for multi-process operations and workflow processing
- Data Management – managing documents, linking files, global changes, data cleansing, import, export, deleting and archiving customers
- Database Administrator Functions – functions to ensure full control over User Ids, passwords and system tables.

Marketing-related Groups

These groups cover maintaining customer records, managing campaigns, mass communication with customer, reporting and analysis. They include:

- Customer Management – functionality related to the basic management of customer records such as data recording, relationship links and activity tracking
- Query Reporting and Analysis – functions related to searching for customer records, producing reports and simple data analysis
- Marketing – functionality related to managing campaigns and identifying customers to target in those campaigns
- Communications – how customers are communicated with; the message
- Channels – the media used for communication with customers; the medium.

Sales-related Groups

These groups are those that result in income generation and the processing of income. They include:

- Sales – functions related to selling products and services including stock control
- Fundraising – a large group of functions describing all the different ways in which a charity can apply for and receive funds

- Membership – processing of memberships of NfP organisations including publication subscriptions, examinations and CPD
- Event Management – functions related to managing events of all types from annual dinners to multi-day conferences and educational training
- Financial Management – the processing of income, singly and in batches, of varying types and currencies and the receipting or thanking process.

Service-related Groups

These are groups that entail the provision of services, both financial and non-financial, to customers. They include:

- Service – functions related to services provided to all customers, primarily call centres, and surveys and questionnaires
- Beneficiary Services – services provided to the special category of customers, beneficiaries, including fund management, project management and sponsorship, grant making and case management.

The next chapter describes issues other than functionality requirements that were discussed by the participants in the data collection exercise. These issues were NfP CRM strategy on the one hand and NfP CRM systems architecture on the other hand.

CHAPTER 5: ANALYSIS AND RESULTS – OTHER NfP CRM ISSUES

5.1 Introduction

This chapter discusses the results of the research related to overall organisational CRM strategy and the systems architecture needed to implement the requirements to support the strategy. The taxonomy developed in Chapter 4 answers the question of "What is required?" The "What?" is the NfP CRM functionality which is the main focus of this research. The issues presented in this chapter are important in answering the questions of "Why is CRM required?" and "How is it to be implemented?" and were discussed by all participants in the data collection exercise. The "Why?" is related to NfP CRM strategy issues. This includes the reasons for an organisation to implement a CRM system, and all the issues and problems related to the implementation. The "How?" concerns the manner in which the functionality is to be provided. All participants in this exercise wanted to discuss the three concepts of "Why?", "What?" and "How?" in equal proportions, starting with the "Why?", i.e. what they were trying to achieve, then moving on to the "What?", i.e. the functions they wanted a system to perform, and finally the "How?", i.e. how the functionality was to be provided.

In terms of domain analysis as discussed in Chapter 2 and the debate between goals, scenarios and features, this chapter is primarily about goals as goals are stakeholder objectives that can be decomposed to produce alternative design and implementation solutions (Jiang et al. 2007). The "Why" concepts described equate to the stakeholder objectives and the "How" concepts equate to the alternative design and implementation solutions.

Quite often many of the participants found it difficult to separate the three concepts and a single issue of "Why" (strategy) led to discussion of one or two items of "What" (functionality to support the strategy) and then to a discussion of "How" (systems architecture to support the functionality to be provided); and then the cycle would repeat itself. The inability or unwillingness of participants to separate problem space information (the "What") from solution space information (the "How") is common in requirements elicitation as identified by Waldmann and Jones (2009) when defining reusable requirements for a hearing aid manufacturer.

The first part of this chapter discusses NfP CRM strategy issues and the findings primarily represent the opinions of the NfP organisations, rather than the system suppliers, as they wished to discuss what they wanted to achieve from their organisations' point of view. Although there were large differences in the size of organisations taking part, there was a great deal of synergy in their strategic requirements and those differences that were voiced are highlighted in the sections that follow.

The next part of the chapter discusses the systems architecture required to deliver the full range of functionality to support an NfP organisation's CRM strategy. There is no ideal solution and different organisations adopt different systems approaches. The section discusses the reasons why consideration of CRM systems architecture is important, the different options available, and the approaches taken by different NfP organisations as well as the reasons why the organisations have adopted their respective approaches.

5.2 NfP CRM Strategy Issues

5.2.1 General Discussion

Many interviews and workshops commenced with a discussion as to who this CRM system is designed to serve. Who is the customer? This was true irrespective of the size or type of NfP organisation. Some organisations were clear that beneficiaries or service users must be kept completely separate from funders and thus must be managed by completely different systems, whereas others felt that there were advantages to be gained by having all contacts of every type in the same system. Discussions then moved on to the question of why a system was being considered and the benefits to be derived from it. Although some participants were considering a CRM system to resolve problems within a single department, e.g. the organisation whose membership system was 15 years old and had no web interface, supporting the overall organisational strategy was a key theme echoed by most. This inevitably led on to discussions of conflicts between departmental strategies, confidentiality, who owns the data, who can see the data and who can alter the data. The last general organisational issue raised in every case was related to the implementation of and operational management of the proposed system, the conclusion of which was always that the implementation of a CRM system will change the dynamics of general management in the organisation.

Moving on from general organisational issues the discussions usually moved on to questions about the data that was being stored or that was to be stored. The first subject mentioned by every participant was the desire for the “360 degree view” of a customer’s interactions with the organisation. This led to discussions on the need or desirability to centralise all customer records. Smaller organisations tended to want to centralise everything whereas larger organisations were more amenable to having multiple linked systems because their processes were more complex and they demanded a greater level of functionality. Other data issues discussed were the question of exactly what data should be stored, e.g. every interaction or just significant interactions, where it should be stored and how it should be managed. This last point covers such things as data quality, accuracy, relevance and legality.

The concept of relationships is complex. The system suppliers usually see it as simple linkages between records, usually between customer records but sometimes between records of different types, whereas the NfP organisations have a much broader definition which encompasses a more all-embracing concept of a relationship between the customer and the organisation which cannot easily be translated into simple links between information systems records. One participant in the research pointed out that these links are not necessarily simple but can in fact be rich records in themselves that each have attributes, preferences and history. However, such data rich linkage records are not common within NfP CRM systems. This discussion was more technological than strategic and is one of many examples where the participants had difficulty in separating the concepts and discussions of one type led to discussions of the other.

Discussing the concept of relationships always brought up a large number of other issues related to customers in general. These included obtaining more income of the same type as received before from the customer (up-selling), obtaining income of different types from the customer (cross-selling), construction of marketing campaigns to up-sell and cross-sell, the information and the analysis required to construct the campaigns, the different communication channels by which the customer can be engaged/targeted, providing customers with exactly what they want and trying to predict the customer’s next actions (customer journey).

The final subject discussed in terms of overall CRM strategy relates to general systems issues including: the drive for efficiency, automating as many processes as possible,

standardising procedures throughout the organisation, providing support to system users and complying with all the legal obligations such as the Data Protection Act.

The following sections present a summary of the discussions in the areas described above. The GTM coding and analysis process produced 6 major categories the first of which, "Who is the Customer?" had 42 sub-categories and the others had 23 sub-categories between them, some of which in turn had their own sub-categories (see Appendix B for this in tabular form). The first two levels of this hierarchy are shown in Table 5.1.

Who is the customer?	
	Customer Types (42 off)
Organisational Issues	
	Mission
	Strategy
	Perceived Benefits
	Confidentiality and Ownership of Data
	Change Management
	Other Management Issues
Data Issues	
	360 degree view
	Centralise Customers
	Data Storage
	Data Control
Relationships	
	Customer Relationships
	Internal Relationships
	Understanding customers
Customer Issues	
	Campaign Development or Marketing
	Selling and Cross-selling
	Communication channels or Touch Points
	Customer Experience and Choice
	Customer Journey
Systems Issues	
	Efficiency
	Automation
	Standardisation
	Support

Table 5.1: First and second level strategy issues

5.2.2 Who is the Customer?

The examination of NfP literature outlined in Chapter 2, showed that funders (from whom the money is obtained), service users (on whom the money is spent), suppliers of products and services, and volunteers who assist the organisation to achieve its objectives, are all "customers" who require relationship management. The very first issue raised by participants in the data collection exercise was the question of "Who exactly is the customer?" This is the key to why NfP CRM is fundamentally different from commercial CRM because a total of 42 different types of customer (see Table 5.2) were identified as opposed to 8 different types for commercial organisations identified in Chapter 2 namely: customers, prospects, shareholders, partners, suppliers, lenders, press and agencies (not all of which are served by commercial CRM systems). Organisations want 'relationship management' systems that provide benefits for the whole organisation and support the organisation's overall business strategy, so that a CRM system or systems should cater for all 42 types of customer. This can cause problems within the organisation in terms of different departments having "their own customers and data" and considering them to be confidential but these issues must be resolved.

Academic Staff	Educational Establishments	Projects
Agencies	Families	Project Workers
Alumni	Funders	Prospects
Areas/Branches/Regions	Government Departments	Religious Establishments
Associates	Health Establishments	Special Interest Groups
Beneficiaries	Health Professionals	Staff
Celebrities	Individuals	Students
Clients	Legators	Subsidiaries
Committee Members	Media	Suppliers
Community Organisations	Members	Supporters
Companies	Opt Outs	Support Groups
Customers	Organisations	Trusts
Detractors	Politicians	Trustees
Donors	Partners	Volunteers

Table 5.2: Types of NfP customer

Most of the 42 types of customer identified in this research are immediately recognisable by their name except possibly for "Opt Outs" who are people who do not want to be contacted.

In addition to these 42 customer types there is even an argument that “the general public” can be counted as customers as, for example, anyone can book onto the organisation’s events via the website (they then become another type of customer) and anyone can download documents from the organisation’s website (in this instance they may or may not remain anonymous).

A number of attempts were made to group these “customers” but this is a wide and varied group with many overlaps. Software system suppliers tend to separate Individuals from Organisations within their systems because of the fundamental differences in data between the two, but, this doesn’t work as a global categorisation. For example, an Individual and an Organisation can both be Donors, can both be Members and can both be Beneficiaries (or Service Users). Other global categorisations such as Funders, Service users, Suppliers and Volunteers, as identified from the literature in chapter 2, are also inappropriate, as once again an Individual or an Organisation can be either a Funder or a Service User. In addition, some Funders can also be Service Users, as with Members of a professional body, such as The British Computer Society. The result is a complex web of individuals and organisations and highlights a fundamental concept of CRM; one object – many roles, where the object is an individual or an organisation. This means that a strict hierarchy of concepts in terms of a pure taxonomy is inappropriate for customers but this does not affect the requirements taxonomy (the object of the research) as different requirements for different types of customers can be selected from a complete list of requirements.

The conclusion is that the NfP sector is far more complex than the commercial sector where they are only dealing with Prospects, Customers, Partners and Suppliers plus the more generic categorisations of Individuals and Organisations. In terms of CRM, many NfP organisations focus just on the income generating types of customer where the parallels with commercial CRM are the greatest. This is evidenced by many of the information systems sold in the NfP marketplace and known variously as: Donor Relationship Management, Member Relationship Management and Supporter Relationship Management. However, all agree that, ideally, all of the NfP ‘customers’ listed above must be catered for within a complete CRM system for the sector. The vast majority of data held for each of these types of customer is the same for each but each type does have data items unique to their group. Similarly, the vast majority of functionality required for each of these types of customer is the same for each but again each type does have data and functionality specific to their group.

Considering the diversity of "customers", discussion in two of the group sessions centred around the term CRM and its relevance to the not for profit sector and in particular the word "customer". The terms SRM (Supporter Relationship Management) in the charity sphere and MRM (Member Relationship Management) in the membership sphere, are now becoming more common, but these are not generic enough for the NfP sector as a whole. A number of alternatives were suggested as shown in Table 5.3.

ARM	Actor Relationship Management
IRM	Interactor Relationship Management
CRM	Change the C in CRM from Customer to Contact (or Constituent)
ERM	Entity Relationship Management
RM	Relationship Management
RMS	Relationship Management System
SRM	Stakeholder Relationship Management
TRM	Thing Relationship Management
xRM	Anything Relationship Management (courtesy of Microsoft)

Table 5.3: Alternatives to CRM

There was considerable support for Stakeholder Relationship Management but SRM was considered likely to be confused with Supporter Relationship Management which is a term already used in some organisations and which represents a sub-domain of the NfP sector. The final conclusion was to stick with CRM as it is such a widespread term and use the word "Contact" rather than "Customer" when spelling it out in full. Even this has its problems as the definition of "Contact" has to be extended to cater for "Projects" that are managed by NfP organisations and is further confused by the fact that projects themselves have contacts in the true sense of the word contact. In the final analysis it is likely that CRM will remain Customer Relationship Management (one large NfP organisation has already taken to calling every contact of their organisation a customer no matter what their role is in relation to the organisation) unless the Microsoft coined term of xRM gains wide industry acceptance. Consequently the word "customer" will be used as a generic term for contacts and entities of every type throughout the rest of this thesis.

5.2.3 Organisational Issues

Six categories were grouped under the heading of Organisational Issues. These were: Mission, Strategy (Organisational and Departmental), Perceived Benefits, Confidentiality and Ownership of Data, Change Management and Other Management Issues. Many of the issues discussed here are ideals and achievable only in part and not all organisations agree with all of the issues. The key message is that all issues should be considered and each organisation should decide its own strategy and objectives.

Mission

The subject of mission is the key difference between commercial and NfP organisations. Whereas a commercial organisation's prime motivation is to make profits for shareholders, an NfP organisation's prime motivation is to serve some useful social purpose. This purpose could be health related, education related, vocation related, entertainment related, environment related, religion related, community related, in fact almost anything that has a positive impact on people or the planet. This does not mean that the economic profit-making motive does not exist but it is not the prime motivation and all profits are re-invested in the organisation or spent directly on the cause itself whatever that may be.

Organisational Strategy

The first point of consideration is the fact that *"CRM is a strategy and not a system"*. CRM is achieved through a totality of information systems coupled with people and the processes they perform. The major message in this section is that although CRM is a strategy and not a system, it must not be implemented for its own sake but it must support the organisation's overall strategy. For example, if an element of the organisation's strategy is to recruit more members then CRM can assist with this objective; if another element is to influence government policy then CRM can assist with managing the lobbying of policy makers. Although most organisations see CRM as supporting various elements of the organisation's overall business strategy, some incorporate a Relationship Management strategy as a distinct element of this overall strategy, thus CRM can be implemented for its own sake as it is seen as a prime contributor to the success of the organisation.

The drive for CRM must come from the top of the organisation whether CRM is a strategy in its own right or a support to an element of organisational strategy. Likewise, the legitimisation of organisational and procedural changes required by the implementation of a CRM strategy must come from the top of the organisation and form part of the overall strategy. If CRM is

being implemented widely within the organisation then decisions on how it is used, where it is used, what data is recorded, who can have access to what data, who can communicate with which customers and when, are the responsibility of and have to be approved by the highest management level of the organisation, although actual decisions/recommendations will often be made at lower management levels.

Departmental Strategy

This is where problems start to arise when implementing CRM organisation-wide because different departments not only have different needs that can often be satisfied by specific sections of CRM, but they will often have different perspectives on needs that are common throughout the whole organisation. This interplay of departmental strategies needs to be managed from the top of the organisation and compromises made where appropriate. With a corporate CRM strategy in place, individual departments often lose control of what they do. An example is where previously a fundraising department would send a supporter six appeal mailings in a year, the events department would send the same supporter six event invites in a year and the press department would send the same supporter six newsletters in a year, and now corporate CRM policy dictates that no supporter should receive more than one communication per month.

It is a common practice for CRM to be implemented in one specific department to solve problems in that department or in support of that department's strategy. Conflicts inevitably occur when CRM is subsequently rolled out to other departments. The key to success appears to be to start at the top of the organisation and define what senior management want to see and build downwards, not start at the bottom with individual departmental requirements and build up.

Perceived Benefits

In terms of direct benefits of CRM to an organisation, all participants were clear that the CRM system has to be cost-effective. It must either increase income or reduce cost by reducing time, effort and money spent on administrative tasks. This leads into a debate on what to measure, when to measure it, what level of improvement is considered a success and whether it is possible to forecast future income (and expenditure) and identify future trends? In terms of indirect benefits, CRM systems must make the work of the organisation's staff easier and more rewarding by automating mundane tasks, guiding the user through a complex series of tasks, providing relevant information in an easily digestible manner and generally being attractive to use.

So a CRM system should provide benefits to the organisation, but which parts of the organisation? Ideally, it should provide benefits to the *whole* organisation which means that it should manage the relationships of *all* the customers listed in section 5.2.2 above, i.e. every person and organisation that has a touch point with the organisation. However, some customers are seen as not providing benefit, direct or indirect, to the organisation, so should they be included, e.g. the category of Detractors, people who are negative towards the organisation in one way or another? The answer is probably "Yes" because there would be benefit to the organisation if a better relationship with these people led to a change in their views. There is also a cost saving if the organisation knows who not to market to.

Pragmatism often dictates that CRM is applied only to high-value front-line business departments such as the Fundraising department in a charity or the Membership department in a professional association. It is often seen as too complex and cumbersome for some tasks and even some whole departments within organisations. For example, although full Event Management facilities are an integral part of any CRM system, the person organising an annual dinner might find it quicker and easier to manage the event with a spreadsheet. However, this must be weighed against the organisational benefit of having relationship information recorded centrally.

The benefits of CRM must be two-way; the customers must benefit as well as the organisation. This should be in terms of quality of service, e.g. quicker response, more relevant communications and a more personal service. No mailings that are headed "Dear Supporter" or "Dear Member". Communications that recognise who the customer is and what they have done in the past are essential. Giving the customer more control over their interactions with the organisation e.g. self-service facilities on the website should lead to greater customer loyalty.

Confidentiality and Ownership of Data

This is seen as the big problem with CRM systems that capture every single interaction with the customer, particularly in the larger NfP organisations where individual staff members and even complete departments manage activities with a subset of the organisation's customers e.g. a major donor department, a corporate fundraising department, a trust fundraising department and a membership department. People can be swamped with data, not all of which is relevant to them. One question is *"Does everyone need to see everything or just enough to do their job?"* For example, does a person who organises conferences need or

want, to see details of a supporter's web purchases? A second question is "*Is some information sensitive such that it should be kept within the confines of one particular department?"* For example, celebrity addresses or beneficiary case notes. Yet another question is *"Should parts of records, or even some complete customer records, be "owned" by specific departments and ownership passed to other departments under specified circumstances?*" A corporate policy needs to be in place to define who can access what data, who can modify what data and who can communicate with which customers. The major problem with this entire concept is that of "the left hand not knowing what the right hand is doing". An interesting observation is that many smaller organisations have a policy of complete openness stating that *"we all work for the same organisation"*.

