

Chapter 3: Methodology

3. Part 1: Introduction to Methodology

Research is undertaken principally to answer questions about the world. Blaikie (2009) characterises research as having one of several key purposes: to describe, to explain and understand, to effect change, to predict, to evaluate or to assess impacts. These purposes drive the formulation of the research questions – ‘what?’, ‘why?’ or ‘how?’ questions. Whether the aim is to find a definitive answer to a question, or to arrive at a better definition of the question itself, the methods employed and what constitutes an adequate answer will be determined in part by the nature of the phenomena under examination and in part by assumptions that underpin the investigation. What is regarded as sufficient evidence for conclusion from one epistemological standpoint may be dismissed as unconvincing from another:

Epistemological assumptions are concerned with what kinds of knowledge are possible – how we can know things – and with criteria for deciding when knowledge is both adequate and legitimate. (Blaikie 2010, p92)

Consideration of these assumptions and standpoints is crucial, as summed up thus:

The purpose of methodology is to enable researchers to plan and examine critically the logic, composition and protocols of research methods; to evaluate the performance of individual techniques; and to estimate the likelihood of particular research designs to contribute to knowledge (Krippendorff 2004a, p.xxi)

This chapter will examine the philosophies which underpin research strategies and in doing so will contextualise the methods considered for this project and offer justification for the specific tools selected.

To recap, the research questions under consideration are:

- To what extent have English Christian churches established a distinct individual web presence?
- To what extent do churches and church leaders use email, websites and social media tools to find and publish information?
- Is there evidence that traditional notions of hierarchy and authority been affected by online sources of information and communication?

3.1.1 Research methodology

3.1.1.1 Scientific Method

‘Scientific method’ as it developed within the natural sciences has at its core the ability to reason from general scientific claims to particular conclusions which can be checked experimentally (Gower 1997). This is the positivist model (Blaikie 2010). Denscombe (2008) offers an explanation of this model in terms of seeking ‘causes and consequences’ of observed phenomena. Observed phenomena were deemed important because this understanding of what constitutes knowledge arose as a reaction to metaphysical mysticism, swapping faith in acts of God for the formulation and testing of observable laws of nature. Positivism, often used synonymously with empiricism as an approach, aims to investigate phenomena in isolation; in a value-free environment.

Empiricism is the epistemological standpoint that observations (and sensory) experiences should be regarded as the most important or only method to gain knowledge ... (Hjorland 2005, p134)

and:

...the traditional accounts of scientific method, then, offer a logic of science which is biased more or less heavily in favour of an empirical epistemology and ontology (Gower 1997), p259

Hence, all knowledge comes from experience. Okasha (2002) reports that the philosopher Hume arrived at the logical extreme of this position and rejected any possibility that true causality could ever be established – causality is a figment of imagination (p51). But this is the extreme, and Hjørland supplies a measured approach:

In practice empiricist epistemologies are searching for simple observations which any observer can agree on. (Hjorland 2005, p134)

Denscombe (2008) asserts that this approach is typified by the experimental method, seeking to test hypotheses in circumstances that are detached, objective and can be independently verified. The subject matter in the natural sciences, particularly physics, offers itself to this kind of investigation; the ability to study individual events that can be separated without consequence from a wider whole. Manipulations can be performed which lend themselves to statistical analysis, hence, the logic of this scientific approach is operationalised by quantitative methods, and as Gorman and Clayton (2005) explain:

In quantitative research one usually starts with certain assumptions, questions or hypotheses and looks for data that will support or deny them.
(Gorman and Clayton 2005, p7)

This approach has been recognised as being the default approach within library & information science during its early development until the 1980s (Budd 1995). Also according to Budd (1995), positivism has lingered although:

...to some extent the positivist influence has waxed and waned, it has seldom disappeared utterly, perhaps because of the attractiveness of its claims, specifically the phantasm of certainty. (Budd 1995, p298)

This has had implications for the way in which research in information science has been formulated. Budd claims this is because 'operational positivism' defines research: 'questions asked...are limited to certain methodologies' (p300). That is, researchers prioritise questions with quantifiable answers and discount those areas of enquiry that go beyond the immediately observable. Counts of books borrowed or websites visited can be statistically analysed but give no explanations for the motivations of the borrower or browser. As Budd goes on to point out, 'intention sets the social apart from the physical' (p301). There is no way to reduce or understand people's intentions (which prompt their actions) within the experimental method that insists only that which is observable is valid. Wilson (1999) suggests that too much attention to rigorous method divorces research from reality and makes it of little use to practitioners. In addition, Gower (1997) notes that claims to objectivity from research under a positivist paradigm are flawed:

...the cultural, political and ideological convictions are brought to bear on the decisions scientists make; to this extent the scientific beliefs incorporated in a paradigm are socially constructed. (Gower 1997, p244)

3.1.1.2 Other approaches

There has therefore been a move within information science research towards a more phenomenological approach, a change from the strict rigid stance that follows the scientific method to one that encompasses and permits inferences to be made. Phenomenology is an approach that seeks to uncover latent meaning from the manifest meaning, thus is related closely to hermeneutics. This approach uses more inductive reasoning, which begins with observation and aims to build theory from the data. It is more closely linked with methods classed as qualitative methods. Again, as Gorman and Clayton (2005) explain:

The ultimate goal of qualitative research is to understand those being studied from their perspective, from their point of view (Gorman and Clayton 2005, p3).

Both qualitative and quantitative methods of enquiry are evidence-based. It is in their approach to gathering and testing evidence that they differ. The former favours a 'bottom-up' approach and this is the basis of grounded theory. Grounded theory attempts to place explanations within context, to build explanations around observed events, and is reflexive in that theory can be developed in an iterative way by consulting with those involved in the situation under observation. This holistic, integrative approach is typical of many qualitative methods where:

...the qualitative researcher collects evidence and uses this to develop an explanation of events, to establish a theory based on observed phenomena (Gorman and Clayton 2005, p7)

3.1.1.3 Mixed approaches

Wilson (2003) contends that:

we are all interested in 'information', but that is not a single phenomenon

(Wilson 2003, p446)

Hence, a range of methods of enquiry and research topics have been employed throughout the discipline. There is no single aspect that can act as a cohesive force. Gower (1997), in his discussion of the changing acceptability, or otherwise, of scientific methods over time suggests that there is no reason why one could not be an 'epistemological opportunist' or a 'methodological anarchist' (p236) since many methods that were seen as doctrinal at a particular point in history have gone on to be ridiculed for their inadequacy.

3.1.1.4 Four research strategies

Blaikie (2010) contends that such opportunism can be effective only when proper consideration has been given to the reasons why a change in approach is necessary. He outlines four research strategies– Inductive, Abductive, Deductive and Retroductive – and suggests that each one is linked with specific research questions, designs and paradigms. This clearly sets out the links between the epistemological assumptions being made and the kind of research design that can be adopted. Throughout his discussion is the argument that selection of design and method is governed by these links as well as preferences and pragmatism. Furthermore, he states that since hypothesis testing is only relevant to deductive, quantitative research, social science investigations proceed by the formulation and answering of research questions. These questions generally take the form of 'what,' 'why' or 'how?'

The purpose for research questions can vary in complexity, and can be cumulative within the same research project. Answering a 'what' question is simpler than deciding why or how a situation arises.

The Inductive strategy is suited to answering 'what' questions:

The aim of the Inductive research strategy is to establish limited generalisations about the distribution of, and patterns of association amongst, observed or measured characteristics of individuals and social phenomenon (Blaikie 2010, p83)

This strategy also implies that researchers decide in advance which characteristics to look for, and how they are defined. This differs from the retroductive approach, which seeks to describe phenomena and then test models which provide explanations – answering 'why?' questions. The deductive strategy is based on hypothesis testing and is that which is aligned with the classical scientific method, explaining 'what' questions. Abductive research strategies are more complex and can answer both 'what' and 'why' questions by:

...producing understanding rather than an explanation, by providing reasons rather than causes. (Blaikie 2010, p89)

Denscombe (2008) takes a very pragmatic view and suggests that the actual choice of research methods is 'horses for courses.' By this he means that one should use the method of investigation that is most suited to the question in hand, rather than being fettered by a purely philosophically-led choice. This pragmatism encourages the mixed-methods approach whereby methodologies are combined, rather than forcing all aspects of research into a single framework. Again, Blaikie would agree saying that:

Methods can be used in the service of a number of research strategies, however, they will need to be used with different ontological assumptions.

(Blaikie 2010, p106)

Triangulation is a term borrowed from disciplines such as surveying or geology and refers to an approach that takes data from three points, all focused on the target question. In this way researchers are able to gain different but related perspectives on the problem. Denscombe (2008) offers two outcomes for using triangulation – a more accurate measurement of a phenomenon or a more complete picture. In this project, the use of multiple lines of enquiry is intended to enhance the understanding of the problem. Blaikie (2010) suggests that triangulation is just one possible approach within a ‘mixed methods’ design, referring to “studies that combine qualitative and quantitative methods in parallel or in sequence” (p.219). Others combine methods to explore, embed or explain phenomena.