Change Management

A common feature of all organisations is peoples' natural resistance to change. The first lesson is "don't change for the sake of it" just because CRM is flavour of the month or that the organisation down the road has done it. Change has to be justified. Once it has been justified and set in motion it must be managed. A CRM programme will demand changes to established procedures and ways of working. People need to be convinced that there is a better way of working. Comprehensive training and good revised documentation are key to the acceptance and implementation of new methods. Different areas of the organisation will move at different speeds, so step change is better than a big bang approach.

Once an organisation has embarked on a CRM programme, change management is a continual process because the marketplace changes, customers change, ways of raising funds change, and services to beneficiaries change. This raises an often forgotten area, that of on-going and refresher training. Many organisations only train their staff when a new system is implemented. New joiners have no formal training and have to "pick it up" from "old hands".

Other Management Issues

Any change programme is about people, processes and technology, with an accent on the people. This section is primarily about who is responsible for various aspects of the CRM programme. Who defines the requirements? Who defines the standards? Who manages the implementation; resources, costs, timescales? Who manages the cultural changes brought about by the implementation of the system? Who manages the system when it is operational? Who controls the quality of the data and the quality of the usage of the system? Who provides support? Who resolves departmental conflicts? Who ensures fair play so that

the strongest voice doesn't monopolise the system? Does a CRM system change the dynamics of management itself as it straddles the whole organisation? These are all management issues that have to be resolved with the introduction of CRM within an organisation.

Participants in this research were clear in their belief that a CRM implementation will fail if it does not have a central champion and senior management endorsement.

5.2.4 Data Issues

Four categories were grouped under the heading of Data Issues. These were: 360 Degree View, Centralise Customers, Data Storage, and Data Control.

360 Degree View

The 360 degree view is the ability to see every single interaction a customer has with the organisation. This is the cornerstone of customer relationship management. If this does not exist, then comprehensive customer relationship management is not possible. The 360 degree view demands that all data related to a customer is accessible and able to be viewed together in one place. The 360 degree view shows who has been and who is currently engaged with the customer, and also why they were or are, engaged with the customer. The 360 degree view enables the organisation to analyse the data gathered in order to up-sell and cross-sell, to know who to target in different campaigns, to forecast a customer's future actions, to manage financial requests, to map out a complete life journey, to manage and manipulate these customer journeys and to know where anyone is in their journey at any point in time and also to improve customer service.

The 360 degree view is not without its problems, as one respondent put it *"The 360 degree view ultimately forces the organisation to have one conversation with each stakeholder, monopolised by the strongest team"*. Another perceived problem is whether it is necessary to capture *every single interaction* a customer has with the organisation due to the enormous amount of data generated, much of which has little or no value or whether only *relevant interactions* need to be captured. If the decision is made to omit some data, who makes the decision on what is valuable and what is not valuable? The 360 degree view does not presuppose that all of the data has to be held in one place but it must be capable of being viewed together in one place. In addition, multiple views are required. For example, senior

management might only want a very high-level summary of a customer's interactions plus an indication of which departments are interacting with the customer, whereas, an individual department will require the detail of each interaction.

Centralise Customers

Centralising all of an organisation's customers in a single system is the preferred method of providing a "single supporter view" which is often mentioned by NfP organisations. This single supporter view is often equated to the 360 degree view but it is actually a subset of it as the data held need not necessarily be complete. Holding one central master record on each customer has numerous benefits: data is held once, as one respondent put it *"there is one single instance of the truth"*, data is entered once, data is updated once, there are no integration issues with one database communicating with another to keep records synchronised when an update is made on one, data is always up-to-date as the first person to be notified of a change of customer details, e.g. a change of address, makes the change on the database. The "single instance of the truth" has benefits in terms of making it easier to comply with the Data Protection Act and in cost reduction through a lessening of maintenance tasks and staff time. Centralising customers is seen as an ideal but there are cases where this is either not practical or desirable as described later in Chapter 6.

Data Storage

The issues here revolve around what is stored, where is it stored and the costs versus the benefits of storing the data? A prime example is the data related to major donors to a charity. The charity staff will interact with the donor in a very personal manner so that a CRM system will be invaluable in keeping track of and managing the relationship. A huge amount of data on the donor will be collected, e.g. press cuttings where the donor is mentioned. But does all this data need to be stored in a CRM system? In terms of where the data is stored, does all the base data relating to the different types of customer need to be in one system or is a series of linked systems the best solution. (This is another example of the crossover of discussions between strategy and technology.) Another aspect is summary data for management reporting or analytical purposes, is this best stored with the base data or in a specialist system? On this last point, the larger organisations were clear that the only practical solution for conducting sophisticated analytic processing is to store data in a specialist system in order to avoid unacceptable performance and table locking issues.

Data Control

Issues related to the usage and control of data include: source, accuracy, currency, relevance, legality and quality.

Source – it is important to know where data came from in the first instance and how it got into the system i.e. who entered it? This is in order to identify where inaccurate data came from, who made mistakes with the data entry, and more importantly, which are the best sources of data.

Accuracy – data must be as accurate as possible. For example, it is unacceptable and shows a lack of care if a mailing is sent to someone with their name spelt incorrectly. Such things detract immediately from the organisation's relationship with the customer.

Currency – data must be kept continually up-to-date. For example, if someone says don't send me any more direct mail or emails then their record must be updated immediately or the relationship will suffer.

Relevance – there is a temptation to record everything that is known about a customer *just in case* it may come in useful in the future. Firstly, this is wasteful of space and people's time maintaining the data and secondly it goes against one of the principles of the Data Protection Act. The opposite side of relevance is data that is required in order to service the customer effectively. It is important to capture data that is considered mandatory.

Legality – it is essential to comply with all relevant government legislation regarding the holding of data. One aspect of the Data Protection Act has already been mentioned and there are many other principles of the Act to uphold. There is also other legislation to consider such as: Privacy and Electronic Communications Regulations and PCI DSS (Payment Card Industry Data Security Standards).

Quality – this is more than just data accuracy. A big issue for all NfP organisations is the identification and handling of duplicate records. Some of these will contain the same data and some will contain conflicting data. Other quality issues revolve around standards over what data is entered e.g. no commas in addresses or other fields that might be exported, system tables such as gender codes, honours and qualifications and many more must be strictly controlled.

5.2.5 Relationships

There are three major considerations under the heading of relationships. Firstly, is the relationships or linkages between customers themselves, e.g. who knows whom, company and subsidiary, company and company contacts, etc. These are easily recorded if known. Then there are the relationships between staff and the customers they deal with. These too are easily recorded.

A completely different type of relationship, and a far more complex one in its nature from the previous two, is the relationship between the organisation as a whole and the customer. This relies heavily on intelligence and understanding the customer's needs and motivations. Why do they support the organisation? What do they want from the organisation e.g. regular information updates? What level and type of interaction do they want with the organisation e.g. some are happy to receive telephone calls and some only want email communication? What will convince them to support the organisation further? All of these issues, and more, have to be considered in order to build a beneficial relationship with the customer. The aim of this relationship building is to achieve mutual benefit; the customer gets what they want and the organisation gets what it wants.

5.2.6 Customer Issues

Customer issues were grouped under five major headings. These were: Campaign Development (or Marketing), Selling and Cross-selling, Communication Channels (or Touch Points), Customer Experience and Choice, and finally, the Customer Journey.

<u>Campaign Development (or Marketing)</u>

The first point to mention in this section is that some NfP organisations still have a reluctance to consider their supporters as customers and have a great reluctance to use the term 'marketing'. However, they are still happy to discuss 'campaign development' which is a significant element of marketing. There were five sub-categories in Campaign Development, namely: Information, Analytics, Targeting, Selection and Segmentation, and Campaign Monitoring (which feeds back into Information).

Information – is essential for effective marketing. The information (or more accurately; the data) gathered is of three types: transactional, communications and general. Transactional includes details on what the customer has bought from, given to, done for, received from; the organisation. Communications data includes details of any communications to or from the customer that is not money or support related such as appeal mailings to them, letters from them, telephone calls to or from them, etc. General information includes everything you know about the customer from where they live to their likes and dislikes.

Analytics – the objective of analysing the data in the CRM system is to obtain insight into customer behaviour in order to develop better marketing campaigns. Simple analytics includes Pareto Analysis and Recency/Frequency/Value Analysis that puts customers into various groupings depending upon their past behaviour. This can inform future marketing campaigns. Going further than this, analytics can be employed to identify trends and patterns in existing data so that campaigns can be constructed which will provide a better return on investment. A very few of the largest organisations are going further and are experimenting with predictive analytics. This involves taking data from the CRM system, adding other external sources of data and using modelling techniques to predict the outcomes of different marketing strategies and campaigns. This whole area is complex and specialist and some participants question whether analytics belongs in CRM at all or should be considered a subject of its own?

Targeting – is the process deciding whom to market to, based on the results of the analytics. An enormous number of factors may be taken into account. A few simple examples are: the customer's past support pattern, whether it is an international, national, regional or local campaign, the type of campaign and whether the customer has supported that type of campaign before, the customer's expressed interests, the customer's age, the customer's location, the customer's social demographic classification and the customer's household income. The last two are examples of demographic profiling that can be obtained from specialist agencies and applied to the organisation's database. Targeting also applies to non-financial areas of the organisation's operations as well. For example, the analytics could identify potential volunteers or show groups of customers would could potentially, but who do not currently; benefit from the organisation's services.

Selection and Segmentation – once it has been decided whom to target; the appropriate group or groups of customers have to be selected out from the database so that the communication with them can be conducted. This is a complex task. It is not unknown for the

selection of a single group of customers to have more than 40 criteria i.e. more than 40 conditions that have to be tested on their data. Organisations can have many groups in a single campaign, all receiving slightly different messages. Sixty groups is not uncommon and one organisation had over 120. The words selection and segmentation are often used interchangeably but technically there is a difference. Selection is querying the database and selecting records with matching criteria usually for a single immediate purpose such as a mailing, whereas segmentation goes further and implies that the group selected will be permanently (or semi-permanently) identified as belonging to that group and treated in the same manner all the time or until such time as they move to a different segment.

Campaign Monitoring – the focus of this is on analysing the results of the campaign to measure how well it did and if it met its objectives. These results are then fed back as information in order to refine the development of future campaigns.

Selling and Cross-selling

Selling and cross-selling are key elements of commercial CRM and apply equally to NfP organisations. Amongst the objectives of NfP organisations is to sell more to their existing customer base, e.g. get more donations from existing donors or get members to upgrade their membership, and also to sell other products to their existing customer base e.g. get someone who has bought a charity T-shirt but has never donated money to donate and vice versa or get a member who has never bought a publication to buy one. Similarly, to target someone who has been to an event run by the organisation but who has never donated or is not a member, to donate or join. This demands a single system or integrated systems whereas in the past the typical NfP organisation had disparate non-integrated systems e.g. the Event Management system run on a simple Access database or even on a spreadsheet and not linked in any way to the main fundraising or membership system.

Selling more of the same to a customer is not a problem. What may be a problem is cross-selling when different departments are attempting to sell different products to the same customer, because it raises major management issues such as: who manages the complete relationship, who owns the data, who communicates with the customer when and who resolves problems raised by the customer? Larger NfP organisations do tend to have an ‘account manager’ concept for each customer, but this is often a whole department, e.g. the Major Donor department, so cross-selling from the Events department or the Trading department for example, can still give rise to problems.

Communication Channels (or Touch Points)

The key requirement here is that the CRM system must be all-pervasive and gather information from every single 'touch point' the customer has with the organisation. This includes the organisation's website (and social networking), telephone, fax, direct mail, email, SMS messaging, event attendance and face-to-face meetings. The purist view is that data must be gathered from all these points and every single interaction should be captured as it may aid in the understanding of the customer and enable better targeting. However, practicality says that only those touch points and interactions that support the organisation's objectives and are or may be beneficial to the organisation are worth recording. For example, is it practical or desirable to capture what the customer says about the organisation on a social networking website?

The issue of what to record, or activity tracking, is one which is taken to different levels at different organisations. For example, some organisations are happy to records mailings (or emailings) sent to customers and their responses (or lack of response) whereas others record emails opened, clickthroughs and web pages visited.

The issues of the website as a communication medium and the integration of the website and the back office CRM database are seen as increasingly important. The ability for customers to donate or join online, change their personal details, buy products and book events online, and have the results fed directly into the main CRM system, is becoming mainstream these days. There are even organisations using handheld devices to record, not just attendance, but personal data on customers, at events.

Customer Experience and Choice

It is beneficial for an organisation to know as much as possible about a customer in order to provide the customer with a better service i.e. the customer has a better experience when dealing with the organisation, but conversely, it is also beneficial for the organisation if the customer is provided with choices so that they feel that they are in charge of the relationship rather than the organisation. This starts with asking the customer when they want to hear from the organisation, about what and via which communication channel e.g. "I want to receive only one appeal per year at Christmas, I want no product catalogues, I want no event invitations, and I would like a quarterly email newsletter that gives me an update on your programmes on which you are spending my money". In some circumstances the customer experience is formalised to the extent that the customer is offered a service level agreement, for example, "We will only contact you in global emergencies, we will respond to your written

queries within 24 hours, your telephone queries within 5 minutes and we will spend no more than five percent of our total income on administration". These customer focussed service level agreements must be monitored and reports fed back to the customer.

The customer experience can be enhanced by communications that are tailored to the needs and interests of each customer – the personalised interface. This started many years ago with the mail-merging of data drawn from the customer's record into mass mailings. Today this personalised interface has been extended to the website so that each customer sees a different screen when they log on to the organisation's website which shows them only the information that they, the customer, want to see. For example this could contain an update on a service delivery programme in which the customer expressed an interest, plus notification of new products related to those they had already purchased, plus advance notice with early booking discounts of upcoming events in the same stream as those previously attended by the customer.

Customer Journey

This is often described as the Supporter Journey or the Donor Journey depending on the type of NfP organisation. There is much debate in the NfP sector about customer journeys at the present time and there is no agreed definition as to what it really is. Many years ago in the charity section of the NfP sector people talked about the donor ladder or pyramid. This started with a single donation and ended at some later time with the donor becoming an advocate or leaving a legacy bequest. The objective of the fundraiser was to push people up the ladder. It was soon realised that this was far too simplistic and something more was needed. One organisation attempted to chart possible customer journeys in terms of their first contact with the organisation through the taking up of different products right up to the point of advocacy. They gave up when they had 65 branches in the tree with even more backward loops. Many organisations are now developing a small number of preferred journeys and attempting to balance the opposing concepts of; trying to push people along pre-determined paths, on the one hand, against giving the customer the choice to determine their own path, on the other. The key to all of this is knowing where the supporter has been in the past in terms of their journey with the organisation and knowing where the organisation would like them to go next. For example, if someone has had a standing order of five pounds per month for three years and gives an additional gift at Christmas; then attempt to get them to increase their standing order and/or increase the size of their Christmas gift. Or if a member of 5 years standing regularly buys publications

but does not attend any training events then attempt to get them interested in the training programme.

5.2.7 Systems Issues

This section contains issues that apply to CRM systems as a whole. These are process related objectives of efficiency, automation and standardisation, support related requirements of documentation, training and technical support, and extensibility of systems to cater for new or changed processes.

Efficiency

A key objective of every CRM implementation is improvements in efficiency which in turn reduces costs. These are not only obtained by automation but also by speeding up processes, consolidating processes and streamlining processes i.e. identifying a better way of doing things.

Automation

The more processes that can be automated the more time staff have to spend on relationship building with their customers. Workflows should be defined wherever possible so that tasks in a sequence are initiated automatically e.g. the receipt of a grant application from the website creates the applicant record in the system, triggers an email to the Grants Manager to allocate referees, emails the application to the referees, when all references are received puts the application onto the agenda for the next grants committee meeting and then prints an acceptance or rejection letter when the committee result is entered.

Standardisation

If CRM is being implemented organisation-wide, then standard processes need to be defined so that data is recorded in the same way and common processes are carried out in the same way, throughout the whole organisation. This demands significant management effort to agree in the first place and even more effort to enforce.

Support

The effective use of the system will come from comprehensive training and even more comprehensive documentation, both on-line and in paper form. Immediate access to

technical support is also essential to resolve any operational problems and keep the staff motivated.

Extensibility

Facilities should exist from the simple adding of new data fields to any existing data table up to the ability to add complete new modules as, for example, new methods of fundraising or new types of membership are developed. It is necessary to develop and integrate new functionality with the existing system quickly as the business changes in order to maintain the 360 degree view of the customer. Some NfP organisations desire to have these facilities available to users or at least to selected users who have the technical skills to use these facilities effectively (rather than having to go back to the system supplier for such changes and additions) but this can have negative ramifications as installed systems can rapidly diverge from the standard making supplier upgrades problematic. Careful management control is required.

5.3 Systems Architecture Issues

5.3.1 General Discussion

All NfP organisations and NfP system suppliers alike who took part in this exercise recognise the fact that the functionality required to satisfy all NfP CRM-related requirements is extremely large and also there is a need for flexibility as ways of working change over time. This leads to system suppliers incorporating into their systems or integrating their systems with; recognised industry standard functionality/products ('best of breed' software) where practical, e.g. Microsoft Word rather than produce their own word processing functionality, ExperianQAS, AFD Postcode or other similar systems rather than produce their own address management functionality. In a number of other areas, e.g. sales order processing and legacy administration, they supply basic functionality for smaller organisations with simple requirements but also integrate with products like First Class (Legacy Administration) for larger organisations that require more sophisticated functionality in the respective area.

Most of this section was driven by the larger NfP organisations as the smaller ones were happy with, and sometimes insistent upon, a single systems solution. The largest organisations are already adopting what they term as a 2 or 3 circle approach to the

systems architecture, where the three circles equate to what the literature in Chapter 2 defines as: Collaborative CRM, Operational CRM and Analytical CRM.

The following sections present a summary of the discussions on the subject of systems architecture. The coding and analysis exercise produced 3 major categories, 10 sub-categories and 22 sub-sub-categories (see Appendix C for this in tabular form). The first two levels of this hierarchy are shown in Table 5.4.