3.1.1.5 Characterisation of current research project

This project is aiming to describe and explain the current situation of church-based online communication. As an exploratory study, there is no intention to change or evaluate the way things are. The research purpose, combined with the knowledge gained from the literature, has led to a set of research questions predominantly focused on the ‘what’ and ‘why’ – bearing in mind that ‘detailed description can provide the beginnings of an explanation’ (Blaikie 2010, p71). The research strategy employed is Inductive.

In the current research, quantitative and qualitative methods will be combined to give a fuller picture of the problem under discussion. Content analysis and surveys, which have their roots in empiricist epistemology will be combined with interviews, more usually associated with a qualitative, phenomenological approach.

3.2 Part 2: Implementation

3.2.1 Ethical considerations

Desk research based on websites that are publicly available and unchanged by examination does not entail particular ethical considerations. Conducting interviews and interaction with interview participants does, however. Loughborough University guidelines were followed¹² and ethical approval obtained.

3.2.1.1 Consent

The key issue is that interviewees participate from a point of informed consent, that is, they understand the nature and purpose of the interview, how their responses may be used, and their right to withdraw partially or completely from the session. In addition, the interviews were recorded and explicit consent was required for this, particularly for telephone interviews where participants could not see the recording equipment. The email invitation to participants included information on the nature of the research. This is included in appendix 11.5 with the preamble used to gain consent at the beginning of each interview.

This chapter will go on to offer further justification for the choice of research methods used in this project, and outline their implementation. This justification will include brief reasons why alternative models and research methods were not adopted. The diagram below outlines the three phases of the research project:

¹² Summary is available at

<http://www.lboro.ac.uk/admin/committees/ethical/gn/Process%20for%20approval%20master.pdf> (Accessed 23 October 2012)

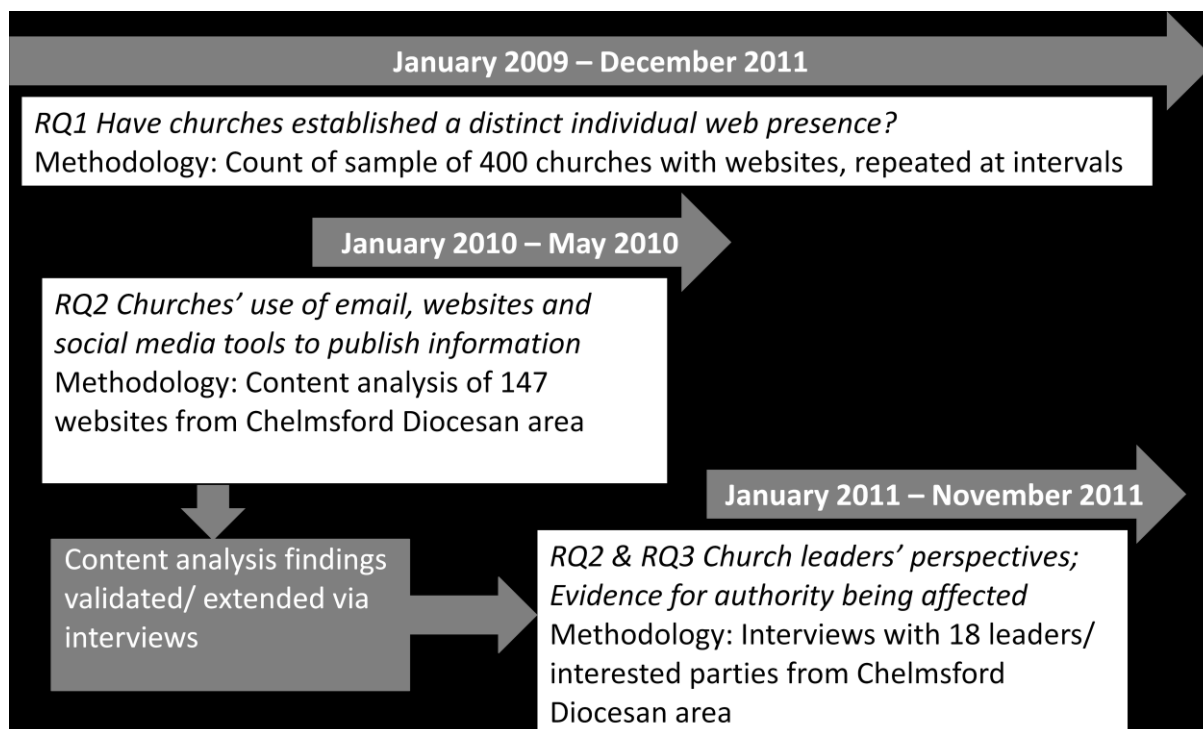


Figure 3-1 The three components of the research project

3.2.2 Quantitative methods (i) – Survey research

The longitudinal strand to the project is based upon counting the existence of church websites, a form of survey research. This simple census provides a baseline for the numbers of church sites in existence and helps contextualise the more detailed content analysis.

As a piece of desk research this approach has a number of advantages. First, it can be relatively free from bias. Taking a simple random sample removes influence by area, church size or income. There is a known population of churches in England.

Research in this way allows the phenomenon under investigation to be observed in an objective manner. There is no researcher influence over the churches chosen by the random sample. The observation of the presence or absence of a website does not influence the likelihood of a site being found.

The survey was designed to take repeated measures of the same variable over a three-year period.

One disadvantage of this simple census is that although it provides a baseline for the project, it is not possible to attempt to draw wider explanations from the data collected as to why the numbers of website vary.

However, as the project is constrained by time and other resources, further investigation into this particular issue would not necessarily contribute further to the answering of the research questions in hand.

3.2.3 Quantitative methods (ii): content analysis

Content analysis has been used to describe the information published on church websites. Content analysis can be used in either a qualitative or quantitative context. In this project, the quantitative method is employed. The section below outlines the characteristics and suitability of this, and its implementation, drawing on other research projects as well as methodology texts for guidance and examples of successful approaches.

Content analysis is a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the context of their use. (Krippendorff 2004, p18)

Krippendorff (1980, 2004) is one of the most widely cited content analysis experts. His guidance forms the foundation for the approach taken in this project.

Krippendorff (2004) traces the roots of content analysis back to the Church and its concern about the spread of secular matter sparked by the invention of the printing press. Content analysis is used to understand communication, and one of the most

distinctive features of communications is that they inform their recipients, invoke feelings or cause behavioural changes.

Krippendorff (2004) rejects the notion that content analysis must by definition be quantitative. He also objects to the idea that the meaning is manifest and maintains that texts have no objective qualities. In other words, there is nothing inherent in a text; someone brings the meanings of a text to it. There is no assumption that the message itself is a container for the meaning.

Ordinary readers and content analysts merely read differently. (Krippendorff 2004, p23)

Content analysis of texts has two advantages as a research method. Firstly, it can be unobtrusive. Analysis of a text does not change what is being measured by the act of measuring it. This is in contrast to interviews, for example, which can introduce bias via the researcher, or experiments that can change the outcome by influencing the expectations of the participants. Secondly, pragmatically, it is a tool suited to desk research within a limited budget.

Websites and other online tools are a key source of data:

The exponentially growing Internet is an unimaginably large but for the most part unmined source of content analysis data. (Krippendorff 2004, p43)

If the goal is to understand messages from websites then it is the most appropriate tool to use. Websites can clearly be defined as a text. Categories can be formulated from theory or from induction from observed websites. If some features are assessed by a purely binary presence or absence marker, results are quantifiable and can be statistically analysed.

3.3 Content analysis methodology

The section below considers methodological concerns when using content analysis.

White and Marsh (2006) provide an overview of recent content analyses that considered a variety of texts. Their paper provides a concise overview of the technique, its origins, current applications and considerations, emphasising that content analysis can be approached from either a qualitative or quantitative standpoint. With the latter, the emphasis is on the objective counting of elements within the text. Its objective is to 'test hypotheses, not develop them.' (p30). The former has a more inferential approach with target texts being examined prior to the development of the analytical constructs with which they will be ultimately analysed. A number of the examples cited by White and Marsh combine both approaches within one research study. In their characterisation of the differences between qualitative and quantitative content analysis, White and Marsh summarise the key variations in research approach, research tradition, categorisation, coding and the argument basis for proof amongst others.

White & Marsh also point out that varied definitions of content analysis have existed during its development as a research technique. For the purposes of their article they employ the definition from Krippendorff (2004) as quoted above. This definition includes images as well as text. Researchers cited in White and Marsh have analysed the content of images on web sites (Bell 2001 and Collier 2001), as well as the relationship between images and the surrounding text. White & Marsh (2003) form the overall conclusion that content analysis is a 'highly flexible research method' and a 'systematic, rigorous approach to analysing documents' (p41).