Considerations	
	Size
	Flexibility
	Specialist Software
	Best of Breed Software
	Integration
System Options	
	High Level
	Low Level
Organisational Approaches	
	High Level
	Low Level
	Typical Scenario

Table 5.4: First and second level architecture issues

5.3.2 Reasons for Considering NfP CRM Architecture

The reasons for considering NfP CRM systems architecture are fourfold, the very large size or scope of a system to cater for all the identified requirements, the desire for flexibility of data storage and functionality, the need for the incorporation of specialist software, and the desire to make the most effective use of what is seen as 'best of breed' software systems.

Size and Scope

The huge number of functional requirements and the fundamental differences between many of them in terms of both the ideal technical solution and the requirements themselves to cater for the needs of so many different types of 'customer', leads many of the research participants to conclude that "one system cannot do everything". The bigger the system is the more complex it is, the more difficult it is to manage and the more likely it is to fail to meet all

needs. Consequently, there is a desire in some organisations to split the complete NfP CRM functionality over multiple installed systems.

Flexibility

Flexibility to be able to add to and modify both the database design and the system functionality is seen as a key issue because NfP organisational strategies frequently change. For example a charity may start a completely new method of fundraising or a membership body may devise a completely new form of membership; for both of which the originally implemented CRM system may not have been designed. It must be possible to integrate new ideas easily and cost-effectively at any stage of the system's lifetime. It should even be possible to swap out parts of the system and replace them with new versions when different or better ways of doing things are devised. As one respondent put it *"The building blocks can easily be changed"*. An example of this is some years ago when the government changed Deeds of Covenant into Gift Aid. This leads to a desire to have a system or systems that are as componentised as possible. The debate in this area is related to where the flexibility lies. Should it be available to the NfP organisations themselves or should it remain with the system suppliers?

Specialist Software

There are a number of functional areas required as a part of the overall CRM picture where specialist software already exists so it is unnecessary and wasteful of time and money for CRM system suppliers to develop these themselves. A simple example is the use of Address Management software that provides complete addresses from the entry of a postcode and a house number and keeps all addresses standardised and up-to-date. A more complex example is the use of sophisticated Statistical Analysis software which only operates effectively on data warehouse type data structures which are completely different from the data structures in a typical transaction based CRM system.

'Best of Breed' Software

There are a number of less specialised but nevertheless important functional areas where many potential system solutions exist that could be incorporated within the CRM solution set or where CRM suppliers might consider developing their own functionality. Examples of such areas are: sales order processing, stock control, legacy administration, event management and project management. It is usually the case that the best of breed systems will have greater depth of functionality than anything developed by the CRM system suppliers, but depending upon the particular NfP organisation, this depth of functionality is not always

required. It is also sometimes the case that the best of breed systems, although more sophisticated in general terms, do not always cater for some of the special requirements of the NfP sector.

Integration

No discussion of specialist software or best of breed software is complete without a discussion on integration. It is important that the NfP CRM systems have all the relevant integration facilities built in. For example one participant quoted the case where they already used a particular address management system within another application but their chosen CRM supplier only provided integration with a different address management system. They were faced with additional expenditure to get the CRM supplier to develop a new interface or alternatively purchase a second address management system. Another participant recounted the fact that one CRM supplier provided a two-way interface with the leading legacy administration system whereas another supplier whom they were considering and whom they preferred did not provide such an interface. The integration of these specialist and best of breed systems with the main NfP CRM system needs to be seamless from the users' point of view. They need to feel that they are using a single complete system. Compromises such as re-keying an account number or a postcode into a separate screen are unacceptable.

5.3.3 Architecture Options

System architectures are considered at two levels; the High Level Architecture which is characterised by a difference in the basic design of the database to enable it to operate efficiently, and Lower Level Architecture which is characterised by the fact that there are many options to satisfy the requirements.

High Level Architecture

The discussion at the highest level of abstraction revolves around 1, 2 and 3 'circles' (see Figure 5.1). These 'circles' correspond to what was described in Chapter 2 as Operational CRM, Analytical CRM and Collaborative CRM.

Figure 5.1: The 3 Circles

One circle (NfP CRM Back Office System) – this represents the situation where a single system is carrying out all the CRM functionality required by the organisation. This base system is primarily a transaction processing 'back office' system, but, it will have limited web functionality and limited analysis and campaign management functionality. This functionality is limited to the extent that it is considered sufficient by many smaller NfP organisations or organisations whose needs in these areas are not complex but it is not considered sufficient by the larger organisations. This "circle" is in essence what has been referred to in Chapter 2 as Operational CRM.

Two circles (NfP CRM Back Office System + Analytics/Campaign Management) – this represents the situation where the single system above is complemented by the addition of a specialist Analytics and Campaign Management system (based on data warehousing principles) and the majority of the marketing functionality is carried out by this system rather than the base system. This second "circle" is what has been referred to as Analytical CRM.

Three circles (NfP CRM Back Office System + Analytics/Campaign Management + Communications System) – this represents the situation where the two systems above are further complimented by a Communications system which handles all the communication with the customers, much of which may be web-based. This third circle is what has been referred to as Collaborative CRM.

At this juncture consideration must be given to the relationship between the three circles and the requirements taxonomy developed in Chapter 4. This relationship is shown in Figure 5.2.

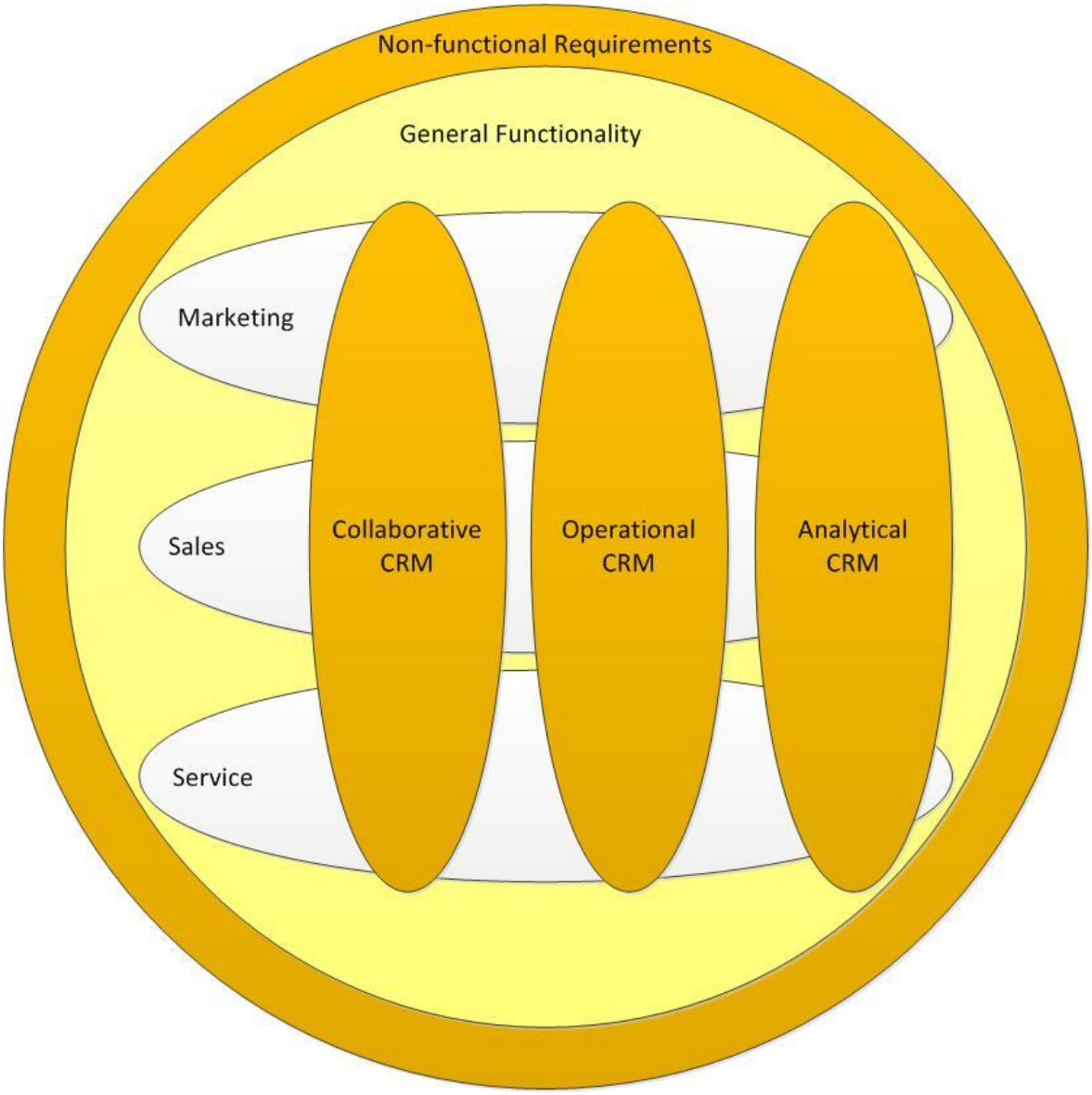

Figure 5.2: The 3 Circles and Functional Group Relationships

This shows that the three major concepts of Collaborative CRM, Operational CRM and Analytical CRM each cross the borders of the three main functional groupings of Marketing, Sales and Service. In other words, they are two different ways of looking at the same thing. Collaborative CRM concerns communication with customers which is required by marketing, sales and service, Operational CRM by its very nature covers all three main areas of functionality, and Analytical CRM requires input of data from all of the areas.

Surrounding these specific areas of functionality is General Functionality, such as workflow processing, which is relevant to all areas of functionality whether considered from a

marketing, sales and service perspective or from a collaborative, operational and analytical perspective. Finally, surrounding the entire system and relevant to all functionality however described or defined, are the Non-functional Requirements to which the system as a whole must adhere.

Lower Level Architecture

These are individual functions or complete functional areas where specialist or best of breed software exists that could be incorporated within the overall system but where most NfP CRM system suppliers have some level of functionality that they themselves have developed. The main examples of such software are shown in Table 5.5. These represent the items listed under the headings of Standard Systems and Optional Systems in the Integration section of Chapter 4.

Office Software	Word processing, mail merge, spreadsheets, email, calendar and tasks (usually Microsoft Office).
Bulk Email Processing	Sending bulk emails and collecting statistics on receipts, opens and links clicked.
Address Management	Fast data entry and accurate addressing.
Geographic Mapping	Visual representations of customer locations.
CTI – Computer Telephony Integration	Linking the database to the telephone system for “auto-dial” and “screen popping”.
EPOS – Electronic Point of Sale	Managing income from shops.
Banking and Payment Systems	Validating bank accounts, managing credit and debit card payments, collecting direct debit payments.
Financial Accounting	Usually the Nominal Ledger that receives a summary of CRM income.
Report Writing	Facilities for users to create and modify new reports.
Sales Order Processing	Selling and invoicing products and services.
Stock Control	To ensure that stock of products is always available.
Sales Ledger	Managing the invoices and payments received.
Legacy Administration	To manage the process of receiving notification of a bequest through to the receipt of the money (or sale of assets).
Media Customers Management	On-line systems to keep up to date with people in the media and their positions and movements.
Raffle Management	Monitoring ticket sellers, ticket distribution and winners.
Lottery Management	Monitoring players, collectors, rounds, payments, selecting winners and printing cheques.
Event / Conference Management	Managing all aspects of setting up and running events of all types.
Survey Software	Defining, distributing, collecting results, and analysing results of surveys.
Call Centre Management	Information and Helpline management including call monitoring and outcome recording.

Case Management	Managing all aspects of support for beneficiaries including document management, calendar functions, professional links and progress.
Grant Making	Maintaining grant programmes, tracking applications for grants and making payments once grants have been awarded.
Project Management	Monitoring project dates, activities, resources, costs and progress.
Volunteer Management	Monitoring skills, training, availability, activities and payments to volunteers.

Table 5.5: Best of breed software

5.3.4 Organisational Approaches

The level to which NfP organisations adopt any of the system architecture options depends upon their size and complexity. In Chapter 3 the participating organisations in this research were divided into Large organisations (annual income in excess of £50M), Medium sized organisations (annual income £10M to £50M) and Small organisations (annual income less than £10M). When considering an organisation's approach to CRM architecture, this division does not always apply as some small organisations have very complex requirements and some large organisations have simple requirements, but in general, it was found that size and complexity of requirements did tend to go together.

In terms of the high level architecture of 1, 2 or 3 circles:

- Small organisations usually adopt the single circle approach as their campaigns tend to be simple enough such that they do not need the sophistication of a specialist Analytics and Campaign Management system, and the number of customers with whom they communicate is usually small enough (a few thousand) that they do not need specialist systems to accommodate it
- The larger the organisation, the more likely they are to adopt the two circle approach because they will have upwards of 100,000 customers and upwards of 1,000,000 transaction records. (The very largest have several million customers and hundreds of millions of transactions)
- Only the very largest organisations can contemplate the true three circle approach and to-date in this research, only two organisations have been identified which are attempting to implement it. However, it should be noted that the majority of organisations now adopt a simplified version of the third "circle" i.e. a separate

system that handles web-based communications with customers (with other types of communications handled by the back office system i.e. the first “circle”).

In terms of the lower level architecture:

- Small organisations usually adopt very few of the specialist or best of breed systems and these are: Office Software (always), Address Management (sometimes), Banking and Payment Systems (usually), and the rest seldom if ever
- The larger and the more departmentalised the organisation is, the more likely they are to adopt more of the systems. It depends also on the numbers involved. For example: an organisation receiving several hundred legacy bequests per year is more likely to adopt a Legacy Administration system, the organisation with 1,000 volunteers is more likely to adopt a Volunteer Management system, the organisation selling hundreds of products per day is more likely to adopt Sales Order Processing and Stock Control systems, the organisation specialising in making hundreds of small grants per year is more likely to adopt a Grants Management system.

The subject of systems architecture arises from consideration of how the functionality described in the previous section is to be provided. The question that many NfP organisations ask is “Can we get all this from a single system?” The answer is “Yes” if the organisation is very small and their requirements are not very sophisticated, but in the vast majority of cases the answer is “No”. The reasons for this are: most available NfP CRM systems provide only simplistic functionality in many areas where specialist systems exist in the marketplace, and the database design of CRM systems is not compatible with the design required for complex statistical analysis. Consequently, NfP CRM is normally implemented as a series of linked systems.

A typical scenario for small and medium sized organisations is shown in Figure 5.3 below. This shows the main structural elements as two of the major elements outlined in Chapter 2, namely:

- Collaborative CRM functions (shown here as Web Database)
- Operational CRM functions (shown as NfP CRM Back Office System).

In addition, there are a small number of other functional areas that are often handled via integration with 'best of breed' systems.

The one major difference here from what is described in Chapter 2 (and shown in Figure 5.1) is the fact that the Collaborative CRM element is restricted to web-based functionality whereas Collaborative CRM as previously described covers all methods of interaction with the customer such as direct mail, email and telephone, which in this scenario are handled by the Back Office system.

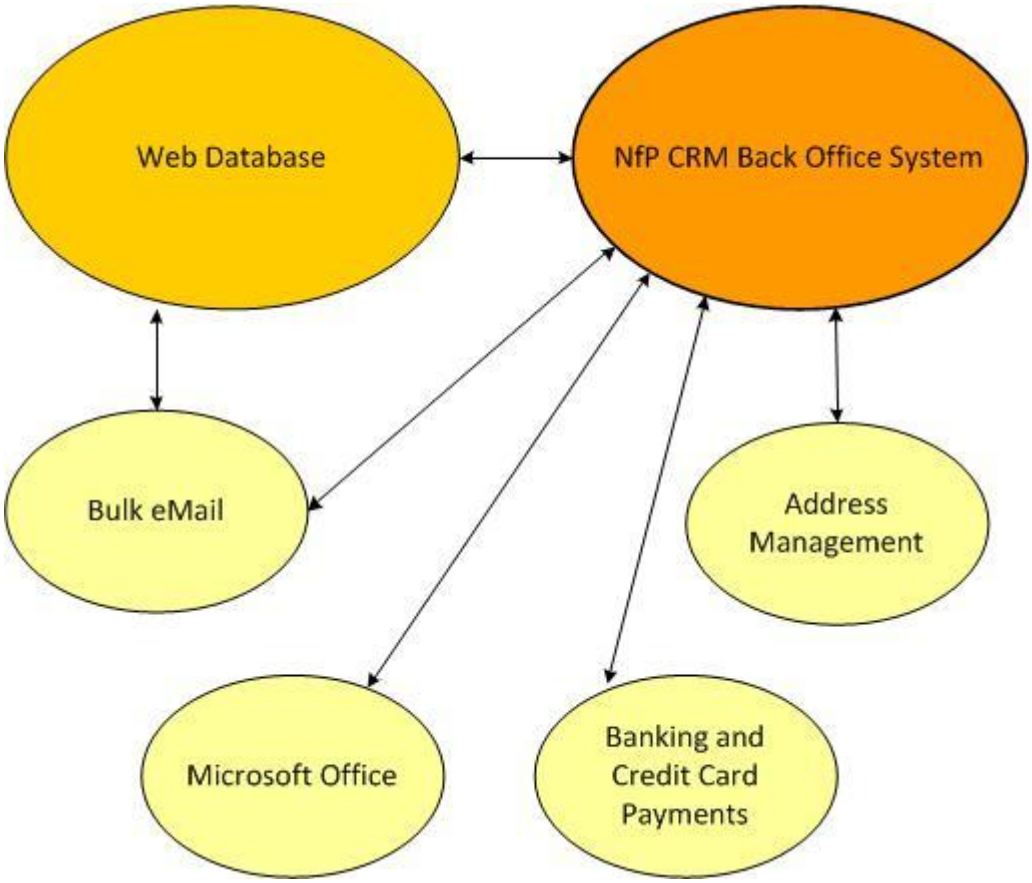

Figure 5.3: Small and medium NfP organisations' systems architecture

A typical scenario for large NfP organisations is as shown in Figure 5.4 below. This shows all three of the main structural elements as outlined in Chapter 2, namely:

- Collaborative CRM functions (again shown here as Web Database)

- Operational CRM functions (shown as NfP CRM Back Office System)
- and Analytical CRM functions (shown as Analytics/Campaign Management).

In addition, there are a larger number of other functional areas that are often handled via integration with 'best of breed' systems.

Once again the one major difference here from what is described in Chapter 2 (and shown in Figure 5.1) is the restriction of the Collaborative CRM element to web-based functionality.