3.3.1 Development of categories and classifications

Within the information science literature specifically, Allen and Reser (1990) survey how content analysis as a tool was used in library research in the late 1980s. The work focuses on written sources and only considers electronic content (email) in passing, but does include discussion of the pitfalls of content analysis which have been noted for the current research. The research suggests that within the body of library and information science literature studied, there are two types of content analysis – classification or elemental analysis. Elemental analysis involves recording and researching at the level of individual words within a text. The majority of work discussed in this review fits into the former classification category – that texts are examined for the presence or absence of specific categories of information. This is the prevailing nature of the research being undertaken in this project and so Allen and Reser’s review is of direct relevance.

The development of the categories used for analysis is key to the success of the project. Allen and Reser (1990) noted that only 24% of the studies under consideration used existing categories for analysis, although this is their recommended starting point. They suggest that:

When researchers find it is necessary to develop their own classifications, the categories chosen should be exhaustive, mutually exclusive, clearly defined and conceptually valid in relation to the research question. (Allen and Reser 1990, p257).

Validity is the extent to which the tool is measuring the aspects of texts that it is intended to measure. Reliability is the extent to which repeated use of the tool will give the same results. In content analysis reliability is also calculated as an inter-

rater score, that is, to ensure that multiple researchers are recording the data in the same way. To ensure that the framework for the current research maintains validity, categories were linked directly to the objectives of the study.

Wherever possible they were also developed with reference to the existing literature. If a particular aspect had been tested with a particular indicator these were automatically included. For example, Carr (2004) included a count of whether church websites included a contact email address. Therefore the presence or absence of an email address is an element in the list for this study, linked to discovery of the extent to which churches make their contact details easily available. A further source and verification of the indicators came from the practical literature written for church website designers. David (2007) lists a number of elements of poor design and construction, from which good design and construction can be inferred. Although design, assessment of which can be subjective, is not a specific criteria, elements have been included. These concrete elements – such as use of frames, or placement of menu bars – allow an objective assessment of whether a website is following current best practice in its construction and layout. A detailed discussion of the categories is given in 3.8.

The content analysis framework given in appendix 11.1 lists the categories and the objectives that provide justification for the inclusion of each particular element. The majority of the indicators are a simple presence/ absence measure, either of text, graphics or links. This allows for a relatively fast analysis of individual web pages and for a quantitative analysis of the results. Three items also code for the difference between a link and coded text for specific expected content elements. Allen & Reser (1990) also caution against revising the categories except within a pilot study that is intended to allow for the adaptation of the categories. The

framework for this was tested on a proportion of websites before full implementation.

3.3.2 Content analysis of the world wide web

Weare and Lin (2000) focused on the challenges presented by the world wide web. Their article predates the review from White and Marsh (2003), so it is possible that some of the concerns Weare and Lin raise have been sufficiently addressed in subsequent research. However, given the pace of change of online communication in the last two decades, their statement that ‘the sheer size and chaotic structure of the Internet...complicates efforts to select representative samples of messages for analysis’ (p273) is unlikely to have been proven false.

Weare and Lin (2000) note that the low cost of online and digital information allows a greater range of resources to be considered as part of the population – they cite the wide availability of news archives as one example. This increase in the availability of resources also permits a more rigorous approach to sampling with fewer studies of online information relying on convenience samples. However, they do note that the unregulated proliferation of websites poses an issue in itself:

... sorting through the wealth of information is a formidable task, and this task is further complicated by the dynamism of the WWW in which pages appear and disappear rapidly. (Weare and Lin 2000, p 276)

The nature of the message is also considered by Weare and Lin (2000), specifically, the nature of ‘push’ versus ‘pull’ information on the world wide web. Online communication presents a range of methods of accessing the messages that website producers are publishing. In the early days of the internet these were static messages, very much akin to a newspaper or a book. With later developments in RSS

feeds and collaborative tools, the delivery and appearance of the messages has changed. Collation of relevant messages is routinely automated by intelligent systems. These changes could all have an impact on the traditional assumptions about the placement and context of a particular message that is the subject of an analysis. Weare and Lin do not suggest concrete answers but rather draw attention to these issues as bearing on future research. They claim that 'few studies have delved into what messages are specifically trying to convey and how they convey it' (Weare and Lin 2000, p285).

3.3.2.1 Coding interactivity on websites

Weare and Lin (2000) also suggest that there are methodological issues in coding for interactivity in websites. They cite examples of other research that has examined email and chat rooms and the direction of political conversations within communities (e.g. Musso *et al* 2000) and go on to state that:

...a common limitation of this approach is that it only measures the potential for interactivity rather than the actual level of interactivity supported by a Web site. (Weare and Lin 2000, p285)

McMillan et al. (2008) addressed exactly this point by developing a platform-independent tool to code web-based interactivity. They note that given that traditional content analysis tools have been transplanted to the internet, it is a necessary 'evolution' to develop new tools that allow for a 'rigorous yet flexible tool for the tough job of analysing web-based interactivity' (p795). In particular their tool is designed to be relatively future proof, that is, rather than relying on enumerating the current tools which allow for interactivity on websites it categorises the interactions and codes for these categories. This is important given the rapid pace of change of the adoption – and abandonment – of online tools. This in turn is

based on the assumption that content analysis measures could be developed based on 'theoretical foundations.'

Building on existing theories of interaction, McMillan et al (2008) use a three-dimensional construct: human-to-computer, human-to-human and human-to-content. 'Human-to-computer' is characterised by three types of interaction: navigation, action and transaction. There is also a layer of possible personalisation, a concept that is more recent in its origins given the expansion of technological innovation. The complexity of websites also now demands the presence of features such as personalised search. Human-to-human is defined as that which is concerned with the website as a mediator between two people. This is characterised by the 'email us' type of link, or the ability to tell a friend about the website. There is also a concern for whether the communication is synchronous or asynchronous. Already there is blurring of boundaries between human-to-human and human-to-content. Human-to-content interaction allows users to post comments or upload photographs or other items. This is the kind of interaction that is widespread on social media sites such as Facebook. If a website is constructed around the same principles as a blog and actively encourages comments from its readers, conversations between a number of participants including the site owner can take place. This is a form of human-to-human asynchronous communication and interaction, yet by adding visible comments to the blog, it is also a form of human-to-content interaction.

Whilst the 'tell a friend' link is classified as human-to-human, the use of 'share this' tools is quite widespread, allowing users to post websites' links to one of a suite of recommendation sites, including Facebook, Digg or Twitter. These sharing services

do not have a specific end audience in the same way that an individual email would do, and the posting of the recommended link is creating content elsewhere.

This tool is of interest to the research under consideration because it is independent of the technologies used to promote interactivity. This has two benefits. Firstly if technologies change significantly during the life of the project, or at least the data collection phase, the work is not necessarily redundant for being superseded. Secondly, it could reduce any effects that are due to the financial input into the websites under consideration; richer sites may have more complex tools for interactivity than those with more meagre resources at their disposal, but this would not affect a coding scheme that was effectively concept-based. A further consideration is that it updates the relatively limited range of interaction tools that have been considered by the directly relevant literature to date.

3.3.3 Unit of analysis

White and Marsh (2006) provide guidance and examples on the unitisation of the data into sampling units and data collection units. Sampling units serve to identify the population and establish the basis for sampling. Data collection units are the units for measuring variables. Units of analysis are the basis for reporting analyses. These units may be, but are not necessarily, the same. Examples of sampling units given by White and Marsh include abstracts in the LISA database (Green 1991) and chat reference interviews (White, Abels & Agresta 2004). Data collection units are words and conversation turns respectively. White and Marsh suggest that:

Pragmatism determines the sampling and data collection unit; the research question or hypothesis determines the unit of analysis. (White and Marsh 2006, p30)

Salinas (2006) undertook a content analysis of websites with Latina content. Whilst the websites in the study are not directly relevant to the church websites in this project, the methodology employed can illuminate the methods to be used. Within Salinas' study:

The unit of analysis was the Web site's homepage, defined as the main point of entry to the Web site, and secondary pages, defined as pages that are linked from the homepage. (Salinas 2006, p307)

Haas and Grams (2000) also defined their unit of analysis in the same way as 'source pages and the first generation target pages that were linked to them' (Haas & Grams 2000, p183). This is the definition that will be employed for the current research project. Weare and Lin (2000) also discuss the establishment of a sampling unit. Their stance is that the use of a single web page as defined by its URL, which could be either the home page or a page that is landed on by a random process, is a limited approach best used in studies that are concerned with elements of web pages. However, it may be too simplistic for studies that attempt to investigate communication theory rather than structure.