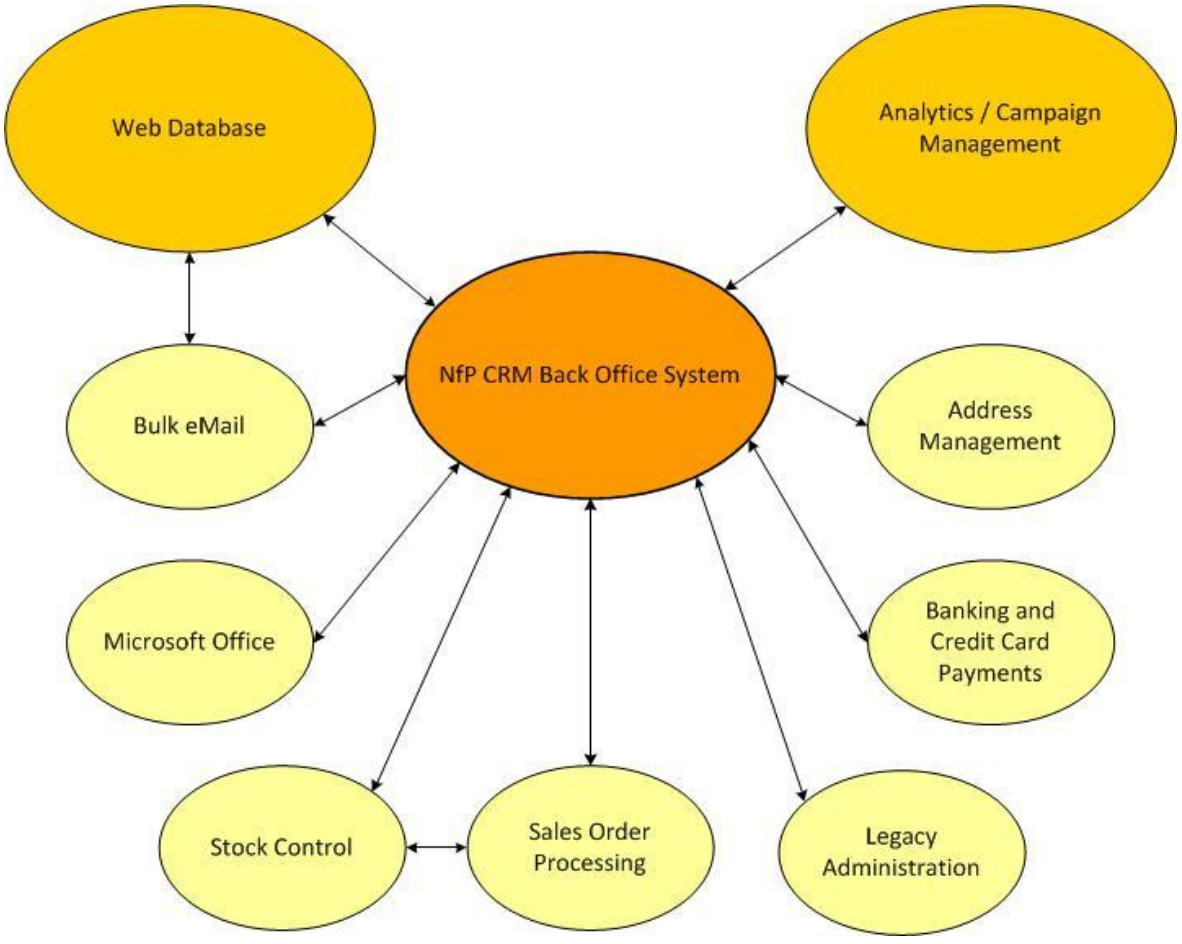

Figure 5.4: Large NfP organisations' systems architecture

5.4 Back to Definitions

The final objective of Grounded Theory Method, the methodology on which this research was based, is to arrive at a single overarching theory for the area under examination. In Chapter 4, the top level of the taxonomy developed using this method is the five major headings of non-functional requirements, general functionality, marketing-related functionality, sales-related functionality and service-related functionality, so the global mantra of CRM being all about marketing, sales and service is equally true in the NfP sector. The major activities of marketing are market research (to find out what customers want) and the promotion of the organisation's products and/or services. The major activity of sales is to provide the products and/or services for some form of compensation (which may or may not be financial and which may or may not be tangible). The major activity of service is to provide the customer with all the support and information they may need in relation to the organisation's products and/or services.

In order to arrive at an overarching definition of CRM in the NfP sector; the marketing, sales and service considerations identified in Chapter 4 need to be augmented by the NfP CRM strategy considerations identified in this chapter. The first of these is "Who is the customer?" The customers in the NfP sector are many and varied. They fall into one (or more) of four broad groups: Funders, Service Users, Volunteers and Suppliers, each of which requires many similar general CRM processes and each of which equally requires many different processes. Other key considerations were:

- Mission – The NfP organisation's prime motivation is to serve a useful social purpose rather that just to make money
- Organisational – CRM must serve the whole organisation and provide two-way benefits i.e. both to the organisation and to the customer
- Data – provide a 360 degree view of the customer's interactions with the organisation and maintain data quality
- Relationships – effective management of who knows whom amongst the customers, who within the organisation knows the customers and how the organisation as an entity relates to the customers i.e. the service they receive
- Customers - target the right products and services at the right customers; provide them with choices and a high quality and efficient service
- Systems – systems should provide automation and standardisation of as many processes as possible, be legally compliant and infinitely flexible.

In considering the interactions between the organisation and its different types of customers it is useful to look back at the final NfP organisation transaction diagram constructed in Chapter 2 (see Figure 5.5). This shows the complex flow of goods (products) and services, feedback, money and satisfaction which clearly indicates the increased complexity from the commercial CRM model.

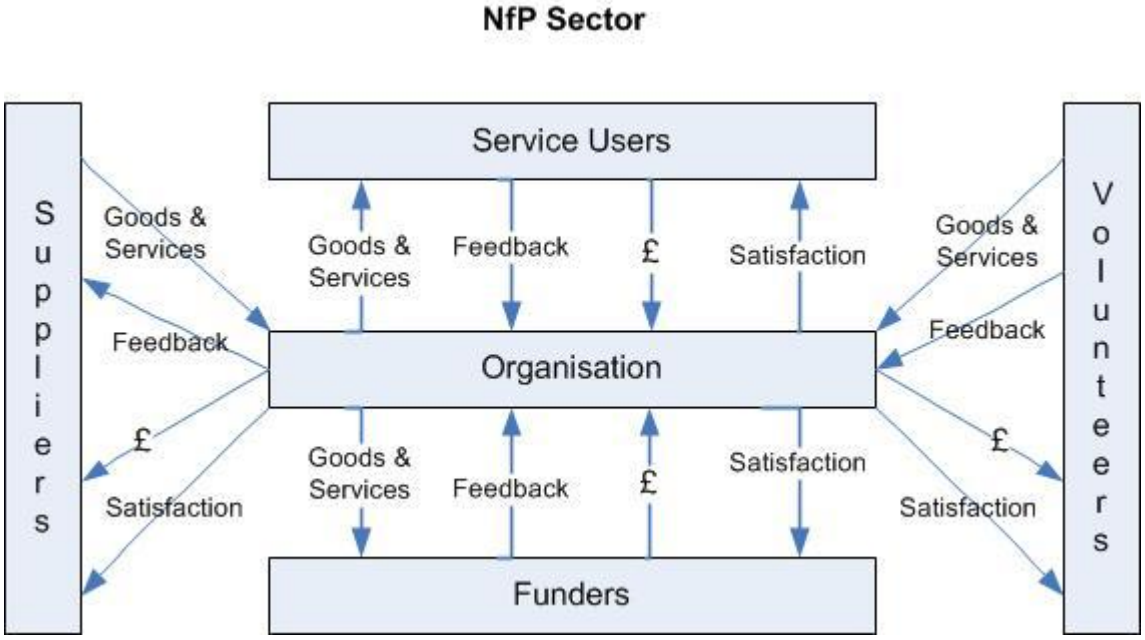

Figure 5.5: Final NfP Organisation Transaction diagram revisited

When searching for an overall definition of NfP CRM it is helpful to look back at some of the definitions given earlier for commercial CRM in order to see the level to which they could be applied to this sector. Chapter 1 commenced with a definition as follows "CRM (Customer Relationship Management) encompasses all the processes that increase the revenues, goodwill and profitability of the business via the acquisition, gratification and retention of customers by providing each customer with "customised" products and solutions that best fit their needs and criteria" (Pant and Wagner 2006, p346). This holds true for the not for profit sector given the following considerations:

- The concept of profitability is accepted by the NfP organisations as the designation of 'not for profit' is misleading because one objective is to make as much 'profit' as

possible in order to be able to spend more on the beneficiaries or on the cause in general
- The definition of customer is extended to cover all types of individual or organisation with which the NfP organisation has a relationship, whether they be income-generating (Funders), expenditure consuming (Service Users), assistance providing (Volunteers), or product or service providing (Suppliers)
- The definition of products is extended to cover emotional gratification and support as well as physical products and services
- The words “high quality” are added before “customised products and services” to indicate that not only is the customer getting what they want but is getting the best that the organisation can provide.

Thus, at the highest level of abstraction, as shown by the definition above, NfP CRM is very little different from commercial CRM. So although there appear to be few differences at this level, by looking at the taxonomy as shown in Appendix A, significant differences begin to appear at the second level of the functional hierarchy and these differences continue on down through the hierarchy and support the original assertion that there are more differences than similarities between commercial CRM and NfP CRM.

Taking all the points above into consideration (and borrowing a few words and phrases from Pant and Wagner (2006)) the following overarching definition of NfP CRM is proposed.

NfP CRM encompasses all the processes that enable the organisation to fulfil its social mission by acquiring and retaining customers (funders, service users, volunteers and suppliers alike) and facilitating a two-way exchange of high quality customised products and services that best fit their needs and criteria, in return for compensation which may or may not be financial and which may or not be tangible.

5.5 Summary

This first part of this chapter discussed the results of the research related to overall organisational strategy. There were six major groups of issues. The first was “Who is the customer?” which concluded that customers in the NfP sector are many and varied. It then

moved on to consideration of Organisational issues such as perceived benefits, organisational strategy, departmental strategy, confidentiality and ownership of data, change management and other management issues. This was followed by Data issues such as the 360 degree view, centralising contacts, data storage and data control. Then came Relationships which are of two different types; the relationships between customers themselves and the relationship between the NfP organisation and the customers. This was followed by Customer related issues such as campaign management, selling and cross-selling, communication channels (or touch points) customer experience and choice, and the customer journey. The final major group of issues was Systems issues such as efficiency, automation, standardisation, support and systems extensibility.

The results from the research in this area support the conclusions from the literature discussed in Chapter 2 with the following differences/extensions:

- Chapter 2 concluded that the major objective of commercial CRM strategy is to make more money and the major objective of NfP CRM strategy is to make more money AND provide a better quality of service. The research results support this but put the concept of two-way benefits, for the organisation and for the customer, first and extend the “make more money” concept to include being cost-effective e.g. reducing costs is as important as making more money.
- Chapter 2 identified the key elements of a commercial CRM strategy as: Integration, Inclusiveness, Visibility, Relationships, Quality, Knowledge and Analysis. These were found to apply equally to the NfP sector. The results of the research in this area concluded that the first three (Integration, Inclusiveness and Visibility) were ideals for which to aim but they are fraught with problems of organisational politics and peoples’ natural resistance to change.

The second part of this chapter discussed the manner in which the full range of functionality to support an NfP organisation’s CRM strategy is provided. It considered the size and complexity of the totality of the requirements, the need for flexibility to meet the changing needs of the future, specialist and best of breed software that can form a part of the complete solution, and which organisations adopt different approaches.

The chapter ended with the development of a definition for NfP CRM that is based on a previously identified definition of commercial CRM and how it also applies to the not for profit sector given a number of caveats and extensions.

The next chapter describes the testing of the main functional requirements taxonomy (Appendix A), the evaluation of the testing exercise and the evaluation of the overall research results by a number of NfP organisations and system suppliers some of whom were involved in the original data collection exercise and some of whom were not involved.

CHAPTER 6: TESTING AND EVALUATION

6.1 Introduction

This chapter discusses the manner in which the results of the research were tested and evaluated. In terms of testing, the functionality taxonomy was used as the basis for the development of a requirements specification for a medium sized NfP organisation who were looking to replace a number of systems, two of which were over 15 years old, with a single new CRM system.

The evaluation was of two types: an assessment of the value of the functionality taxonomy by the NfP organisation involved in the test once their requirements had been specified, plus peer reviews of the taxonomy and the associated descriptions and discussions of each item in each level of the taxonomy. The peer reviews were conducted by people whose full-time occupation is working with CRM in the NfP sector, either at an NfP organisation or at an NfP software system supplier.

6.2 Taxonomy Testing

6.2.1 The Test Objectives

The research objectives of the test were to:

- Determine if the taxonomy was usable in a requirements specification situation
- Determine the level of reusability of the requirements in the taxonomy
- Determine if the overall structure of the taxonomy was effective or at least if it was logical and something with which the organisation could easily identify.

6.2.2 The Test Bed Organisation

The taxonomy developed in Chapter 4 as shown in table form in Appendix A, was used as the basis for discussing requirements for a new CRM system with a medium sized NfP organisation. This organisation is a fundraising charity that provides a number of

beneficiary services. They also plan to run a membership scheme in the near future. They currently use two major database systems and several Access databases and spreadsheet systems to manage marketing, fundraising, event management, product sales, grant making, project sponsorship, case management, equipment loans and product distributions. Consequently, they cover almost all of the areas defined in the taxonomy and were an ideal test bed for the taxonomy. The organisation's objective for this exercise was to specify the requirements for a single CRM system to cover all of these areas.

In addition and of particular interest to this test, they did not want to go into a large amount of detail in their requirements. Their philosophy was that they wanted a specialist packaged system and they knew from initial investigations that a number of systems existed that appeared at first glance to be capable of providing the required functionality. They were most interested in the breadth of functionality provided by the systems and they were prepared to change their business practices to fit in with the way that the packaged systems performed them if required. Therefore the level of detail in the taxonomy matched the level of detail the organisation wished to describe in their requirements specification.

6.2.3 The Testing Process

The process agreed with the organisation was to:

- Conduct a large workshop with representatives of all departments to work their way through the taxonomy (in a structured fashion), indicating for every line whether they wanted it or not and if they wanted it, then what priority should be attached to it. MoSCoW rules were used for the priority assignment (Must have, Should have, Could have, Won't have this time around). This workshop was planned to take a complete working day
- Carry out follow up meetings with individual departments where they felt that they had some special or non-standard detailed requirements that should be included as detailed lines underneath the appropriate general requirements headings of the taxonomy. These meetings were planned to all take place on a second day with a review at the end of the day with the director designated as the project sponsor for the proposed replacement of existing systems. This review was to determine if the

objective of defining requirements to the agreed level of detail had been achieved in the two days

- Delete unwanted items, document any changes and additions to the taxonomy and deliver the completed requirements table to the organisation for review by all staff who participated in the workshop and the follow up meetings. The staff were given 10 days to review the requirements and identify any gaps or errors or any need for further explanation
- Incorporate any changes necessitated by the participants' review and deliver the requirements table as an Excel spreadsheet that they could incorporate into an ITT (Invitation to Tender) that they would then send to potential system suppliers.

6.2.4 Initial Modifications to the Taxonomy

The table shown in Appendix A was used as the starting point for the organisation's requirements. Before showing it to the organisation, a number of modifications were made to the table to turn it into a high-level requirements specification that would be immediately recognisable as such by the organisation's staff. These modifications were as follows (the final table is shown in Appendix D).

Requirement descriptions

A column was added which contained a brief description, usually a single sentence, of each functional area and its requirements. This was to aid the understanding of each requirement by the workshop participants and to give an overview of the facilities that were expected to be covered in each section. It was a brief summary of the descriptions of each area which are detailed in Chapter 4.

Column consolidation

The CAQDAS system NVivo produced each level of the 4 level hierarchy in a separate column. These 4 columns were merged into a single column in order to compact the width of the table for ease of reading both on screen and on paper. This lost the levels of the hierarchy so each level was identified by a different cell colour. The colours chosen were: blue for the highest level, orange for the second level, pale blue for the third level and pale yellow for the lowest level. This was done in order that people would still recognise where they were in the hierarchy.

Priority column

A column was added to indicate the priority the organisation attached to each functional area (MoSCoW rules) which would be of importance to them at a later date when analysing responses from suppliers.

Supplier response column

A column was added for potential system suppliers to indicate the level to which their products satisfied each functional area when the table was sent to them as part of an ITT.

6.2.5 How the Taxonomy was Used

The original taxonomy as developed in NVivo8 can be output in Excel format with each level of the hierarchy identified by the Excel 'Group' function. Thus when showing it to the NfP organisation one can start with just the highest level areas on view and gradually open up each area to an increasing level of detail, see Figures 6.1, 6.2, 6.3 and 6.4. This made it easy for the organisation's staff to follow the structure, rather than be immediately presented with the complete table as shown in Appendix D. The Excel table was projected onto a screen so that all workshop participants were seeing the same thing at the same time. As each line was displayed an discussion took place and a MoSCoW rating was applied (or the line was marked with an "O" (Omit) if the line was to be removed from the table. This was to minimise the time spent during the workshop rather than deleting lines immediately and it had the added advantage that during the day participants could look back at the complete table and change their minds as to what was to be deleted.)

(The MoSCoW rating is a business and information systems prioritisation technique where: M indicates a "Must have" requirement, S indicates a "Should have" requirement (if at all possible), C indicates a "Could have" requirement (if it does not compromise any other requirement), and W indicates a "Won't have this time around" requirement.)