3.3.4 Sampling

Research studies are criticised by Allen and Reser (1990) for either unreliable sampling or for not stating the assumptions under which a sample was taken. Salinas (2006) also notes the difficulty of selecting a truly random sample of the websites available and used a relevance sampling technique that employed the major search engines Google, Clusty and Yahoo!

Weare & Lin say:

The scope of information on the Internet, its rapid rates of growth and change, and its chaotic organisation obfuscate the population of messages under study and what constitutes a representative sample of those messages, thereby threatening the external validity of Web-based research. (Weare and Lin 2000, p289)

An explicit statement of the sampling strategy is necessary to judge the reliability of the statistical analyses undertaken, if indeed any analysis is attempted. Two separate samples of churches are being used within this project. The first, drawn from all English churches, is intended to approximate a random sample. This is for the longitudinal work, recording the change over time of the proportions of churches with websites. The exact method employed is described below in section 3.6.1 . The second, to be used for the content analysis, is drawn from the Chelmsford Diocesan area only, which is local to the researcher. One aim for the project involves conducting face-to-face interviews with clergy and support staff responsible for the analysed websites. The likelihood of this being completed increased with a smaller geographic range. The method for establishing this sample is given in 3.7.1 below.

3.3.5 Qualitative Methods: Interviews

The desk research described above is suited to the ‘what’ questions (RQ1, and part of RQ2). To understand the ‘why’ questions, interviews will be used to gather opinions and experience, with the aim of identifying trends which will provide possible answers to the research questions:

To what extent do churches and church leaders use email, websites and social media tools to find and publish information?

Is there evidence that traditional notions of hierarchy and authority been affected by online sources of information and communication?

Interviews “lend themselves to the collection of data based on...opinions, feelings, emotions and experiences” (Denscombe 2007, p175).

This approach is intended to complement the quantitative content analysis. The content analysis does not allow for explorations of motives or attitudes towards, or personal use of, online communication.

Interviews are conducted as either structured or unstructured, one-to-one or group exercises. A guided group exercise is more commonly referred to as a focus group. It is not intended that focus groups will be used within this research for a number of reasons. First, this kind of activity is useful when seeking a group consensus on a topic, which is not part of the current project’s plan. Individuals’ opinions are more informative in this context. Second, focus groups require planning around several participants’ diaries, and given constraints on the researcher’s time, this would be impractical. Third, focus groups require a level of competence to be effective and the researcher does not have a reliable track record with this method. If an individual interview is incorrectly recorded or conducted, this is a problem, but only one person’s data is at risk. Losing all or part of a focus group’s outcomes would be far more of a setback.

Structured interviews are very similar to questionnaires, in that there is no room for enlargement or discussion of the questions or answers. (Blaikie 2010, p205). They are used to collect more quantitative data, and would require a set of pre-tested questions and associated assumptions. A completely unstructured interview, where no planned questions are posed, would not guarantee to cover sufficiently the

relevant points for this study. As with focus groups, this kind of interviewing also requires a high skill level to conduct effectively.

The purpose of the interview phase of the research is to further explore church leaders' experiences. Questions will be informed by the longitudinal and content analysis work, but not limited to this. Although simpler to administer and easier to analyse, a highly structured interview would not be the most appropriate tool in this situation. Instead, a semi-structured approach will be adopted. That is, a number of key points and questions will be identified in advance of the interview, but the interview will not be restricted to these and more free-flowing comments and conversation will be encouraged (Denscombe 2007).

It is recognised that it is difficult to not influence the interview outcome in any way, as age, gender or hierarchical differences may have a bearing on the rapport between the researcher and the interviewee (Blaikie 2010). Semi-structured interviews are not therefore necessarily an objective method, but the advantage of allowing individuals free rein to discuss their motivations, bias and approach is seen as outweighing this lack of objectivity in this case.

Other advantages of interviews for this project include flexibility, validity and costs. Interviews allow for a great deal of flexibility in investigation. The less structured interviews certainly permit digressions and diversions which if handled correctly can uncover new avenues for research, test assumptions, clarify questions or provide more background on a particular situation that may not be previously known to the interviewer (Denscombe 2007). If time allows then these divergent avenues can be pursued within an interview. However, that flexibility can lead to difficulty in analysing data and can affect the reliability of the information as it can be so varied between participants.

Information gained by interview can be validated as it is recorded. Interviewees can be asked for clarification and the interviewer too, can have their assumptions questioned by the participants (Blaikie 2010). Interviews are also relatively low-cost and simple to execute, which is helpful for a project with resource constraints.

Interviews are not without their drawbacks. A key downside is that they are time-consuming to conduct and transcribe. By meeting participants face-to-face there is also a consequent loss of anonymity which could influence willingness to discuss opinions that are counter to the received wisdom; there can be other interviewer or artefact effects such as difficulty in turn-taking with a telephone interview (Bell 2005).

If an interview is too structured there is a possible loss of opportunity to discover information of value outside that tackled by the predetermined categories. If too unstructured, there may be a loss of reliability as well as making data analysis too complex. Finally, it is unlikely that an unbiased and truly representative sample of participants can be used.

Nonetheless, actually asking those involved in the production of church communication is a well-suited method by which an explanation of the process can be uncovered, making interviewing a key component of the research project.

3.4 Alternative research methods

The preceding sections have outlined the justification for the research methods selected for use in the study, considering their epistemological foundations, theoretical advantages and practical limitations. Content analysis, interviews and surveys are only some of the methods of enquiry that could have been employed for

this research. The following sections acknowledge these alternatives, and explain why the tools were not employed within the research.

3.4.1 Case study

A case study approach would have analysed a small number of websites in great detail. This is the method used by Kim (2007) in the study of Korean megachurches.

In the context of the current research questions the case study would lead to a predominantly descriptive exercise for a small proportion of extant sites. Even within the denominations under discussion there are many variations in approaches to website building – an artefact of the huge variations in size, location, wealth and approach of English churches. A small *n* case study could possibly miss or over-exaggerate these differences. Case studies cannot be easily generalised. An investigation of a particular church's site would be noteworthy, but the conclusions drawn could not be reliably extrapolated to the rest of the church population. Given the lack of information on the approaches taken by English churches, the work being undertaken would be more useful if it can be generalised – if not to all church websites, and all churches' approaches to communicating online, then certainly within each particular denomination.

3.4.2 Experimental methods

Research falling under the experimental paradigm is more consistently viewed as internally reliable and valid. However, other than experimentally-driven usability testing, such methods could not legitimately be used in the context of this work. Usability testing can involve objective measures of internet task performance – the number of clicks different groups of people take to find a target piece of information, for example (Cappel and Huang 2007). More sophisticated experiments

use gaze monitoring to investigate where participants are looking at the web page in question to understand how the layout of the page is followed.

These elements of research could be employed to compare website design and layout. However, this would move the focus of the study away from the information content that is of primary interest. Consideration of the design elements is a secondary issue.

3.4.3 Focus groups and user interviews

One way in which a more qualitative approach could have been employed would have been to ask for page evaluations by different groups of people. The obvious groups would be those who are members of a church and those who are not; questions on the expected and published content of a sample of church websites would have elicited potentially valuable information about the perceptions of church sites and the audiences for whom they are designed. A participant-based qualitative approach using focus groups could have been employed, again to assess perceptions of various church sites. One-to-one interview could also have been considered. The disadvantage with these options is that they would detract from the content, focusing more on the opinions of the users than the intentions of the publishers. One of the intentions of the research is to examine the websites from the producers' point of view, putting the church in the role of information provider. Focus groups would also necessitate using a smaller range of sites than is possible with the content analysis approach, and thus be susceptible to the same kinds of sample size limitations as the case study method. In addition, recruiting participants and arranging sessions is resource-intensive and possibly outside the scope of the project in hand.

3.4.4 Questionnaires

A questionnaire could have been used to investigate the roles and attitudes of the church leaders commissioning websites or of the staff that are building the sites.

Questionnaires have the advantage of being potentially anonymous, and so may be a method of uncovering views that are not in keeping with current orthodoxy. There is a risk that a prescriptive questionnaire with no scope for unstructured answers does not allow for these views to be heard; and there is the equivalent risk that unstructured answers with no opportunity for follow-up can be misinterpreted and ambiguous. Structured questionnaires would be relatively simple to analyse. Using web-based software such as SurveyMonkey or Zoomerang would also minimise the need for data entry time or postage costs.

A disadvantage of an online survey is that the format would exclude those who are not regular internet users. The opinions of those in this group of church staff are of great interest to the project. Using a questionnaire would also mean that only quantitative methods are employed within the research project and it was felt that semi-structured interviews would permit a greater depth of understanding of the answers to the research questions.