Priority	Response	Functional Area	Detail
		NON-FUNCTIONAL REQUIREMENTS	
		GENERAL FUNCTIONALITY	
		MARKETING-RELATED FUNCTIONALITY	
		SALES-RELATED FUNCTIONALITY	
		SERVICE-RELATED FUNCTIONALITY	

Figure 6.1: The first screen the organisation sees

Priority	Response	Functional Area	Detail
		NON-FUNCTIONAL REQUIREMENTS	
		ENVIRONMENT	This section covers things like the operating environment, system configuration, accessibility and security
		INTEGRATION	This section covers the links that the system is required to have with other systems
		GENERAL FUNCTIONALITY	
		MARKETING-RELATED FUNCTIONALITY	
		SALES-RELATED FUNCTIONALITY	
		SERVICE-RELATED FUNCTIONALITY	

Figure 6.2: The second level displayed

Priority	Response	Functional Area	Detail
		NON-FUNCTIONAL REQUIREMENTS	
		ENVIRONMENT	This section covers things like the operating environment, system configuration, accessibility and security
		TECHNICAL ISSUES	Technical requirements for the deployment of the system
		CONFIGURATION AND CUSTOMISATION	Look and feel of the system, how it is set up and standard system tables
		SECURITY	Security features to protect against unauthorised access to data and functions
		AUDIT TRAIL	The ability to trace transactions through the system and see who did what
		COMPLIANCE	Processes to comply with legal requirements and industry recognised codes of practice
		DOCUMENTATION / HELP	Manuals, Help text and tutorials
		INTEGRATION	This section covers the links that the system is required to have with other systems
		GENERAL FUNCTIONALITY	

Figure 6.3: The third level displayed

Priority	Response	Functional Area	Detail
		NON-FUNCTIONAL REQUIREMENTS	
		ENVIRONMENT	This section covers things like the operating environment, system configuration, accessibility and security
		TECHNICAL ISSUES	Technical requirements for the deployment of the system
		OPERATING ENVIRONMENT	Server and workstation environment
		DATABASE TECHNOLOGY	Type of database
		DEPLOYMENT	Local and remote access by staff to all system functions
		DATABASE LOCATION	Location of the database; in-house or hosted
		SPECIALIST DEVICES	Support for devices such as barcode readers, scanners and specialist label printers
		CONFIGURATION AND CUSTOMISATION	Look and feel of the system, how it is set up and standard system tables
		SECURITY	Security features to protect against unauthorised access to data and functions

Figure 6.4: The lowest level displayed

During the workshop a small number of changes were made to the wording of items in order to reflect the organisation's own terminology and modifications were made to a small number of item descriptions in order to clarify the meaning or add content. Following the workshop a number of short follow-up meetings were held with each department in order to gather any specific requirements that were not covered by the taxonomy and also to add another layer of detail to the taxonomy where the requirements were considered by the participants to be non-standard or warranting special attention by prospective system suppliers.

Using the taxonomy to identify requirements proved to be simpler, quicker and easier than the traditional method of requirements gathering as identified in Chapter 2 section 2.2.5. The differences are summarised in Table 6.1.

Traditional Requirements Gathering	Requirements Gathering using the Taxonomy
Fact Finding	Fact Finding
Interviews, focus groups, questionnaires, collecting and reading documentation, observing current systems	Large workshop, short departmental follow-up meetings
Fact Recording	Fact Recording
Narratives, structured notes, process flow charts, data flow diagrams, decision charts	Amendments to the taxonomy
Analysis of Recorded Facts	Analysis of Recorded Facts
Weaknesses, duplications, omissions, redundant items	None
Develop Statement of Requirements	Develop Statement of Requirements
Develop and document complete set of requirements, stakeholder reviews	Stakeholder reviews

Table 6.1: Traditional Requirements Gathering versus Using the Taxonomy

6.2.6 Test Results

At the time of the test there were 253 lines in the taxonomy. The organisation suggested one significant change to the original taxonomy which was to split the section previously headed “Transaction Processing” into two separate sections at the same level of the hierarchy, namely, “Income Processing” and “Expenditure Processing”. **This was the only change required to the taxonomy**. Of the 253 lines, the organisation removed 62 as not being relevant to their operation, although those relating to Membership Management were consolidated into a single line with a MoSCoW rating of W, as the organisation does not currently run a membership scheme. So, 191 out of 253 requirements lines were validated and the number would have been over 200 if the organisation had been further on in their thinking regarding the future membership scheme. This represents approximately 80 percent of the taxonomy.

(The organisation also added 74 detail lines but these did not affect the taxonomy at all as these lines were all specific requirements at a level of detail below the lowest level of the taxonomy hierarchy.)

Therefore, in terms of meeting the test objectives:

- The taxonomy was usable in a requirements specification situation as it covered all of the areas required by the organisation and it made many of the traditional detailed fact-finding activities of requirements gathering unnecessary.
- Regarding reusability, the test was broadly successful as all areas required by the organisation were included within the original taxonomy and no new areas were identified by the organisation's staff. The taxonomy proved to be a superset of the organisation's requirements as some areas of it were deleted. A very small number of changes were made to it and a number of specific detail lines of special significance to the organisation were added. (Note that these detail lines will assist with the process of developing the taxonomy to the next level of detail in the future – see Chapter 7 section 7.3.)
- The organisation's staff found the taxonomy structure easy to follow because of its hierarchical nature and the fact that successive levels of detail could be displayed one at a time rather than being presented with the complete taxonomy at the beginning of the process.

6.3 Evaluation by the NfP Organisation

The organisation was asked for their assessment of the requirements specification process after it was concluded. They found the requirements table logical in its construction and its groupings and extremely easy to follow. Only one significant change was made to the original taxonomy as a result of this exercise and that was to split the section previously headed "Transaction Processing" into two separate sections at the same level of the hierarchy, namely, "Income Processing" and "Expenditure Processing" in order to avoid confusion and to simplify things for different users, some of whom were only interested in income and some of whom were only interested in expenditure. This change was made to the final taxonomy as shown in Appendix A as it is likely that other

organisations will have the same split in staff responsibilities which reflects the separation of activities related to funders on the one hand and beneficiaries on the other.

The taxonomy as a whole proved to be comprehensive in its scope as no new functional areas were identified and it was considered to be excellent by the organisation. The organisation commented that:

> *"We have been able to define in less than two days what would have taken us several weeks to work out on our own. It covered everything we do and it brought up things that we can definitely use that we probably would not have thought of ourselves and some things that we did not know were possible. The concept of picking from a standard template was just so easy. It has definitely saved us considerable time and money and achieved a better result than we could have done on our own."*

This comment is in accord with the findings of Roudies and Fredj (2001), Ahmad and Aziz (2004), and Leah et al. (2010) that reuse results is better quality, less cost and faster production and answers positively the subsidiary questions posed in Chapter 1, namely:

Will the provision of a generic set of functional requirements:

- *Assist NfP organisations to know what to expect from sector relevant information systems?*

Will a generic set of functional requirements from which to choose in order to produce an NfP CRM requirements specification:

- *Be reusable and provide a consistency of approach for the process?*
- *Make the process; easier, quicker and cheaper?*

The results will need to be verified by use of the taxonomy with other organisations but there is no evidence that the result is likely to be different as the test organisation was a typical medium-sized broad-based NfP organisation.

6.4 Evaluation by Peers

6.4.1 The Evaluation Process

The direct results of the research (the main functional requirements taxonomy, the smaller taxonomies on strategy and architecture, plus all the related descriptive documentation i.e. the forerunners to Appendices A, B and C, and Chapters 4 and 5) were sent to 8 individuals who work with CRM systems in the NfP sector on a daily basis, for them to review and give their opinions on its nature, quality and comprehensiveness. Of these 8 individuals, four had been involved in the data collection phase of the research and four had not. Also of the 8 individuals, two were from different NfP CRM software suppliers and six were from different NfP organisations covering fundraising focussed, membership focussed and grant making focussed organisations. This represented a wide spread of knowledge and specific interests in the overall subject.

Responses were received from all respondents, with up to 80 comments from some respondents. The comments ranged from a number of simple additions to the taxonomy and to some of the descriptions, up to major discussion points on CRM strategy and architecture. All of the comments were reviewed by the author and where they were considered to be non-controversial, the appropriate additions and amendments were then made to descriptions in Chapters 4 and 5 and the taxonomies detailed in Appendices A, B and C. Other comments that were considered controversial or where no consensus could be reached are discussed later in this chapter.

6.4.2 Changes to the Taxonomy

There was one comment from one reviewer that necessitated some rework of the taxonomy. This was that some of the requirements as documented in Chapter 4 and Appendix A were in fact, non-functional requirements, and so should either be identified as such or should be removed from the taxonomy. Non-functional requirements were identified as an element of requirements analysis in Chapter 2 at the beginning of this research and a decision was taken to exclude them from consideration and produce a taxonomy of purely functional requirements. However, after some discussion, it was decided that these non-functional requirements were integral to the thinking of anyone considering an NfP CRM system, so they should be included.

It was found that all of the non-functional requirements identified in the research were in the major grouping of General Requirements and within that grouping were in the sub-grouping of Environment and Administration. Consequently, it was a simple matter to extract them into a major group of their own, thus making the highest-level groups: Non-functional Requirements, General Requirements, Marketing-related Requirements, Sales-related Requirements and Service-related Requirements.

6.4.3 Discussion Points

There were a number of issues raised by reviewers on which no consensus could be reached. They mainly involve CRM strategy, CRM systems architecture and the way in which CRM systems are used. If there is no consensus then this raises the question as to whether these things should or should not be included in the taxonomy. These issues are discussed below and a decision is taken on each one as to what effect this should have on the final taxonomy.

Who is the customer?

This question was first posed in Chapter 2 and again in Chapter 5. The conclusions drawn at that time were that there were at least 42 different types of customer falling into one or more major overlapping groups of: funders, service users, suppliers and volunteers. However, although all participants agreed in principle to this, there were a number of different opinions in terms of practicality and the requirements for information systems. A number of organisations saw CRM as directly comparable with the commercial sector and only related to the generation of income, so it should cover funders only. Others saw the generation of income and the distribution of that income as so tightly linked that CRM must cover both. Two organisations excluded suppliers from consideration as, in their organisations, these were seen to be the province of the finance department and catered for by Purchase Ledger systems. One organisation insisted that volunteers should be managed within a separate system. There appeared to be two reasons for these different approaches; the first being what might be considered the relative maturity of the organisations with regard to their use of information systems with the more mature adopting a more global view of customers, and the second being related to organisational politics and a lack of strategic direction related to CRM as a whole.

Considering all the arguments a decision was taken to include all 42 (and possibly more yet to be identified) types of customer within the taxonomy. This is because a fundamental objective of CRM is to serve the *whole* organisation so the ideal situation is if *all* customers of *all types* are contained within a single system. In addition, it was found that there is always an overlap in terms of the customers of different departments within the NfP organisation. This overlap is usually found to be of the order of 5 to 25 percent but in one extreme case one organisation identified the fact that 60 percent of the individuals on their beneficiaries database were also on their fundraising database.

If the requirements taxonomy contains functionality related to every conceivable customer type and an NfP organisation takes a decision not to include certain types in their specification then they can simply remove the relevant lines from their individual specification. Similarly, if a system supplier decides to service a limited set of customers within their system then they too can remove the relevant lines from their specification.

Security and record ownership

There were three different approaches by the reviewers to the question of who sees what data and who could add and amend what data. The first was total openness of data with restrictions only on who could add and amend records. One comment was "*we want the chief executive to be able to see what is going on but we don't want him pressing the wrong keys and messing things up!"*

The second approach was records being "owned" by different departments and restrictions placed not just on who could add and amend records, but who could view certain customer records or parts of records. There was much debate on what should be restricted and why, and what was confidential and what was not. A common problem mentioned by everyone was individual departments' reluctance to give up "their" customers during CRM systems implementation. The reason given for it was always that they were afraid that other departments would send inappropriate communications to their customers. This is particularly the case with the distinction between income-generating customers and service-consuming customers. In one organisation there were separate CRM systems for income generation and for service provision but there was a level of integration between them, so that although there was some level of record duplication between systems, everyone could see who was communicating with whom. In addition, the ownership issue can sometimes be a big problem in large NfP organisations that have

complex, overlapping audience-based, product-based and geography-based "sales" (income generating) teams.

The third approach was one organisation where it was a policy decision to keep income generation systems and service provision systems completely separate. This resulted in two CRM systems with an estimated 60 percent overlap in functionality and with an unknown level of customer record duplication between systems because there was no integration between the systems at all.

Considering the different approaches to security likely to be taken by different organisations, a decision was taken to include the concepts of record ownership and user permissions within the taxonomy and each organisation can decide at implementation time the level to which they will be implemented.

What is an interaction?

One reviewer posed the question *"Is the absence of an interaction (e.g. the failure to respond to an approach) also an interaction?"* The short answer appears to "Yes" because it is important to know which types of approach customers respond to (and when) and which types of approach (and when) they do not respond to. The problem comes in how to represent this within the CRM system. A small number of systems contain an indicator on every approach record that indicates if a response to that approach has been received. This seemingly simple device can complicate and extend the timescale of the process of entering income and other response data. Most suppliers do not have such an indicator and the NfP organisation has to rely on complex selection criteria to determine this fact.

To-date, this issue is unresolved as organisations are unclear as to how they would use such a facility and no allowance has been made in the taxonomy to represent a non response to a campaign.

System deployment

Most organisations were adamant that they wanted complete control over their data and that the CRM database must be hosted in-house. They quoted security and accessibility concerns as the reasons for this. Two organisations took the opposite approach and insisted that the CRM database was hosted externally. They quoted reduced costs and reduced organisational complexity as the reasons for this.

Although this issue can arouse strong feelings one way or the other, it is a non-issue in terms of the taxonomy as deployment is a non-functional requirement and a matter of implementation choice for each organisation because almost all CRM systems can now be deployed locally or remotely.

Breadth of functionality

One reviewer from an NfP systems provider said *"Do you really expect us to put all that functionality into our product?"* This led to a debate on what constitutes "core" CRM and what is specialist functionality. No consensus was reached because the NfP organisations want all of the functionality and very few system providers can supply all the requested functionality in one product or even a family of products. The only conclusion that could be drawn was that most NfP organisations would have to deal with a number of system suppliers in order to obtain all the required functionality and that systems providers would have to decide where their respective key strengths lay and provide suggestions (and integration facilities) as to how their customers and prospective customers could obtain functionality that they themselves could not provide.

This is a non-issue for the taxonomy as all the functionality is required by the NfP organisations and it is an implementation choice as to the way in which the facilities are provided. They could be all in one system or some facilities could be provided via integration with other systems.

System flexibility

Almost all NfP organisations want to have facilities where they themselves, rather than the supplier, can extend the breadth of data stored by the system and even the functionality of the system. Consequently, suppliers feel duty bound to provide such facilities. However, this can give rise to problems as expressed by one systems provider as follows:

> *"The front end should use generic-enough data tables to render this unnecessary for existing objects or processes in the system, save for the odd extra field here and there. It is only when building entirely new (organisation-specific) processes that new work should be done, and then with the database provider. When the customer does their own development, support and training become harder, as does upgradability and organisations become reliant on key individuals in their IT department – they would never have purchased the system from a one man band. Suppliers say yes to this because it is technically possible, and because customers ask for it, but it doesn't make it right!!!"*

One NfP organisation also commented on the flexibility issue:

> *"We spent a lot of time and money adding specific functionality to the system just for us and tailoring existing functionality to operate in the way we wanted it to, only to find 12 months later that the supplier had added that specific functionality into the standard product and upon using it, almost all of our changes to the existing functionality were less efficient than those of the standard product. I wish we hadn't bothered!"* Another NfP organisation said "*We re-engineered their Gift Aid functions because we thought they were inadequate and we did it better. As a result, the supplier then incorporated our functionality into the standard product."*

System flexibility is always required because as one respondent put it:

> "*Requirements are dynamic – the set of CRM requirements for NfP, I would argue, are larger than those for a generic commercial CRM, they also extend continually with the introduction of new media and communication/interaction methods. Can the requirements ever be 'complete' therefore?"* The key would appear to be having a responsive supplier who keeps up with the latest technology, the latest CRM trends and who is always thinking ahead such that "*they put the functionality in the product before you actually need it."*

The debate will undoubtedly continue as people in different organisations often think that their way of doing things is the best and most effective. This debate will continue until there are recognised industry-standard best practice processes for every CRM process and at the present time there appears to be no move in this direction.

The conclusion is that this taxonomy aims to be as complete as possible which could provide a blueprint for supplier developments. However, limited flexibility is required by NfP organisations to incorporate the small number of unique requirements that each organisation is likely to have, and complete flexibility is required by the supplier to keep up with new developments and new additions to the taxonomy.

<u>System development methodology</u>

There was some discussion around "agile" development methods, prototyping and test driven design as polar opposites to traditional requirements gathering methods by a small number of NfP organisations (not the system suppliers). Although no consensus was reached, there was a general feeling that such things were relevant for the development

of the systems by the system suppliers, but were not relevant to this exercise as the objective was to determine the functionality of what should be a well defined domain. Some NfP organisation participants felt quite strongly about the use of these development methods whereas others felt that those people were spending too much time computerising their particular idiosyncratic processes instead of adopting de facto standard processes as embodied in the widely available systems. The decision was taken that such considerations had no part in the taxonomy.

One system versus 'best of breed'

As has been mentioned before, smaller organisations tend to want and are often able to obtain, a single system that carries out all of their required CRM functionality, primarily because their needs are not overly complex. However, even the larger organisations often also want to minimise the number of systems they utilise because as one large organisation representative put it:

> *"The complexity is in the scope of the processes, so if people want multiple systems they are actually indicating they need more resources, and using 'different systems' as the tool to achieve this. I think it is a false economy – since you then need multiple contracts, separate support staff etc".*

This is an area that needs very careful investigation because the 'best of breed' systems tend to be more sophisticated and functionally rich than the facilities provided within most CRM systems in those specific areas. The question that should always be asked by NfP organisations for each of these areas where best of breed systems exist, is "Could we operate effectively with the facilities within our main CRM system such that we do not really need an additional 'best of breed' system or not?" Using the taxonomy developed in this research could help to answer this question, but it would need to be extended to a further level of detail in order to achieve it.

Once again the conclusion here is that the taxonomy needs to contain all of the requirements and the extent to which, and the way in which, they are provided is an implementation choice.

6.4.4 Peer Evaluation Summary

Apart from the separation of non-functional requirements there were no major areas of contention regarding the taxonomy itself as shown in Appendix A and no changes to the structure. There were several small non-contentious additions and the taxonomy was considered to be logical in its structure and accurate in its content. The general conclusions were:

- It would be a useful tool to create a requirements specification tailored to any individual NfP organisation in a very quick time with a minimum of debate
- There are no obvious gaps in the functionality described so it is likely that every individual NfP organisation's CRM requirements will be a subset of the taxonomy as described
- It would be a useful tool with which to judge software offerings from different suppliers.

In addition, the reviewers were asked to comment on the final NfP CRM definition once it had been developed. One reviewer found it to be too all-embracing and suggested some restrictions in terms of system boundaries, whereas all the others found it to be excellent and they offered no amendments, the usual comment being *"It is very inclusive".* One reviewer even commented *"I have looked at the definition several times to see whether there are any edits I would suggest, but I think it is both concise and comprehensive."*

Some of the overall reviewer comments regarding the taxonomy and its associated descriptions are shown below.

From a system supplier –

> *"The taxonomy itself with all of the descriptions of what each line means in the same sequence would actually serve as a very good handbook for staff new to our company – who can be a bit overwhelmed by the terminology. In addition, I could see a charity finding it very useful to help structure their business strategy (and not just software selection), because it organises what they do into logical groupings."*

This comment answers positively one of the subsidiary questions posed in Chapter 1, namely: *Will the provision of a generic set of functional requirements assist system suppliers to know what NfP organisations expect from their systems?*

From an NfP organisation director –

> *"If you were able to get all suppliers to use the taxonomy in their detailed communications for potential customers - GREAT. Then they could easily compare system against system - perhaps even in a computerised or web-based tool. A simple comparison tool could really help in selecting and understanding systems. There would still be a place for suppliers to emphasise their own USPs but the underlying structures and facilities of their product would be much more obvious, as would the points of integration between Core Systems and Third-Party add-ons. What you have done will allow folk like me to get a better grasp on the complexities by giving us a language and structure to use."*

This comment goes some way to providing a positive response to another subsidiary question from Chapter 1 namely: *Will a generic set of functional requirements from which to choose in order to produce an NfP CRM requirements specification be reusable and provide a consistency of approach for the process?* The last sentence of the comment answers positively one of the subsidiary questions posed in Chapter 1, namely: *Will the provision of a generic set of functional requirements assist NfP organisations to know what to expect from sector relevant information systems?*

6.5 Summary

This chapter described how the functionality taxonomy as shown in Appendix A was tested by using it to develop a requirements specification for an NfP organisation who wished to replace their various CRM related existing systems with a single comprehensive modern CRM system. It then described how the taxonomy was evaluated by the organisation on which it was tested and also by a number of people working with CRM in the NfP sector who were sent the taxonomy and its associated documentation (i.e. the substance of Chapters 4 and 5) to review. It described their conclusions and some of the points of discussion where no consensus could be reached. The chapter concluded with a number of positive comments made by the reviewers.

The next chapter is the final chapter that provides a summary of the thesis, the research contributions and opportunities for further research.

CHAPTER 7: CONCLUDING DISCUSSION

7.1 Summary of the Thesis

The thesis commenced with a statement of belief that there is currently no generally accepted definition of what constitutes CRM in the not for profit sector and consequently, the aim of the research was to answer the question: *"What exactly is CRM as applied to the NfP sector, what are its boundaries and what functions should an NfP CRM information system perform?"*

The major aim of the research was *"to develop and evaluate a domain model of functional requirements for CRM in the NfP sector."*

The proposed model was to *"consist of functional requirements which will be generic and thus will be reusable such that they, or an appropriate subset of them, will be applicable to all NfP organisations wishing to implement CRM. The requirements will be collected at a detailed level and built into a hierarchy which will culminate in a single over-arching statement or definition which will summarise the objectives of CRM in the NfP sector."*

Chapter 2 commenced with a literature review covering the areas of: Domain Analysis and Requirements Reuse (introducing the subject of re-using previously specified system requirements), Domain modelling (formalising a software domain in a structured manner), and Well-defined Domains and COTS Systems ('standard' domains for which many packaged systems are available). It then introduced the well-defined domain of traditional (commercial) CRM, examined the various definitions of it and identified a high-level functional breakdown for it, and then examined a number of leading commercial sector systems and decomposed this high-level down to a more detailed level. The chapter moved on to examining CRM as applied to the NfP sector by first defining what is meant by the not for profit sector, who is the customer in this sector and then discussing CRM strategy within the sector. It then looked at the available documentation of what currently pass for CRM systems specific for the not for profit sector, how they are structured and made a comparison with the commercial systems breakdown previously arrived at, in order to identify similarities and differences. The chapter concluded with a restatement of the research objective.

Chapter 3 described the methodology that was used for the research, namely Grounded Theory Method within a Design Research framework, and the actual process that was undertaken to collect and analyse data relating to CRM in the NfP sector. Data was gathered from both NfP organisations and NfP information system suppliers. This data was coded, analysed and consolidated using the CAQDAS system, NVivo8. The resulting taxonomy was tested in a real life NfP organisation environment and evaluated by that organisation and a number of professionals working with CRM in the NfP sector.

Chapter 4 was the main results chapter as it described the results of the analysis of the data which related to the functionality required of a complete NfP CRM system. The collected data was imported into, analysed with and manipulated by NVivo8. The results were presented as a four level hierarchical taxonomy for NfP CRM system requirements or functionality. The taxonomy included both functional and non-functional requirements.

Chapter 5 was also a results chapter which dealt with additional issues raised by the research participants. These were strategic issues and objectives that are important to NfP organisations when considering the subject of CRM in general and systems to support these organisational objectives, plus the information systems architecture required to deliver the full range of functionality described in the previous chapter, which is needed in order to support an NfP organisation's CRM strategy. The chapter concluded by drawing together the threads of the two results chapters, referring back to the CRM literature and finally proposing a single overarching definition of NfP CRM.

Chapter 6 commenced, by describing the process of testing the taxonomy by using it as the basis for the specification of requirements for an NfP organisation actively searching for a new CRM system. The chapter also described the evaluation of the taxonomy by the testing organisation and by a number of people who work with CRM in the NfP sector. Their feedback was incorporated into the thesis and in particular, into a revised taxonomy. Some of the reviewers were participants in the research and had supplied some of the data and some of them were completely new to the research.

7.2 Research Contributions

7.2.1 The Major Contributions

The major research question

The overall aim of this research was to answer the question *"What exactly is CRM as applied to the NfP sector, what are its boundaries and what functions should an NfP CRM information system perform?"*

This aim has been achieved with the production of a definition of NfP CRM and a taxonomy of NfP CRM information system requirements (both functional and non-functional). In terms of domain boundaries, this is the area that distinguishes the not for profit sector from the commercial (or for profit) sector because the NfP sector definition of a "customer" is much broader than that of the conventional commercial sector. In the NfP sector it encompasses customers of 42 different types which each belong to one, or more, of the general groupings of funders, service users, suppliers and volunteers.

The major aim of the research was *"to develop and evaluate a domain model of functional requirements for CRM in the NfP sector"* and specifically the model was to "*consist of functional requirements which will be generic and thus will be reusable such that they, or an appropriate subset of them, will be applicable to all NfP organisations wishing to implement CRM. The requirements will be collected at a detailed level and built into a hierarchy which will culminate in a single over-arching statement or definition which will summarise the objectives of CRM in the NfP sector."*

This aim has been achieved. A definition was developed in a bottom-up manner using Grounded Theory Method which produced a four level functional (and non-functional) requirements taxonomy. Eighty percent of this taxonomy proved to be reusable in the one test case conducted to-date. (Note that does not mean that the other twenty percent is not reusable, it is just that it refers to requirements that were not applicable to the organisation in question.)

Additional research questions

In Chapter 1, a number of subsidiary questions were posed. These are set out below with their responses resulting from the research.

Question – *Will the provision of a generic set of functional requirements assist NfP organisations to know what to expect from sector relevant information systems?*

Response – This has been answered positively by the NfP organisation involved in the test when they said *"It covered everything we do and it brought up things that we can definitely use that we probably would not have thought of ourselves and some things that we did not know were possible".* This is partly as a result of the hierarchical nature of the taxonomy which structures requirements into logical groupings. At the higher levels of the taxonomy organisations can immediately recognise functions they perform and others that they do not currently perform but which are related to their type of business and which they could possibly consider.

Question – *Will the provision of a generic set of functional requirements assist system suppliers to know what NfP organisations expect from their systems?*

Response – This has been answered positively by one supplier organisation when they said that the taxonomy and its descriptive explanations would *"serve as a very good handbook for staff new to our company".* This needs to be further verified by other suppliers.

Question – *Will the provision of a generic set of functional requirements from which to choose in order to produce a requirements specification make the process; easier, quicker and cheaper?*

Response – This has been answered positively by the use of the taxonomy with an NfP organisation. This organisation was able to produce a requirements specification that suited their needs, in two days, as opposed to the 15 days or more they estimated it would have taken them without the taxonomy. This needs to be verified by other organisations but it is a positive start.

Question – *Will the provision of a generic set of functional requirements from which to choose in order to produce a requirements specification be reusable and provide a consistency of approach for the process?*

Response – This will come over a period of time if the taxonomy gains wide-spread acceptance. This should be possible considering the number of organisations which have

had an input into it during this research, namely 25 NfP organisations and 16 system suppliers, and a positive start has been made by one organisation being able to reuse 80 percent of the taxonomy in developing their requirements specification.

Other potential benefits obtainable, related to reusability and consistency, are:

- A standardisation of terminology (because at the present time there are many areas where different terms are used to describe the same thing).

- A standard structure that organisations can use to help ensure their requirements are as complete as possible.

- The taxonomy could be used as a benchmark for testing and comparing various system supplier offerings.

- The taxonomy could provide a template for suppliers to develop and extend their systems.

Future use of the taxonomy

An NfP organisation could take the taxonomy as detailed in its extended and amended form in Appendix D and work through it line by line deleting unwanted lines, amending any lines that needed changing, adding any extra lines they required and adding a MoSCoW rating to all the remaining lines in order to produce their own tailored CRM requirements specification for their particular organisation. However, as the NfP sector is so broad, it is likely that they would need assistance in explaining any of the concepts and terminology with which they were unfamiliar until such time as a standard had been established. Conversely, an NfP system supplier (or prospective NfP system supplier) could take the taxonomy as detailed in Appendix D and use it directly as a high-level specification for their future system developments.

7.2.2 Additional Contributions

Research and methodology related

Regarding the methodology used, this research has shown how Grounded Theory Method can be utilised:

- As the development phase of a Design Research project. Whereas most information systems design research commences with a top-down development phase for the production of an artefact, this research used a bottom-up approach to develop an artefact, a functional requirements taxonomy. In terms of GTM, as Gregor (2006) points out, the artefact itself can be considered a theory. In addition, by creating a hierarchical taxonomy and developing an overall definition for the taxonomic area, in this case NfP CRM, this definition can also be considered a theory and synonymous with a GTM theory;

- As a general method of domain analysis. In terms of the earlier discussion of domain analysis in terms of goals, scenarios and features, GTM as employed in this research, utilises all three in a similar way to that described by Kim et al (2003). In very broad terms, the discussions on CRM strategy equate to goals, the discussions on systems architecture to scenarios, and the bulk of the research, the functional and non-functional requirements, to features;

- To develop a taxonomy of reusable functional and non-functional information system requirements. GTM, by collecting large amounts of data, categorising all elements of it (even down to single significant words in some cases), then analysing and summarising it into a hierarchy of concepts proved to be an appropriate method of creating a requirements taxonomy and supports Prieto-Diaz's contention that requirements can be defined in a top-down or, as in this case, bottom-up manner.

NfP organisations related

Three additional and unexpected areas of contribution came out of the research related to NfP organisations and their consideration of CRM. These relate to Chapter 4, Analysis and Results – NfP CRM Requirements / Functionality, the section on Non-functional Requirements, and Chapter 5, Analysis and Results – Other NfP CRM Issues, in its entirety. Although it would have been possible to restrict all discussions and investigations to purely functional requirements, issues of non-functional requirements, CRM strategy and systems architecture came up continually so they were included in the results.

The benefits of these results are that NfP organisations now have:

- A more complete requirements taxonomy that includes non-functional requirements as well as functional requirements because non-functional requirements are as important to users as functional requirements. In addition there is a section on the integration of CRM with other systems. All of these requirements are described in detail in Chapter 4 and outlined as a four level hierarchy in Appendix A.

- A series of strategic issues that they need to address when considering the implementation of a CRM system. These cover the general areas of: “Who is the customer?” (in order to determine the boundaries of the domain under consideration), organisational issues (mission, strategy, benefits, confidentiality of data and change management), data issues (360 degree view, centralising customer data, control of data such as source, accuracy and relevance), relationships (customer to customer, organisation to customer and general understanding of the customer). These are described in detail in Chapter 5 and outlined as a three level hierarchy in Appendix B.

- A series of systems architecture options that they can consider as they plan their CRM implementation. These cover general considerations (size and scope, flexibility, specialist software, best of breed software and integration), implementation options (high level such as how to implement the “3 circles” of CRM; collaborative CRM, operational CRM and analytical CRM, and low level such as office functionality, order processing functionality, event management functionality and many more). These are described in detail in Chapter 5 and outlined as a three level hierarchy in Appendix C.

7.3 Future Research Opportunities

This taxonomy has created a definition and a structure for NfP CRM as a start to establishing it as a well-defined domain, but it is only the beginning. Further work needs to be done in terms of further testing of the taxonomy, identifying benefits of using the taxonomy, extending it to the next level of detail, representing the taxonomy more formally i.e. ontologically, developing a methodology for using the taxonomy effectively, and producing it in a more accessible form.

Further Testing

The taxonomy was tested with just one organisation. Although this test was successful and the breadth of functionality required by the test organisation was wide, no two organisations are exactly identical in terms of what they do and the requirements they have, so the first thing to do would be to trial the system with a number of other NfP organisations to see if the same results are obtained. Of particular interest would be a membership organisation (as opposed to a fundraising organisation with aspirations to add membership to their income-generating portfolio) and an organisation with more complex project management needs.

Identifying Benefits of Using the Taxonomy

If the results, in terms of time and cost, of using the taxonomy to develop the requirements specifications for many organisations could be gathered and compared with estimates of developing such requirements specifications by traditional methods, then a generalised cost/benefit equation could be produced which would aid other organisations in their planning when embarking on a similar project.

If MoSCoW ratings of multiple organisations could be collected together and compared, it would be possible to identify trends in terms of what types of organisations require what types of functions.

Extending the Taxonomy

This taxonomy is a structured framework of functionality and it lacks the final level of very detailed requirements. The main follow-on from this research would be to extend the taxonomy to this final level and add in all the detailed requirements that have been discussed in general terms in Chapter 4. This would be a large undertaking as the lowest level of the taxonomy contains 183 groups and the penultimate level contains 53 groups that have no lower level. This makes 236 functional groups that need expanding into detailed requirements. However, great value could be derived from this work because one large NfP organisation which had input to this research is currently undertaking a six month requirements gathering exercise. Based on the experience of the test organisation, if this final level of detail was added to the taxonomy, it is estimated that the process need take no more than one single week.

Schobbens et al. (2006) mentioned how requirements can be mandatory, optional or alternate and consideration needs to be given to whether and if so, how, to represent this in

the taxonomy. What is mandatory will always be a matter of personal opinion, so it is best to leave this out and cover it by use of the MoSCoW ratings when the taxonomy is used. Optional is not a problem because organisations can simply delete the lines they do not need from the taxonomy when they use it. Alternate requirements constitute a potential problem, as there is currently no way to easily identify them in the taxonomy. At the current level of detail only one area was designated as alternate and that was the two different methods of handling In Memoriam donations, so both have been included in the taxonomy. However, there are a number of other areas that have the potential for alternate requirements which would definitely be identified when taking the taxonomy to the final detailed level. These include: managing multiple organisations within the same system, managing multi-currency income and expenditure, invoicing, legacy administration and data security / ownership, so a representation method for alternate requirements must be devised.

Representing the taxonomy ontologically

During the coding and analysis stage of the research an attempt was made to create the taxonomy using OWL (Web Ontology Language). This was abandoned as the huge duplication of collected data made the method infeasible. However, now that the taxonomy has been constructed it could be represented ontologically. This would have the benefits of representing the taxonomy more formally, more rigorously and adding other layers of detail such as relationships between the requirements.

Developing a methodology for using the taxonomy

A process for using the taxonomy to identify the CRM requirements for the test organisation which was agreed with that particular organisation consisted of a large workshop, follow-up meetings, modifications to the taxonomy, documentation and participants' review. This process could be extended and formalised such that the process itself becomes reusable as well as the taxonomy that drives the organisation's CRM requirements.

Making the taxonomy more accessible

In order for the taxonomy to gain wide-spread acceptance within the NfP sector it needs to be easily accessible and usable by a wide range of people. The ideal solution would be to develop a web-based application that end users and managers in NfP organisations could log in to and it would guide them through the taxonomy in a structured fashion so that they could in effect produce a requirements specification tailored for their particular organisation without the need for consultants or domain experts. This could be achieved by the use of an expert system shell or a structured wiki, but it too would be a large undertaking particularly in

terms of framing questions for each level of the taxonomy and for each detailed requirement. In addition, considering the fact that different organisations often use different terms to describe the same functionality, there would be a need to provide a multi-layered help facility to describe each group and each requirement in language that everyone could understand.