3.4.5 Observation and Documentary Analysis

A further method of uncovering how content was chosen, and the decision making processes around production of websites or adoption of social media, would have been to observe the individual churches' discussions and meetings or to make an analysis of the records of the meetings. This could have been accomplished by detached or participant observation. It would have allowed for a number of voices to

be heard, not just the church leaders' and the content would not have been guided by the researchers' questioning.

This kind of access may have been more suitable for an in-depth case study rather than a wider survey of a large number of churches. In addition, the practicalities of this kind of research would have been problematic for the project in hand as its resources are limited.

Documentary analysis – extending the content analysis of websites into content analysis of church meeting minutes – would possibly have contributed more background to the understanding of which information is published. However, it is also likely that the minutes record only a decision and action rather than any in-depth discussion so the information therein could be sketchy and incomplete. It would not necessarily highlight dissenting voices.

There are many methods which different versions of the project could have employed, and the choice was governed by epistemological considerations and the resources available to the researcher.

3.5 Summary

This project draws from an established literature in its planning and implementation. Three methods will be used to provide complementary information on the research problem. Quantitative survey research and content analysis will be used to explore websites, identify what is being published and where. The sampling technique, category definitions and the units of analysis have all been selected and developed in line with the recommendations and common practice of information science and communication researchers' work to date.

These findings will be extended by qualitative interviews, providing answers to the 'how' and 'why' questions – how are sites published, and why are they produced?

The next sections detail actual implementation of the research strategy.

3.6 Longitudinal study – all English churches

RQ 1: To what extent have English Christian churches established a distinct individual web presence?

This section outlines how this survey was designed and implemented over three years, 2009–11. In summary, a random sample was taken of English churches, and it was recorded whether or not these institutions had a website. The detail of how the sample was arrived at is given below.

3.6.1 Determination of sample

Objective 1 is to establish a baseline understanding of the proportion of English churches with websites, and to investigate whether this proportion varies over time. For this investigation a number of parameters were established. Anglican, Catholic, Methodist and Baptist churches are included in the sample. These four denominations represent 75% of the churches in England, according to the 2005 English Church census (Evangelical Alliance 2005).

It was determined that a sample of 100 churches from each denomination would be used. Equal sample sizes would allow for statistical analyses to be carried out if deemed appropriate. Using the figures from the 2005 English church census, a proportionate sample would have been made up of seven times more Anglican than Baptist churches (see table 6.1–1 below). To obtain a proportional sample, then, would have involved either very small numbers of the Baptist, Catholic or Methodist

churches, or very large numbers of Anglican churches. Although the purpose of the study is to establish a baseline for the extent to which churches have websites, it is not the main focus of the research so to test large numbers of churches for presence of websites would have been disproportionately time consuming. Testing too few churches from different denominations would have made the results unreliable. Thus, over-representation of the non-established church denominations was felt to be preferable to under-representation.

Denomination	Number of churches	% of all churches in England & Wales	% of all churches represented by sample of 100
Anglican	16,247	58%	1%
Methodist	5,999	21%	2%
Catholic	3,565	13%	3%
Baptist	2,386	8%	4%
Total	28,197	(Does not sum to 100%: not all denominations included)	

Table 3-1 Denomination size and relative proportions

A 'church website' means a site with a discrete home page. This is defined as at least an index page. Church of England parishes have merged and Methodists and Baptist churches often work together within a local area, so there may be sites that cover a number of individual congregations under the same root URL. A site with two or more churches under the same administration would be counted as a church website if the particular church selected has the equivalent of a discrete home page within the grouping. This therefore excludes church or business listing sites that only list contact details for any of the four denominations in question. Also excluded were sites concerned with architecturally or historically interesting churches. These refer only to the fabric of the building or the genealogical information available and not the current use of the church. Many are produced independently of the parish church in question; for example, there is quite a large

collection of Norfolk churches at <http://www.norfolkchurches.co.uk/mainpage.htm> (accessed 13 November 2010) compiled by one individual. The results for individual churches in this collection show in Google results although the sites are not concerned with the church community life, rather its fabric and location.

The names for the majority of Baptist and Methodist and some Catholic churches include the denominational designation, making the allocation of the church to the relevant classification simple. Catholic and Anglican churches, frequently named after saints, do not offer such a simple demarcation. Thus the church website or Google search results were used to identify the correct denomination. In some cases third party listing sites gave the relevant information, for example, if the search results included a reference from <http://weekdaymasses.org.uk> (Catholic, accessed 22 April 2011) or <http://www.achurchnearyou.com/> (Anglican, accessed 22 April 2011).

3.6.2 Data collection

The initial sample of 400 sites was established using the listing site <http://www.findachurch.co.uk>. This independent site hosts details of the majority of churches in the UK and Ireland. With the owner's permission, the database was sampled. Each entry has a unique numerical key within the range 10000–50000. An online random number generator (<http://www.randomizer.org>, last accessed 2 September 2012) was used to create a list of a thousand five-digit numbers. When a five-digit number is entered in the search box on Findachurch.co.uk, it returns the relevant entry. This is not a publicly available search tool on the site. This method allowed for a more random selection of churches to be identified than using one of the denomination-specific listing sites. It also ensured the inclusion of churches with no web presence because the site includes basic details on all churches

whether or not they have signed up to Findachurch.co.uk or have their own website. Finally the method was geographically independent: other sites, and indeed the public search on Findachurch.co.uk use postcode or town as the main search key. Using the random index numbers meant that the location was not a required parameter in the search process.

Each random number was entered into the search box on the site. The result page was examined, and rejected at this stage if it was either not English, or not from one of the four denominations under consideration. If the church found met the criteria the denomination and name were recorded. For some, Findachurch.co.uk gave details of websites – the link was followed, and the URL noted. A snapshot of the home page was saved using a Firefox extension (Zotero).

If no further details were given in the listing, a simple Google search was carried out on the name and location. The first two pages of Google results (20 results) were examined for links to the church's website. This is accepted as being the limit to most users' ordinary search behaviour e.g. (Jansen, Tapia & Spink 2010). Third-party sites were followed to check for links, as were tourism sites. The URL of a site found was recorded and the homepage saved.

This process was repeated over a period of time from January to April 2009 until 100 Anglican and Methodist churches had been identified. A second batch of 1,000 numbers was generated. As these were independently generated, each successful hit had then to be checked against the original list in order to avoid inadvertent duplication. After the target for the Catholic sites was met, it became clear that the relative scarcity of Baptist churches would prove a difficulty if the sample was to be completed in a reasonable time frame. The decision was therefore taken to combine the random number method with searching the Baptist Union directory site. The

random numbers were still used sequentially to search Findachurch.co.uk until an English postcode was listed as part of the results. This postcode was then used with the Baptist Union site to search for churches in that location. Once a church was located, it was added to the sample. This process of search based on a randomly generated postcode was used until 100 Baptist churches had been identified. Approximately 20% of the sample of Baptist churches was generated using this method. The initial sampling was completed in early April 2009.

The second stage in the process, revisiting the churches to establish the change in church site presence was completed at the end of December 2009. Further collection periods were completed in July and December 2010. The final phase was completed in December 2011 and the results are given in section 5.1 below.

3.7 Content analysis – East Anglian churches

RQ2: To what extent do churches and church leaders use email, websites and social media tools to find and publish information?

The general survey sample described in section 3.6 above is drawn from the whole of England. For in-depth content analysis and subsequent interview research, a more localised area was used. The area is that roughly equivalent to the Diocese of Chelmsford, local to the researcher. It was considered that this would more easily permit face to face interviews with the church staff tasked with the upkeep of the websites being considered via the desk research stage.

Chelmsford Diocese includes a diverse range of areas and communities in its 474 parishes. It is the second largest English Diocese after London. It includes East London boroughs of Barking and Dagenham, Havering, Newham, Redbridge and Waltham Forest. Newham includes the site of the 2012 Olympic Park, and has thus

experienced targeted regeneration and construction in the last seven years. Rural communities in North Essex are covered, as is the port of Harwich and the airport at Stansted Airport. By considering all churches from one Diocese, any effects caused by better training or funding for web development in a different autonomous area would be mitigated.

3.7.1 Sample size calculation

3.7.1.1 Estimating sample size

The population of churches with websites in the Chelmsford Diocese is a known and finite population. The calculations for sample size for a proportion are listed in appendix 11.3 .

3.7.2 Establishing the Anglican church sample

In January 2009 the Chelmsford Diocesan web directory listed 196 churches with their own websites, of a total of 618 individual churches from 474 parishes. A random number list was used to pick possible sites from this subset of 196. Where a URL selected by this method led to a broken link, the next in the list was identified and so on until 76 extant sites had been logged. No note was made of those with websites not functioning. Ten of these sites (5% of population) were used for piloting. These were then discarded from the sample and not re-visited for the content analysis proper. Some of the churches identified belonged to united benefices (groups of parish churches). Where there was a discrete home page for the parish identified by the list, the site was included. If the site identified led to a wider community website with a subset of pages dedicated to the church, this was also included because they were still being listed by the Diocese as the parish church website.