End

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APPENDIX A – NFP CRM FUNCTIONALITY TABLE

Non-functional Requirements			
	Environment		
		Technical issues	
			Operating Environment
			Database Technology
			Deployment
			Hosting
			Specialist Devices
		Configuration and Customisation	
			Multi-organisation
			User Interface
			Data Validation
			Initial Data Values
			System Tables
			Additional Data
			System Extensions
		Security	
			System Security
			User Permissions
			Record Ownership
			Data Encryption
		Audit Trail	
			Financial Transactions
			Data Changes
			User Actions
		Compliance	
		Documentation/Help	
	Integration		
		Other Types of CRM	
			Collaborative (Website)
			Analytical (Analysis and Marketing)
		Standard Systems	
			Microsoft Office
			Bulk Email
			Addressing software
			Geographic Mapping
			CTI - Computer Telephony Integration
			EPOS – Electronic Point of Sale

			Banking and Credit Card Systems
			Finance systems (Nominal Ledger)
			Report Writing
		Optional Systems	
			Sales Order Processing
			Stock Control
			Sales Ledger
			Legacy Administration
			Media Systems
			Raffle Management
			Lottery Management
			Event / Conference Management
			Survey Software
			Call Centre Management
			Case Management
			Grant Making
			Project Management
			Volunteer Management
			Other Systems
General Functionality			
	Business Rules Processing		
		Simple Rules	
		Wizards	
		Workflow	
	Data Management		
		Document Management	
		Global Updates	
		Data Cleansing	
			Data Validation and Auditing
			De-duplication
			Record merging
		Import and Export	
			Import
			Export
			Reciprocal Processing
		Deleting/Archiving	
			Record Deletion
			Record Archiving
	Database Administrator Functions		
Marketing-related Functionality			

	Customer Management		
		Types of Customers	
		Name and Address Management	
		Common Data	
		Unique Data	
		Marketing Data	
		Prospective Support	
		Individuals	
		Media Management	
		Special Customer Relationships	
		Volunteer Management	
		Organisations	
		Other Customer Groups	
			Joint or Family Customers
			Committees
			Special Interest Groups
			Support Groups
			Regions
		Customer Relationships	
		Customer Maintenance	
		Activity and Communication Tracking	
		Action Management	
		Action Pledges	
		Non-Monetary Support	
	Query Reporting and Analysis		
		Query	
			Search Facilities
			Viewing Customer Data
		Reporting	
			List Management
			Standard reporting
			Parameterised Reports
			Report Writer
		Analysis	
			Performance Measurement / Dashboards
			Pareto Analysis
			RFV
			Further Analysis
	Marketing		

		Planning Budgeting and Forecasting	
		Prospect Research	
		Analytics and Data Mining	
		Campaign Management	
			Campaign Set-up
			Campaign Monitoring
		Selection and Segmentation	
			Selection
			Segmentation
		Customer Journeys	
	Communications		
		Simple Mail Merge	
		Complex Mail Merge	
		Conditional Processing	
			Communication Preferences
			Selective Sending
			Mail Checking
		Communication Logging	
	Channels		
		Traditional Channels	
			Mail
			eMail
			Telephone and Fax
			SMS and MMS
			Face to Face
			DRTV
			Other Advertising
		Website	
			Web Registration
			Information Recording
			Donations (by Credit Card)
			Direct Debits
			Gift Aid Declarations
			Membership Sign up and Renewal
			Subscriptions Sign up and Renewal
			Directories
			CPD
			Product Sales
			Event Booking

			Surveys
			Request Information
			Acknowledgements
			Request Contact
			Grant Applications
			Volunteering
			Social Networking Links
			Web Forums
			Web Communities
			Web Activity Tracking
			Tailored Web Pages
Sales-related Functionality			
	Sales		
		Product Catalogue	
		Order Processing	
			Quotations
			Back Office Sales
			Agent Sales
			Telesales and Call Guides
			eCommerce
		Stock Control	
		Facilities Hire	
		Other Sales Functions	
			Lead Management
			Contract management
			Sales force automation
	Fundraising		
		Applications and Pledges	
			Funding Applications
			Income Pledges
		Donations	
			Ad-hoc donations
			Regular or Committed Giving
			In Memoriam
			Tribute Funds
			Light up a Life
			Matched Giving
			Payroll Giving
			Standing Orders from Giving

			Agencies
			Static media
			Public Collections
			Telephone Fundraising
			Gift Aid
		Legacies	
			Legacy Marketing
			Legacy Administration
		Raffles and Lotteries	
			Raffles
			Lotteries
		Events and Sponsorship	
			Gifts in Kind
			Corporate Sponsorship
			Auctions
			Supporter Fundraising Events
			Supporter Sponsorship
	Membership Management		
		Membership	
			Joining
			Renewing
			Gift Membership
			Affiliations
			Directories
		Subscriptions	
		Examinations and Awards	
			Candidate Records
			Course Records
			Results Entry
		CPD	
		Elections and Balloting	
		Member Case Management	
	Event Management		
		Venue Management	
		Event Management	
			Event Planning
			Event Sponsorship
			Invitations and Bookings
			Reserved Tickets

			Ticketing
			Seat Planning
			Travel and Accommodation
			Event Reporting
		Abstract Management	
	Financial Management		
		Multi-currency	
		Invoicing	
		Income Processing	
			Payment Methods
			Simple Income Entry
			Simple Batch Processing
			Regular Batch Processing
			Income Entry
			Gift Aid Reclaims
			VAT
			Soft Credits
			Manual Banked Direct Income Entry
			Manual Standing Order Entry
			Automated Standing Order Entry
			Direct Debits and Credit Card Revolving Authorities
		Acknowledgements	
		Expenditure Processing	
			Payment Methods
			Simple Expenditure Entry
			Simple Batch Processing
			Regular Batch Processing
			Expenditure Entry
		Refunds Reversals and Transaction Amendments	
			Refunds
			Reversals
			Transaction Amendments
		Financial History	
		Financial Ledgers	
Service-related Functionality			
	Service		
		Call Centre	
		Complaints Handling	
		History Logging	

		Knowledge Base	
		Surveys and Questionnaires	
	Beneficiary Services		
		Fund Management	
		Case Studies	
		Grant Making	
			Maintain Grant Programmes
			Handle Applications
			Manage Grants and Make Payments
		Project Management and Sponsorship	
		Case Management	
		Other Beneficiary Services	
			Financial loans
			Coaching and Umpiring
			Time booking
			Welfare Control
			Sports Facilities Management
			Wish Granting
			Equipment loans and Distributions
			Holiday Bookings

APPENDIX B – NFP CRM STRATEGY TABLE

Who is the customer?		
	Academic Staff	
	Agencies	
	Alumni	
	Areas Branches Regions	
	Associates	
	Beneficiaries	
	Celebrities	
	Clients	
	Committee Members	
	Community Organisations	
	Companies	
	Customers	
	Detractors	
	Donors	
	Educational Establishments	
	Families	
	Funders	
	Government departments	
	Health Establishments	
	Health Professionals	
	Individuals	
	Legators	
	Media	
	Members	
	Opt Outs	
	Organisations	
	Partners	
	Politicians	
	Projects	
	Project Workers	
	Prospects	
	Religious Establishments	
	Special Interest Groups	
	Staff	
	Students	
	Subsidiaries	
	Suppliers	
	Supporters	
	Support Groups	
	Trusts	

	Trustees	
	Volunteers	
Organisational Issues		
	Mission	
	Strategy	
		Organisational
		Departmental
	Perceived Benefits	
	Confidentiality and Ownership of Data	
	Change Management	
	Other Management Issues	
Data Issues		
	360 degree view	
	Centralise Customers	
	Data Storage	
	Data Control	
		Source
		Accuracy
		Currency
		Relevance
		Legality
		Quality
Relationships		
	Customer Relationships	
	Internal Relationships	
	Understanding customers	
Customer Issues		
	Campaign Development or Marketing	
		Information
		Analytics
		Targeting
		Selection and Segmentation
		Campaign Monitoring
	Selling and Cross-selling	
	Communication channels or Touch Points	
		Personalised interface
		Activity Tracking
		Web integration
	Customer Experience and Choice	

	Customer Journey	
Systems Issues		
	Efficiency	
	Automation	
	Standardisation	
	Support	
	Extensibility	

APPENDIX C – NFP CRM ARCHITECTURE TABLE

Considerations		
	Size	
	Flexibility	
	Specialist Software	
	Best of Breed Software	
	Integration	
Options		
	High Level	
		One Circle
		Two Circles
		Three Circles
	Low Level	
		Office
		Address Management
		Banking and Payments
		Bulk eMail
		Sales Order Processing
		Sales Ledger
		EPOS
		Stock Control
		Legacy Administration
		Raffle Management
		Lottery Management
		Media Contacts
		Event Management
		Surveys
		Call Centre Management
		Case Management
		Grant Making
		Project Management
		Volunteer Management
Organisational Approaches		
	High Level	
	Low Level	
	Typical Scenario	

APPENDIX D – TAXONOMY TESTING TABLE

Priority	Response	Functional Area	Detail
		NON-FUNCTIONAL REQUIREMENTS	
		ENVIRONMENT	This section covers things like the operating environment, system configuration, accessibility and security
		TECHNICAL ISSUES	Technical requirements for the deployment of the system
		OPERATING ENVIRONMENT	Server and workstation environment
		DATABASE TECHNOLOGY	Type of database
		DEPLOYMENT	Local and remote access by staff to all system functions
		HOSTING	Location of the database; in-house or hosted
		SPECIALIST DEVICES	Support for devices such as barcode readers, QR Barcode readers, scanners and specialist label printers
		CONFIGURATION AND CUSTOMISATION	Look and feel of the system, how it is set up and standard system tables
		MULTI-ORGANISATION	The ability to manage the required functions for multiple organisations; with the ability to separate the data by organisation, if required
		USER INTERFACE	Outlook look and feel, dropdown boxes, keyboard equivalents for mouse operations, tabs for additional data, etc.
		DATA VALIDATION	Mandatory fields, field validation, drop-down lists, etc.
		INITIAL DATA VALUES	Ability to define default values for data fields when new records are added and be able to define which data fields are mandatory
		SYSTEM TABLES	Maintain a set of system tables that database administrator can manage e.g. customer types, membership types, campaign codes, etc
		ADDITIONAL DATA	Ability for the client to add additional data items and tables of data linked to customers
		SYSTEM EXTENSIONS	Ability to add new functionality as and when required
		SECURITY	Security features to protect against unauthorised access to data and functions
		SYSTEM SECURITY	General security of the system
		USER PERMISSIONS	User Id should determine which menus and screens each user can access, etc
		RECORD OWNERSHIP	Ability for groups of users to 'own' customer records, or parts of customer records, so that other users cannot see the records, or parts of records e.g. Helpline data, Membership data
		DATA ENCRYPTION	Sensitive data such as bank account numbers and credit card numbers should be encrypted
		AUDIT TRAIL	The ability to trace transactions through the system and see who did what
		FINANCIAL TRANSACTIONS	Audit trail forwards and backwards i.e. the ability to follow every financial transaction from its point of entry to the system right

Priority	Response	Functional Area	Detail
			through to its input into the financial accounting system and back the other way
		DATA CHANGES	Maintain a history of data changes, who made them and when
		USER ACTIONS	Maintain a history of processes run by users
		COMPLIANCE	Processes to comply with legal requirements and industry recognised codes of practice
		DOCUMENTATION / HELP	Manuals, Help text and tutorials
		INTEGRATION	This section covers the links that the system is required to have with other systems
		OTHER TYPES OF CRM	Collaborative CRM and Analytical CRM
		COLLABORATIVE (WEBSITE)	Ability to accept new customers, customer address changes, donations and other payments, event bookings, web sales, etc. direct from the website into the database
		ANALYTICAL (ANALYSIS AND MARKETING)	Ability to link, directly or indirectly, with specialist analysis and marketing systems
		STANDARD SYSTEMS	Information systems areas that can be considered as well-defined domains in their own right
		MICROSOFT OFFICE	Seamless integration with Microsoft Word, Excel, Outlook and Access
		BULK EMAIL	Integration with third party email management systems is preferred for bulk emailings of several thousand and more
		ADDRESSING SOFTWARE	Full integration with third party address management software for generating and validating addresses
		GEOGRAPHIC MAPPING	Visualisation of customers on maps of the UK
		CTI - COMPUTER TELEPHONY INTEGRATION	Auto-dial, screen popping and call logging
		EPOS – ELECTRONIC POINT OF SALE	Specialised systems for managing traditional sales transactions from shops, which are usually based on electronic tills
		BANKING AND CREDIT CARD SOFTWARE	Credit card authorisation and other banking software integration
		FINANCE SYSTEMS (NOMINAL LEDGER)	Ability to export summarised income data in a format acceptable by accounting systems such as Sage, Sun, Great Plains, etc.
		REPORT WRITING	Ability to use industry standard report writing systems in conjunction with the database
		OPTIONAL SYSTEMS	Other well-defined system areas that are less often required or often required to a lesser degree of functionality
		SALES ORDER PROCESSING	Selling and invoicing products and services
		STOCK CONTROL	Systems to ensure that stock of products is always available
		SALES LEDGER	Managing the invoices and payments received
		LEGACY ADMINISTRATION	Integration with the leading legacy administration database
		MEDIA SYSTEMS	Integration with the leading online media contacts database
		RAFFLE MANAGEMENT	Monitoring ticket sellers, ticket distribution and winners

Priority	Response	Functional Area	Detail
		LOTTERY MANAGEMENT	Monitoring players, collectors, rounds, payments, selecting winners and printing cheques
		EVENT / CONFERENCE MANAGEMENT	Managing all aspects of setting up and running events of all types
		SURVEY SOFTWARE	Defining, distributing, collecting results, and analysing results of; surveys
		CALL CENTRE MANAGEMENT	Information and Helpline management including call monitoring and outcome recording
		CASE MANAGEMENT	Managing all aspects of support for beneficiaries including document management, calendar functions, professional links and progress
		GRANT MAKING	Maintaining grant programmes, tracking applications for grants and making payments once grants have been awarded
		PROJECT MANAGEMENT	Monitoring project dates, activities, resources, costs and progress
		VOLUNTEER MANAGEMENT	Monitoring skills, training, availability, activities and payments to; volunteers
		OTHER SYSTEMS	Other less often requested system integration requirements
		GENERAL FUNCTIONALITY	
		BUSINESS RULES PROCESSING	Business resulting in single actions, wizards for multi-process operations and workflow processing
		SIMPLE RULES	The ability to define “business rules” that give rise to actions and pop-up alerts to users e.g. a major donor has just donated more than £1000 so give him a ring
		WIZARDS	The ability to lead the user through a complex, but single, process, in a structured manner e.g. creating a new customer record
		WORKFLOW	Ability to specify a sequence of tasks allocated to staff members with automated notification of next task to be performed when the previous task is marked as completed.
		DATA MANAGEMENT	Managing documents, linking files, global changes, data cleansing, import, export, deleting and archiving customers
		DOCUMENT MANAGEMENT	Scanning and linking documents (and other files) to customer records and recall them at any time
		GLOBAL UPDATES	Ability to globally update any database field with a specified value for all customer records identified via a query/selection
		DATA CLEANSING	Duplicate checking and record merging
		DATA VALIDATION AND AUDITING	Procedures to ensure the continuing accuracy and consistency of data within the system
		DE-DUPLICATION	Ability to identify potential duplicate records on entry of a new record and globally
		RECORD MERGING	The ability to merge duplicate records together
		IMPORT AND EXPORT	Ability to import into the database and export from the database; any and all data items related to customers in industry-standard formats, e.g. CSV

Priority	Response	Functional Area	Detail
		IMPORT	Ability to import any and all data items related to customers in industry-standard formats, e.g. CSV
		EXPORT	Ability to export any and all data items related to customers in industry-standard formats, e.g. CSV
		RECIPROCAL PROCESSING	Special processes for handling Reciprocal / Rented Lists
		DELETING / ARCHIVING CUSTOMERS	Removing Customers from the database on a permanent or temporary basis
		RECORD DELETION	Deleting Customer data and other associated data
		RECORD ARCHIVING	Removing customer data such that it can easily be reinstated if required
		DBA FUNCTIONS	Database Administrator functions to ensure full control over User Ids, passwords and system tables
		MARKETING-RELATED FUNCTIONALITY	
		CUSTOMER MANAGEMENT	This section contains basic data to be recorded and basic functions to be performed for the different types of customers in the database. It also covers customer relationships, activity tracking and action management
		TYPES OF CUSTOMERS	This section is a list of the various types of customers that the database is required to manage
		NAME AND ADDRESS MANAGEMENT	Structured names, validated addresses and linking of address to one or more regional hierarchies
		COMMON DATA	Maintenance of data fields that are common to all types of customers such as; profile codes, communication indicators, interests, notes, etc
		UNIQUE DATA	Maintenance of data fields that are different for each type of customer e.g. turnover and SIC codes for corporates and meeting dates and beneficiary areas for trusts
		MARKETING DATA	Dynamically updated income summary information for each customer; such as income to-date, average income value, etc plus demographics such as counties, constituencies, regions, LEAs etc.
		PROSPECTIVE SUPPORT	Records of the future income/support you might get from customers based on past behaviour
		INDIVIDUALS	Data items (in addition to global customer data) for individuals of all types
		MEDIA MANAGEMENT	Our supporters who talk to the press about our organisation
		SPECIAL CUSTOMER RELATIONSHIPS	Special processes for dealing with important donors such as high value donors and celebrities e.g. exclude from standard selections and fulfilment
		VOLUNTEER MANAGEMENT	Record customers as volunteers along with their skills, training, activities undertaken and rewards given
		ORGANISATIONS	Record details of organisations such as corporates, trusts and other organisational groups, maintain hierarchies of them and link

Priority	Response	Functional Area	Detail
			contacts to them
		OTHER CUSTOMER GROUPS	Processes related to joint or family records, committees, regions and any other special customer groupings
		JOINT OR FAMILY CUSTOMERS	The ability to manage a single household across many individuals with appropriate, salutations, mailings, Gift Aid and income recording, including 'rolling up' income to family level
		COMMITTEES	Data for Committees to be held separately from standard customer Relationships/Links
		SPECIAL INTEREST GROUPS	Add and amend data for special interest groups and define member 'roles'
		SUPPORT GROUPS	Add and amend data for support groups and define member 'roles'
		REGIONS	Maintain a multi-level regional structure with automatic allocation of a Region code to new customer records from a table of Regions and their associated Postcode ranges plus the ability to define 'roles' at any level of the structure
		CUSTOMER RELATIONSHIPS	Linking of customers together: individual to individual, individual to organisation, organisation to organisation with automated generation of reciprocal links and the ability to view relationships as a ‘tree’.
		CUSTOMER MAINTENANCE	General processes related to all types of customer records
		ACTIVITY AND COMMUNICATION TRACKING	Logging every communication with and every activity undertaken by or in relation to a customer
		ACTION MANAGEMENT	Diary function for recording future actions against customers and who the action is allocated to within the client organisation (with automated reminders)
		ACTION PLEDGES	Record the fact that customers are willing to do something for the organisation, e.g. speak to the press. Also the ability to store and recall ‘case studies’ for marketing purposes
		NON-MONETARY SUPPORT	Record things supporters do for the organisation other than give money
		QUERY REPORTING AND ANALYSIS	This section covers how to find things in the database, standard and custom reporting, Pareto, RFV and other analysis techniques
		QUERY	Searching for customers and what is on view when they are found
		SEARCH FACILITIES	Searching for customer records for viewing on screen by a variety of fields including: name, postcode and categories, including combinations of fields including a “fuzzy” search facility as per Google, i.e. a "quick search" as opposed to a fully functional "query" (which appears under the MARKETING heading)
		VIEWING CUSTOMER DATA	What you want to see on the first screen after an Enquiry Search
		REPORTING	Lists, standard reports, parameterised reports and report writing functionality
		LIST MANAGEMENT	Generation of customer lists, merging of lists, modifying lists and