Once 66 churches, and therefore 66 discrete places had been identified, the next step was to match the Anglican (A) churches with nearby Baptist, Methodist and Catholic churches. Given the diverse nature of the possible locations within the Chelmsford Diocese it was felt that matching churches geographically would help minimise location effects in any differences found in the content of sites. It would mitigate a situation in which the majority of Baptist churches examined, for example, were from inner London or where all Anglican churches were rural.

Initially the search for the corresponding church sites was carried out using postcodes or root postcodes of the Anglican churches. The Baptist and Methodist denominational sites provide a church finder based on postcode on their websites¹³

The Catholic Church website was at the time of use (April 2010) organised slightly differently, listing parishes by name, town and mass centre (i.e. church name).

Therefore it was necessary to identify the Anglican, Methodist and Baptist church(es) location(s) before looking for a neighbouring Catholic church.

Given the proportions of churches in England it was clear that this would lead to an uneven sample size. Three issues were encountered with the approach outlined above.

¹³ at http://www.baptist.org.uk/baptist_life/baptist_family/local/churchfinder.html, accessed 25 April 2010

<http://www.methodist.org.uk/index.cfm?fuseaction=opentogod.content&cmid=1097>, accessed 25 April 2010

There was not a direct one-to-one correlation between the Anglican churches in one area and the other denominations. In many cases, different postcodes representing individual Anglican churches retrieved the same Baptist, Methodist or Catholic church. One Baptist church may have had several Anglican neighbours, for example.

The Catholic Church website did not easily allow finding of churches via postcode. It was difficult to match the areas as described by the site with the places in which Anglican churches had been identified. A supplementary approach was taken – a Google search on “catholic church” plus either place name or postcode. Finally, the full list of churches in the area as given on the Catholic Church website was checked. This ensured that all possible churches were considered. The Methodist church site only searched on the first part of the postcode. If multiple results were returned then the first result was used. If that postcode stem occurred again, then the next result in the list was used and so on.

There are not directly equivalent lists of the number of churches in the Diocesan area for each denomination but the relative proportions from available statistics for roughly equivalent areas are given in the table below. It can be seen that although fewer non-Anglican churches were to be considered, there were relatively more in each category than represented in England as a whole.

	Approximate number of churches in equivalent area	Number of websites identified	Percentage of equivalent area represented by sample	Percentage of churches in England as at January 2009
Catholic	96	25	26%	10%
Baptist	177	36	20%	6%
Methodist	81	26	32%	16%
Anglican	618	66	11%	43%

Table 3–2 Distribution of denominations in Chelmsford Diocesan area

3.8 Content analysis categories

This section will explain how the objectives were operationalised as categories of information to be investigated via content analysis. As a reminder, the objectives were:

To investigate key aspects of website production, publication and content choice to establish:

3. How content is presented and created

4. Whether there are variations in the choice of different information topics across denominations

5. Whether content includes information which explains or highlights the congregation's faith, traditions or community

6. Any differentiation is made between church members and the wider community as audiences for local church websites.

From the same sample, investigate the extent to which churches place themselves in the wider community via their websites, including whether:

7. Churches use interactive tools including allowing user-generated content or place restrictions on content creation

8. Churches use hyperlinks to locate themselves in local, national or global online communities.

Author Category	Carr (2004)	Sturgill (2004)	Kim (2007)	Baab (2008)	Hoover <i>et al</i> , (2004)	Cheong <i>et al</i> (2009)
Statement of faith	Beliefs	Convert/ evangelise the reader	Prominent imagery		Links to denominational/ faith / scripture sources	Faith beliefs/ vision
Information for visitors	Service times Style of worship	Present church as an organisation	Church news	Ways of welcoming	Encourage visitors to attend	Map; Organisation background
Contact details	E mail address	Interact with church or others	SMS		Invites prayer requests	Discussion forum
Located within community		Church as allied with a larger community		Use of 'community' 'connect' 'relationship'	Community information / soliciting volunteers	Community programs
Philosophy		Organisational vs ideological emphasis		Use of 'justice'		
Liturgy	Occasional offices					Religious services
Downloads			Sermon text/broadcast		Sermon texts/ webcasts	Webcast; Audiocast
Internal audience					Internal administration	
Use of graphics/ pictures		Pictures of senior pastor	Choice of photographs	Photographs of events Slideshows/graphics		Photo gallery
Interactivity			Chat rooms			Discussion forum

Table 3-3 Previous research findings and content analysis categories

Table 3–3 shows which elements previous studies have considered, bringing them together under wider categories. By synthesising the research findings from the literature review as a basis for content analysis categories, pre-determined categories can be established. This ensures that the categories to be used have been empirically tested, and those that are newly developed have a clear justification and meaning attached to them, as recommended by Allen and Reser (1990) to ensure reliability and validity, and discussed in 3.3.1 above.

Guidance from publications such as David (2007), Blackmore (2001) was used to assist in identifying information which would be expected to be included on an organisational website.

Objective 3 covers a broad range of possible indicators as well as the basic design elements of a website.

Objective 4 is concerned with variations in the choice of information topic. The topics coded for included both the basic details and more in-depth theological or practical detail, as covered by objective 5. Hence items coded for under objective 5 and 6 would also be considered under objective 4.

Objective 6 also covers a range of information categories – from the very basic details for visitors which would legitimately be expected to appear (such as a map, or contact details) as well as information that was looked for speculatively – would a church consider information on community facilities part of its remit? In addition, information for newcomers was considered as part of this objective. This was operationalised as a separate category of distinct welcome pages, which were coded and analysed separately.

The final coding decision rules and the objectives for each item are given in Appendix 11.1.

3.8.1 Hyperlinks

One aspect of the content analysis involves categorisation of hyperlinks. Scheitle (2005) undertook a hyperlink analysis of church websites and assigned the links to one of ten categories. These categories, given below, formed the basis of those used in the current study to meet objective 8. The original ten as listed in Table 2–5 above were extended by a further six categories.

Used by Scheitle (2005)	Originated for current research
Secular sites	Broken links
Links to official denominational sites	Evangelistic sites
Links to other congregations or religious groups	Social action/ social justice
Religious resources	Web 2.0 links
Religious media	Sites to encourage personal faith
Parachurch groups e.g. Alpha course, Tearfund	Community sites
Politically motivated religious sites	
Religiously affiliated educational institutions	
Commercial sites selling religious goods	
'Other' religious sites	

Table 3–4 Hyperlink categories

3.9 Content Analysis: piloting

Ten Anglican sites were used to pilot the categories in February 2010. This allowed a check that the categories developed were clear when real websites were under consideration and that discrete elements could be reliably identified. A number of changes were made to the coding form as originally developed in November 2009:

- The number of site design elements was reduced. As the project is primarily concerned with content rather than design, it was felt that coding for the use

of Flash, or the colour/ pattern choices was not necessary. Coding for the use of basic design tenets (menu in standard place, use of frames) would give sufficient information as to the sophistication or otherwise of the website's design

- The order of categories listed was amended for ease of coding; elements that appeared regularly on landing pages were grouped together
- The category 'Architectural information' was expanded to include genealogical and historical detail as well as information on the building itself. This category codes for information for visitors or residents that is related to the building or its past, rather than the current community or congregation
- Decision rules were clarified to make the distinction between liturgy, service content and service style more obvious.

3.10 Content Analysis: data collection

Content analysis commenced on 6 March 2010. The first phase was concluded on 31 May 2010. Hyperlinks and welcome pages were considered during August 2010. Websites were viewed on one of two laptops. The first, running Firefox under Windows Vista, was replaced in mid-April with a newer machine running Firefox under Windows 7. Both computers also had Internet Explorer version 8.

Each church identified at the sampling stage was given a code number. The Anglican churches were coded Ax using the number the church was allocated in the original list of 196 churches. Baptist, Methodist and Catholic churches were coded as Bx, Mx or Cx with the same number as the Anglican church with which they were geographically associated.

Anglican churches were analysed first, followed by the Catholic, Baptist and Methodist churches in that order.

Once the site had been successfully opened, a PDF of the home page was created using the freeware DoPDF utility¹⁴. If a site was not functioning, the URL was checked for typographical errors. The church name was also searched using Google, and the URL was checked under Internet Explorer before the website was rejected. The PDF was saved with the code number for the church in question. Any additional PDFs were labelled in the same way with a short explanation in the filename of the content they represented. It was acknowledged that the PDFs were not necessarily accurate representations of the site design and layout. As website design is not a key consideration, PDF was felt to be a robust and relatively flexible file format to capture the content at the point the landing page was coded.

Each available site was explored by following all the level 1 links from the landing page. Level 2 links were followed where necessary to give context, but the subsequent pages were not coded. The pilot phase had suggested a useful order for the coding categories to be considered; this held true for a majority of sites.

Detailed coding instructions, developed from McMillan (2008), are in appendix 11.1 along with the decision rules developed by the researcher for the coding items. The data were entered on an Excel spreadsheet with a separate tab for each denomination. 1 and 0 were used to represent Yes and No for the binary coded cells and text was entered for those categories that required further notes or descriptions. External links discovered in the website were copied into a separate

¹⁴ <http://www.dopdf.com/> (accessed 11 July 2010)

tab in the spreadsheet for later analysis (see 3.13) and discrete welcome pages were also considered separately (see 3.14).

The final numbers of sites coded are as follows:

	Approximate number of churches in Diocesan area	Number of websites analysed	Percentage of Diocesan area represented by those analysed	Percentage of churches in England as at January 2009	Percentage of churches identified with dead links
Catholic	96	20	21	10	25
Baptist	177	35	20	6	3
Methodist	81	26	32	16	0
Anglican	618	66	11	43	n/a*

Table 3-5 Number of churches in final sample

*n/a : There were non-functioning sites within the list of Anglican churches examined, but in building the core sample of 66 sites, these were not counted.

3.11 Coding reliability

Literature that considers reliability judgements within the field of content analysis does so from the premise that a team of coders will be employed on a project. Therefore the reliability analysis is a tool to ensure that varied individuals are making similar decisions on the appropriate coding categories in use. They thus consider inter-rater reliability and there are many coefficients that can be calculated for the establishment of reliability. There is a robust literature around the reliability of these measures themselves (Krippendorff 2004b, Lombard, Snyder-Duch & Bracken 2004, Lombard, Snyder-Duch & Bracken 2003).

There is also an assumption inherent in these larger studies that the coders will not have been involved in the development of the coding categories and will therefore require sometimes extensive training so that they consistently code in line with a

standard interpretation. Since this study was developed and coded by the same person, there was no need for this level of training, and the decisions taken on how to code are in line with the thinking behind the development of the coding scheme.

It is acknowledged that one individual can subtly change their interpretation over time, so it was deemed a worthwhile exercise to calculate a percentage agreement over time. Use of percentage agreement has been criticised as a measure of inter-rater reliability for a number of reasons. Primarily, it does not give an indication of how the assignment of coded values is related to chance (Krippendorff 2004a). It has also been criticised as not giving consideration for coders whose decisions were close, but not in complete agreement (Lombard, Snyder-Duch & Bracken 2002). However, it was felt percentage agreement was the most appropriate for the study in hand since by the nature of single-researcher coding, none of the assumptions about inter-coder reliability were met.

3.11.1 Reliability scores

Six weeks after the original coding, eight websites were re-coded by the researcher. Reliability was calculated by noting the agreement for each item in a 2x2 grid. The tables can be seen in appendix 11.4. For the individual websites the agreement varied between 82 and 98% agreement.

These individual site results were then aggregated and an overall agreement % calculated. Across all eight sites, the researcher agreed with the coding decisions 89.9% of the time. This was deemed sufficient to proceed. Subsequent published research (Bobkowski, Pearce 2011) suggests that a minimum agreement of 80% should be reached.

3.12 Coding decision rules

The items that were, in this phase, being coded for and the measurement and interpretations/ questions that were being employed for each category are given in Appendix 11. These are the categories that were originated for this study. For the majority of categories, coding was on a binary presence or absence measure. The table also lists the corresponding objective and how the information was classified according to Sturgill's (2004) four characteristics (organisational, community, evangelise, interaction). The rules for interpretation are given in Appendix 11.2.

3.13 Hyperlink analysis

3.13.1 Controlling for size of congregation

Scheitle (2005) controlled for the size of congregation in the hyperlink analysis. It is possible that the larger a church, the more prosperous it is and the more people with IT skills are available to contribute to a website project. It is therefore preferable that the current research controls for the size of congregation for this aspect of the study to allow for comparisons to be made. Background information relating to church size is given below. Statistics have been obtained from the annual registrations (within the Church of England) which are freely available on the Diocesan website. Broadly equivalent statistics for the Catholic Church in England, the Eastern Baptist Association and the Methodist Church were obtained by request from the relevant denominational authorities. Establishment of the categories is described in the next section.

3.13.1.1 Church size categories

Brierley (2005) provides detail on the congregation size across all denominations, giving the average size of a congregation as 84. There is a wide variation between

the smallest and largest. The chart below shows the relative proportions of congregations in the four denominations under consideration (these do not sum to 100% as there are other categories in Brierley’s data that are not represented). 49% of all churches in England have congregations of fewer than 50 people. Other points that illustrate the skew of the population are:

- 25% of churchgoers attend 70% of churches in congregations of less than 100
- 50% of churchgoers attend 26% of churches in congregations of between 101 and 400 people
- 25% of churchgoers attend 4% of churches in congregations of over 400 people.

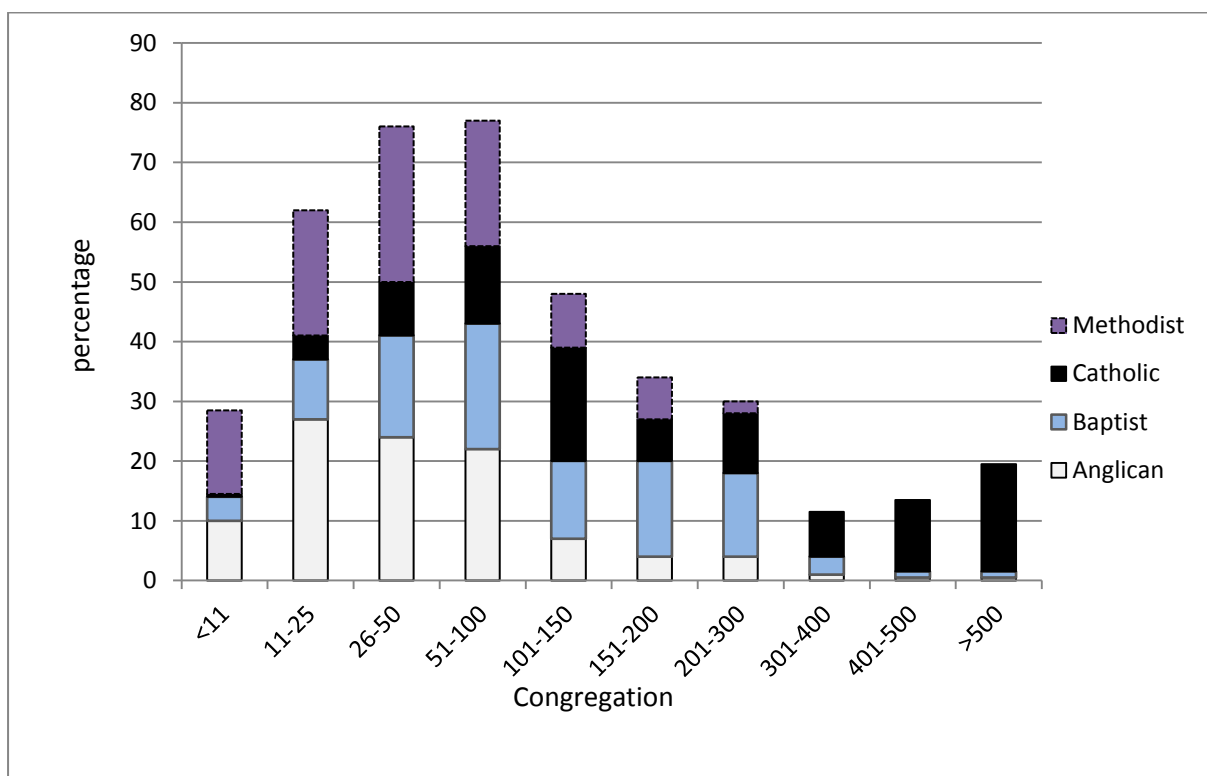


Figure 3-2 Church size by denomination

The table, which includes all denominations, shows the spread across categories.

Size of congregation	<11	11-25	26-50	51-100	101-150	151-200	201-300	301-400	401-500	>500
All churches	8	20	21	21	11	7	6	2	2	2

Table 3-6 Church size across all denominations

The spread of congregation sizes is so uneven that equal categorisations would not be meaningful. The categories used are given in the table below. If a congregation size cannot be ascertained, the church was assumed to be a medium-sized church.

Category	Size	Percentage of churches included in category
Small	0-50	49%
Medium	51-200	39%
Large	201-500 or more	12%

Table 3-7 Categorisations to be used in content analysis

Each website was checked for external hyperlinks. If these were located the target URL was recorded separately in a spreadsheet. The first task was to aggregate a number of individual local links under more meaningful headings. Therefore, links to individual local churches, councils or schools were grouped together under those broader topics. This meant that the essence of the point of the link was maintained, but it was not necessary to record each individual target site separately, thereby simplifying the data but not losing meaning.