Priority	Response	Functional Area	Detail
			exporting lists
		STANDARD REPORTS	A comprehensive set of ready-made standard reports
		PARAMETERISED REPORTS	A standard set of reports with user-definable parameters such as dates, customer types, etc
		REPORT WRITER	The ability for the client to design their own reports
		ANALYSIS	This section describes simple and common analysis functions as opposed to sophisticated analytics described under MARKETING
		PERFORMANCE MEASUREMENT / DASHBOARDS	Ability to display a series of user-definable key performance indicators (KPIs) in a graphical form
		PARETO ANALYSIS	80:20 analysis
		RFV	Recency/Frequency/Value Analysis
		FURTHER ANALYSIS	Other analysis techniques beyond standard Pareto and RFV
		MARKETING	This section describes functions related to marketing to customers whether they be prospects or supporters
		PLANNING BUDGETING AND FORECASTING	Annual calculation of expected income and expenditure and regular updating of forecasts
		PROSPECT RESEARCH	Identifying potential customers
		ANALYTICS AND DATA MINING	More sophisticated data analysis and inking the database to an external data warehousing / analytics system
		CAMPAIGN MANAGEMENT	(Source of Funds) Ability to monitor funding campaigns including recording costs in detail, automatic update of income received and production of analysis reports including numbers mailed, costs, response rates and return on investment.
		CAMPAIGN SET-UP	Creating a hierarchical structure of campaigns, recording campaign data including costs
		CAMPAIGN MONITORING	Automatic updating of income upon entry of transactions and maintenance of various campaign KPIs and production of analysis reports including numbers mailed, costs, response rates and return on investment
		SELECTION AND SEGMENTATION	Query builder for record selections suitable for use by end users rather than just by database specialists, and database segmentation and management of segments
		SELECTION	Query builder to search on any database field suitable for use by end users rather than just by database specialists
		SEGMENTATION	Ability to store a segment/group code against a selected set of customers and manually add records to and delete records from the segment/grouping
		CUSTOMER JOURNEYS	Mapping past customer behaviour and predicting future behaviour
		COMMUNICATIONS	This section describes the different ways in which communication with customers is conducted from mailing to email to telephone to website

Priority	Response	Functional Area	Detail
		SIMPLE MAIL MERGE	Production of lists of names and addresses
		COMPLEX MAIL MERGE	Mail merge fields from customer record and other information that is dependent on values of customer record data fields e.g. different paragraphs for each specific fund code
		CONDITIONAL PROCESSING	Communication preferences and exclusions, selective sending, such as 1 in N, and inclusion of seed records to check mailings
		COMMUNICATION PREFERENCES	Processing associated with major blocking indicators and general communication indicators
		SELECTIVE SENDING	Facilities such as one communication per household, limiting the number of communications per year, 1 in N with later roll-out, etc
		MAIL CHECKING	Inclusion of 'seed' or 'sleeper' records in every mailing
		COMMUNICATION LOGGING	Record all types of communication with customers including the subject and direction of the communication, e.g. letters, telephone calls, emails, etc. Including links to documents; letters, emails, etc
		CHANNELS	The various different ways in which customers are communicated with
		TRADITIONAL CHANNELS	Communicating directly with customers
		MAILING	Mailmerge to MS Word for letter production
		EMAIL	Mailmerge to email
		TELEPHONE AND FAX	Telephone lists and mailmerge to Fax
		SMS AND MMS	Mailmerge to SMS text messaging and inclusion of video
		FACE TO FACE	Recording or personal approaches
		DRTV	Recording details of television advertising (and the responses)
		OTHER ADVERTISING	Recording details of other advertising (and the responses)
		WEBSITE	Ability for customers to carry out most data entry actions via the organisation's website, all of which are automatically reflected in the central database
		WEB REGISTRATION	Accept new customer names and addresses from the website i.e. create new Name and Address record in the database with automatic deduplication
		INFORMATION RECORDING	Customer self-service for updating their own information such as change of address, interests and communication preferences
		DONATIONS (BY CREDIT CARD)	Make credit card donations (both new and existing customers)
		DIRECT DEBITS	Record and process paperless direct debit sign-ups (Regular Giving)
		GIFT AID DECLARATIONS	Make Gift Aid Declarations online
		MEMBERSHIP SIGN UP AND RENEWAL	Join a membership scheme or renew and existing membership
		SUBSCRIPTIONS SIGN UP AND RENEWAL	Sign up for receipt of regular publications or renew expired / expiring subscriptions
		DIRECTORIES	Allow customers to search a directory of members

Priority	Response	Functional Area	Detail
		CPD	Allow customers to update their own CPD records
		PRODUCT SALES	Purchase products
		EVENT BOOKING	Book places at events
		SURVEYS	Take part in on-line surveys
		REQUEST INFORMATION	Customers requesting information from the organisation via the website
		ACKNOWLEDGEMENTS	Send email confirmation of donations (email thank you letters), web orders and bookings
		REQUEST CONTACT	Request that a member of staff get in touch with them
		GRANT APPLICATIONS	Make on-line applications for a grant offered by the organisation
		VOLUNTEERING	Make on-line applications to become a volunteer for the organisation
		SOCIAL NETWORKING LINKS	Direct links to such things as the customer's Facebook page
		WEB FORUMS	Create a number of subject related forums where customers can post messages
		WEB COMMUNITIES	Allow customers to connect with each other
		WEB ACTIVITY TRACKING	Ability to record pages visited by each customer
		TAILORED WEB PAGES	Provide web pages tailored for each customer such that they see what interests them most when they log on to the website
		SALES-RELATED FUNCTIONALITY	
		SALES	This section describes the functions of sales order processing and stock control
		PRODUCT CATALOGUE	A catalogue of products for sales both for printing and publishing on the website
		ORDER PROCESSING	The processing of sales orders of all types, for all products (with or without VAT) and from all channels
		QUOTATIONS	Produce a sales quotation on request by customer
		BACK OFFICE SALES	Data entry of sales orders
		AGENT SALES	Be able to handle “sale or return” items
		TELESALES AND CALL GUIDES	Proactive and reactive taking of sales orders utilising sales scripts
		ECOMMERCE	Receive sales order from the organisation's website
		STOCK CONTROL	Managing the stock levels of items you sell
		FACILITIES HIRE	Managing your own facilities that you hire out to other people
		OTHER SALES FUNCTIONS	Other less often requested sales related requirements
		LEAD MANAGEMENT	Managing customer enquiries and follow up actions
		CONTRACT MANAGEMENT	Recording and monitoring customers’ contractual terms and conditions
		SALES FORCE AUTOMATION	Tracking the sales process
		FUNDRAISING	This section sets out the requirements that are directly related to fundraising; from grant application tracking through to all the

Priority	Response	Functional Area	Detail
			different types of fundraising and related functions such as payroll giving and Gift Aid
		APPLICATIONS AND PLEDGES	Monitoring the applications for funding and promises to pay
		FUNDING APPLICATIONS	Recording of applications to trusts, corporates and statutory bodies including details of application, date sent, status, future actions and results
		INCOME PLEDGES	Record pledge amount/s and due date/s (single and multi-payment pledges), link income received, maintain pledge balances, reminder letters, ability to write off pledge. Ability to record different types of pledges e.g. Legacy pledge versus general pledge
		DONATIONS	Managing all types of voluntary payments to the organisation
		AD-HOC DONATIONS	Recording single payments either in response to a campaign or unsolicited
		REGULAR GIVING	Add and amend Financial Commitment data including type, length of time, frequency of payments, payment method, etc, link to bank account, monitor and report on missing or extra payments
		IN MEMORIAM	Procedures for handling in memoriam gifts (either person based or fund based)
		TRIBUTE FUNDS	Similar to In Memoriam but for long-term tributes that necessitate a formal Destination (Fund) code
		LIGHT UP A LIFE	A special form of one off dedications
		MATCHED GIVING	Maintaining records of organisations who pledge to match their employees' donations
		PAYROLL GIVING	Maintain records of individuals who give via deductions from their salary, plus records for their employers and the agencies who collect the money
		STANDING ORDERS FROM GIVING AGENCIES	Manage standing orders from organisations other than banks
		STATIC MEDIA / COLLECTION BOXES	Recording of who has collection boxes (multiple types), when they were sent, how much has been received and an automatic reminder for people with collection boxes if nothing has been received after a specified time period
		PUBLIC COLLECTIONS / HOUSE TO HOUSE	Record details of collectors and their rounds, the money received from them and thank you letters
		TELEPHONE FUNDRAISING	Selection of records, production of telephone list with key customer information in spreadsheet form (for transmission to telephone fundraising agency) and the import of responses from the agency, on the updated spreadsheet – including details of legacy and other pledges, name and address
		GIFT AID	Recording of Gift Aid Declarations, production of Gift Aid claims to HMRC specifications

Priority	Response	Functional Area	Detail
		LEGACIES	Marketing the concept of leaving a legacy to the organisation and managing the actual bequests made
		LEGACY MARKETING	Record who has received legacy marketing material, who has pledged (with source, date, amount and type of legacy proposed), notes of visits etc, and ensure that they don't receive further legacy marketing material
		LEGACY ADMINISTRATION	Recording of legacy details, executors/solicitors, amounts expected and received, correspondence and actions
		RAFFLES AND LOTTERIES	Administering raffles and lotteries run by the organisation
		RAFFLES	Identify raffle sellers, distribute tickets, capture sales and record winners
		LOTTERIES	Identify collectors, rounds and members, capture income, maintain 'paid up to' dates, select winning numbers, print winners' cheques
		EVENTS AND SPONSORSHIP	Supporting events run by customer of the organisation and managing sponsorship opportunities
		GIFTS IN KIND	Recording of gifts in kind including what it is and its nominal value. Ability to report on actual income and GIK values together
		CORPORATE SPONSORSHIP	Link sponsors with campaigns/events, allow multiple sponsors per event, maintain list of sponsorship budget items and who is sponsoring what, invoice sponsors record cash and in-kind sponsorship, report on event sponsorship status
		AUCTIONS	Recording and managing auction dates, sale items, proceeds and successful bidders
		SUPPORTER FUNDRAISING EVENTS	Record intention to hold an event, promotional items sent (posters, collection boxes, T-shirts, etc), income received, reminders when income not received after specified period
		SUPPORTER SPONSORSHIP	(e.g. the London Marathon, bike ride, etc) Link sponsors to the person they are sponsoring, record minimum sponsorship, identify income separately, send reminders when income not received after specified period, manage Gift Aid/non-Gift Aid sponsorship
		MEMBERSHIP MANAGEMENT	This section sets out the functions to manage memberships and subscriptions
		MEMBERSHIP	Comprehensive membership functions, such as, managing different types of membership with different rates, annual reminders, list of benefits/publications, etc
		JOINING	Setting up membership records
		RENEWING	Renewing and lapsing membership processes
		GIFT MEMBERSHIP	Allow a third party (individual or organisation) to pay a member's fees
		AFFILIATIONS	Recording members' associations with branches or special interest groups
		DIRECTORIES	Management of directories of members in printed form and on-line

Priority	Response	Functional Area	Detail
		SUBSCRIPTIONS	Managing paid for subscriptions to magazines etc. outside of any membership scheme
		EXAMINATIONS AND AWARDS	Managing details of courses and candidates and the entry of results
		CANDIDATE RECORDS	Maintain records of every candidate's courses, dates, results and qualifications obtained
		COURSE RECORDS	Maintain records of courses, pre-requisites, dates, locations, examination dates and locations, lecturers, assessors, etc, and candidates taking the courses each year
		RESULTS ENTRY	Data entry of results, assessments and grades
		CPD	Maintaining records of continuing professional development of members
		ELECTIONS AND BALLOTING	Manage candidates, print and distribute ballot papers and reconcile responses
		MEMBER CASE MANAGEMENT	Procedures for managing serious complaints against members
		EVENT MANAGEMENT	This section describes the management of events such as conferences, training sessions, and fundraising events
		VENUE MANAGEMENT	Add and amend Venue details with location, facilities and capacity
		EVENT MANAGEMENT	Manage events e.g. conferences, training sessions, fundraising events, including: who was invited, invoicing, waiting lists, who attended, refunds, sponsorship, etc.
		EVENT PLANNING	Set up events with venues, sessions, resources, costs numbers, and sponsorship
		EVENT SPONSORSHIP	Suppliers providing financial or in kind support for an event
		INVITATIONS AND BOOKINGS	Manage invitations, bookings, cancellations, waiting lists, special requirements and event communications
		RESERVED TICKETS	Be able to handle "sale or return" tickets
		TICKETING	Event ticket production
		SEAT PLANNING	Event seat planning
		TRAVEL AND ACCOMMODATION	Make and manage travel and accommodation arrangements for delegates
		EVENT REPORTING	On the day reports (badge labels, delegate lists, session lists), after event reports (attendees, income and expenditure)
		ABSTRACT MANAGEMENT	Managing abstracts of authors' papers / presentations
		FINANCIAL MANAGEMENT	This section describes the functions related to finance such as income processing and processing of direct debits and standing orders and also thanking / receipting
		MULTI-CURRENCY	Processing of income and expenditure in multiple currencies with exchange rate tables and the handling of exchange rate differences
		INVOICING	Production of invoices for any 'sale', plus credit note handling and debtor reports

Priority	Response	Functional Area	Detail
		INCOME PROCESSING	Process income of all types, in batches and not batched, handle VAT, standing orders, direct debits and soft credits
		PAYMENT METHODS	Ability to process all types of income: cash, cheques, CAF vouchers, direct debits, etc.
		SIMPLE INCOME ENTRY	Enter individual income items without batching procedures e.g. major donation
		SIMPLE BATCH PROCESSING	End of day batching - Creation of a batch of income transactions, entered singly, since the last time it was requested (e.g. end of day), with calculation of number of items and total value
		REGULAR BATCH PROCESSING	Ability to process all types of income with batch control to minimise errors and satisfy audit requirements
		INCOME ENTRY	Processes related to the entry of individual income items
		GIFT AID RECLAIMS	Posting to donor records of Gift Aid reclaim money received from HMRC
		VAT	Correct handling of VAT for sales items that are liable to VAT
		SOFT CREDITS	Ability to show income against a customer who is related in some way to the donation made by another customer
		MANUAL BANKED DIRECT INCOME ENTRY	Enter ad-hoc income received direct into the bank from Bank Statements
		MANUAL STANDING ORDER PROCESSING	Enter regular income received direct into the bank from Bank Statements
		AUTOMATED STANDING ORDER PROCESSING	Ability to import files of standing order payments
		DIRECT DEBITS & CREDIT CARD REVOLVING AUTHORITIES	Ability to generate direct debit files for the bank, manage paperless direct debits, etc.
		ACKNOWLEDGEMENTS	Automatic production of receipts and/or thank you letters based on amount, type of donor, etc.
		EXPENDITURE PROCESSING	Process all types of expenditure for payment by cheques or BACS payments
		PAYMENT METHODS	Allow payment methods of cheque and BACS transfer
		SIMPLE EXPENDITURE ENTRY	Enter individual expenditure items without batching procedures e.g. a one-off payment to a beneficiary
		SIMPLE BATCH PROCESSING	End of day batching - Creation of a batch of expenditure transactions, entered singly, since the last time it was requested (e.g. end of day), with calculation of number of items and total value
		REGULAR BATCH PROCESSING	Ability to process all types of expenditure with batch control to minimise errors and satisfy audit requirements
		EXPENDITURE ENTRY	Processes related to the entry of individual expenditure items
		REFUNDS REVERSALS AND ADJUSTMENTS	Ability to process refunds, reversals and other transaction adjustments with appropriate accounting entries
		REFUNDS	Refunding income items

Priority	Response	Functional Area	Detail
		REVERSALS	Single click Income Reversal process (income never received e.g. bounced cheque)
		TRANSACTION ADJUSTMENTS	Ability to alter transaction details at any time after data entry
		FINANCIAL HISTORY	Maintain a full history or all financial transactions against each customer
		FINANCIAL LEDGERS	An integrated set of Sales, Purchase and Nominal Ledgers
		SERVICE-RELATED FUNCTIONALITY	
		SERVICE	This section describes the provision of general services to all types of customer including recording communications in both directions and feedback handling
		CALL CENTRE	Recording of call details, referrals and information sent. Screen popping for repeat callers. Production of call statistics
		COMPLAINTS HANDLING	Managing complaints against the organisation separate from all other Communications recording
		KNOWLEDGE BASE	Recording of and fast access to; structured and unstructured information
		SURVEYS AND QUESTIONNAIRES	Ability to define a sequence of questions and have a fast data entry of responses for such things as conference/training feedback
		BENEFICIARY SERVICES	This section sets out functions that are related to the service provision side of the organisation, such as fund management, grant giving, Help/Information lines and project sponsorship
		FUND MANAGEMENT	(Destination of Funds) Ability to monitor where money is to be used (general and restricted funds) including targets, automatic update of income received and amount spent so far
		CASE STUDIES	Maintain details of the beneficiary cases/stories to assist in marketing
		GRANT MAKING	Ability to manage grants given to customers including budget monitoring, approvals and transfer of details to Sage, Sun, etc.
		MAINTAIN GRANT PROGRAMMES	Maintain grant programme information ; amounts available, dates available, number available, application criteria / conditions, etc.
		HANDLE APPLICATIONS	Workflow process to manage applications from receipt, through evaluation, obtaining references and approval / rejection
		MANAGE GRANTS AND MAKE PAYMENTS	Maintain payment schedules, pre-conditions for payments and make payments
		PROJECT MANAGEMENT AND SPONSORSHIP	Ability to link funders to projects that they support, including targets, monitoring and multiple funders for the one project
		CASE MANAGEMENT	Procedures for managing activities with beneficiaries such as medical support, emotional support, home visits, etc.
		OTHER BENEFICIARY SERVICES	Other less often requested beneficiary related requirements
		FINANCIAL LOANS	Financial loans

Priority	Response	Functional Area	Detail
		COACHING AND UMPIRING	Coaching and umpiring
		TIME BOOKING	Time booking
		WELFARE CONTROL	Welfare control
		SPORTS FACILITIES MANAGEMENT	Sports facilities management
		WISH GRANTING	Wish granting
		EQUIPMENT LOANS AND DISTRIBUTIONS	Management of equipment lent to or given to beneficiaries, including applications, ordering, distribution, maintenance and collection
		HOLIDAY BOOKINGS	Manage the application, approval and details of beneficiaries for holidays