Subsequently, each link was categorised following those used by Scheitle (2005) given above.

The difference between a site categorised as one to 'encourage personal faith' and one that was 'religious resources' is that the former contained prayers, worship, Bible resources designed to be used by an individual. The latter covers more general content such as games for children, other link gateways or online theological

courses. Evangelistic sites are those which explain Christianity to non-believers. Community sites include links to local drama groups, local newspapers or events. Social action/ social justice covers both local concerns and international charities as well as sites that are campaigning, not just fundraising. Web 2.0 links were links to any social media site.

Sites were coded by denomination and by link target. In total, 1,064 links taken from 88 websites were examined and placed in one of 64 possible categories. This coding was carried out by hand without the use of any proprietary software.

3.14 Welcome pages

Objective 6 is concerned with understanding differentiation between audiences on a church's web page. One way to explicitly measure the extent to which churches make provision for a specific category of visitor was to investigate whether a separate page for newcomers or visitors is provided. Each time a dedicated 'welcome page' specifically labelled for newcomers was discovered a PDF was created for further investigation. Of the whole sample only nine had an identifiable page. No Methodist churches' sites contained such a separate page. These separate welcome pages were the units of analysis.

These nine were printed and read through. Various word clouds were created online of the words in the texts. A word cloud, which randomly arranges words according to their frequency, was a simple way to acquire a sense of the way terms had been used within the welcome pages. This was used as a starting point to generate the expected categories for the coding units. Coding units were sentence phrases. An example word cloud is given below.

What the individual does	
Dress code	Guidance on what visitors should wear
Where to sit	Guidance on where in the church a visitor should sit
When to sit/stand	Any mention of when in the proceedings people sit, stand or kneel and how to know when to do which
Singing	Mention of the way songs or hymns are presented, how visitors can join in or not
Money	If there is a collection and what to do with the collection bag
Children	Information or guidance on what children can or cannot do in the service
Directions external	Statements directing the visitor
Directions internal	Statements informing the visitor when and why to move around the church
What the church does	
Welcome people	Statements that explicitly contain the word “welcome”
Words that convey welcome and acceptance	Statements that imply welcome without using the specific word e.g. Please feel free/ Do whatever makes you most comfortable/ There is no obligation / No-one will think anything of it
Music style	How the church presents its music – modern, traditional, hymn books or projections
Service style/ format	Statements that explain the way a service proceeds; if this is traditional or modern
Disabled access	Information on disabled access for visitors
Directions external	Statements giving directions or maps for visitors
Directions internal	Statements which indicate when people move around the church or what they may do
Offers contact details	Invitations to contact church or church personnel for further questions or information
Traditions	Statements that convey a sense of what usually happens, what tends to happen, what will happen on most weeks
Times	Statements that give service times and durations
Language	
Jargon without explanation	Use of religious language without nearby or linked explanations
Jargon with explanation	Statements that include use of religious language but that include also an explanation or a link to an explanation

Table 3–8 List of categories for welcome pages

Jargon terms were identified from the websites in addition to the glossary from “*What am I doing here? A beginner’s guide to church*” (Brand, Walker 2008). The list contains a number of relatively common words such as ‘blessing’ and ‘congregation’ but these do have specific meanings within the religious community that may not be known to a newcomer to church. Therefore the list is broad to include both the very technical (e.g. ‘stoup’) and the words in general use but with specific meanings. The list is given below in *Table 3–9 Jargon terms*.

Jargon / religion specific terminology as used in welcome pages
all age service
altar
baptised
blessing
Book of Common Prayer
choir loft
christened
confirmed
denomination
evensong
genuflect
happy clappy
minister
offertory
prayer for healing
priest
sacrament
sermon
service of the word
stoup
spiritually ready to receive
tabernacle
worship

Table 3–9 Jargon terms

The nine welcome pages were coded on a spreadsheet with a binary presence/absence measure in the same way as the main content analysis. This was completed in August 2010.

3.15 Interviews

3.15.1 Question development

Interviews assisted in explaining the content analysis data, as well as providing insight into the role of the church leadership as protagonists or avoiders of social media tools. Interviews were semi-formal, following a structure, but allowing any conversation to develop that would touch on the points under consideration without being restricted by a set question format. The questions were developed with this in mind. A longlist of all possible questions was drawn up.

3.15.2 Pilot interviews

In September and October 2010 three interviews with Church of England clergy were conducted. This permitted the initial list of questions to be tested and reduced to manageable proportions, as well as for rehearsal of interview technique, recording and transcription.

An Apple iPhone 3G was used to record the interviews as voice memos, and a backup recording was made via a digital dictaphone. Interviews were saved to a laptop via iTunes and replayed via an iPod for transcription. These were transcribed directly into Word as text documents by the researcher. These arrangements were deemed satisfactory for the main interview stage.

3.15.3 Further interviews

3.15.3.1 Interviewees

Participants were recruited via several methods. The intention was to interview the church leader of a proportion of the churches considered in the content analysis phase of the research project.

35 requests for interviews were sent via email between 5 February and 31 August 2011 using the contact details supplied on the church websites. Of those 35, only two refused outright to participate. Four agreed in principle but despite repeated attempts could not find a mutually convenient time to talk. Of the remaining 29, nine agreed to participate and the remaining 20 did not respond in any form.

In March 2011 a local directory was used to contact possible participants whose churches had been part of the content analysis sample. Six clergy were contacted by telephone and three agreed to be interviewed. An item to publicise the research and ask for volunteers was printed in the Chelmsford Diocesan newspaper in spring 2011, but no responses were forthcoming. One leader, whose church was already identified as a target, volunteered during a conference at which the researcher was present.

The volunteer webmasters were recruited via an article in the Baptist Times in January 2011. These were all carried out over the telephone. One of the three interviews did not fully record and was therefore only able to be partially transcribed.

Interested parties were a national church organisation's communications officer, the local area's communications officer, and a social media officer for a national church newspaper.

It was recognised that in order to gather a wide range of views via interview, the connection between clergy and church sites previously analysed was lost. It was unlikely that a random sample of volunteers would be possible, but the factors that this would help mitigate will be acknowledged. For example, it is possible only those who are already interested in online communication agreed to take part in the research, leaving the opinions of those who are not involved unheard.

The key consequence of the approach employed is that the interviewees are more of a convenience sample, with a purposive element, defined thus by Gorman & Clayton:

one chosen by the researcher to include representatives from within the population being studied who have a range of characteristics relevant to the research project – (Gorman and Clayton 2005, p128)

Church leaders were defined as the vicar, rector or minister in charge of a single church or a group of churches. Volunteers involved in the production of websites, but not in church leadership, provided some background information, but were classed as interested participants and not leaders. Full details of the interviewees are given in 4.2 below.

3.15.4 Interview process

Interviews were conducted either in person or via telephone. During the invitation stage, and at the start of the interview, permission was sought to record the conversation. Participants were also briefed as to the nature of the research, the topics to be considered and their ability to refuse to answer any questions. The anonymity of responses was also mentioned. Finally it was emphasised that the

purpose of the conversation was to investigate personal opinion, not to test knowledge of online tools and social networking.

3.15.5 Structure of interviews

A semi-structured approach was taken to the interviews. The first questions were asked of all participants; these served as an icebreaker and were intended to allow the interviewee time to adjust to the process. Further questions were used to ask for more detail or explanation on topics. Interviews lasted from just under 20 minutes to 57 minutes.

The same equipment was used as for the pilot study and the same post-interview process adopted. iTunes and iPod were therefore the initial means of noting interview metadata. Each audio file was coded with a prefix denoting the denomination (or if the interview was with an interested party). Transcription was carried out as soon as possible after each interview was conducted. 16 were transcribed by the researcher and two were transcribed professionally. This allowed for a schedule slip to be made up.

The interviews were conducted between February and November 2011.

3.15.6 Coding

A dual approach to coding to find themes and answers from the interviews was employed. The twelve clergy interviews were printed, read and individually annotated as answers to questions, points relevant to the aims and objectives, interesting ideas or themes were seen.

Separately, and at the initial stage independently from the paper & pencil process, the clergy interviews were viewed in Atlas.Ti and the text tagged with concepts/

codes. This led to the development of a set of elements which were cross-referenced with those from the printed notes. Those concepts on Atlas.Ti were expanded or renamed to accommodate the extra information from paper notes and the electronic versions of the interviews were re-coded to include these new or amended concepts.

This process was repeated with the non-clergy interviews; all interviews were re-read with all concepts to hand.

The next chapters present the longitudinal, content analysis and interview findings.