"The Impact of Innovative Communication on the Residential Landline Telephone Service in Rural Ireland"

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Statement

This Thesis is submitted in partial fulfilment of the requirements for achieving a Masters of Business in Innovation and Strategy Management.

Declaration

I hereby declare that this dissertation is my own work, except where duly acknowledged and has not been submitted for any other purpose in any other Institute.

Signature: _Corina Delaney_

Corina Delaney

September 2010

"Be the change that you wish to see in the world"

"... Learn as if you were to live forever."

~ Mahatma Gandhi ~

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Dedication

I would like to dedicate this thesis to my parents who have given me unconditional support and love through my walks of life. Thank you for giving me the courage and determination throughout this year as well as the last twenty three years. xx

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Glossary

AD	Anno Domini
BC	Before Christ
CAN	Controller Area Network
CAU	Central Authorisation Unit
ComReg	Communications Regulator
CSO	Central Statistics Office
EU	European Union
GMIT	Galway Mayo Institute of Technology
ITU	International Telecommunications Union
LLC	Limited Liability Company
MIT	Massachusetts Institute of Technology
OAP	Old Age Pensioners
PC	Personal Computer
R&D	Research & Development
SME	Small Medium Enterprises
SMS	Short Message Service
VOIP	Voice Over Internet Protocol

Abstract

This research study is based on the research question; *An Empirical Study: The Impact of Innovative Communication on the Irish Residential Landline Telephone Service in Rural Ireland*." The idea crystallised on the basis that no obvious research study was carried out on this issue before. Statistics have shown that there is a decline in the service in which this study will develop on. Secondary objectives pertaining with the scope of the research question have been outlined and were satisfied throughout the study.

The research methodology was based on a phenomenological paradigm using triangulation of research methods. Qualitative data was gathered through questionnaires and semi-structured interviews, whilst meeting ethical considerations and obeying the principles of the Data Protection Act 1998. The Western Region of Ireland were analysed by acquiring information using questionnaires, and the companies Eircom and Vodafone were examined through the method of interviewing.

Research has shown that there is a high probability of the Irish Residential Landline Telephone Service dying out in future years. Innovative communication, an element of disruptive innovation, has profoundly affected the fixed line service e.g. mobile phone and social networking such as Facebook. Social issues and economic issues have made a large impact on the service mainly highlighting the fact that the next generation down is resourcing to mobile telecommunications rather than the landline telephone. Literature and primary research were compared and contrasted proving the possibility of discontinuation. The study has added to the existing body of knowledge using the research methods stated. Recommendations were made relevant to the customers of telephone services and also for the companies Eircom and Vodafone to compete effectively. The research study ended with implications for further research highlighting areas that can be further dwelled on.

Key Words: Innovative Communication; Data Protection Act 1998; Probability; Triangulation; Qualitative; Research methodology; Disruptive innovation; Social and economic impact; Discontinuation.

1. Introduction

Title of proposed research thesis is the following:

"The Impact of Innovative Communication on the Residential Landline Telephone Service in Rural Ireland"

The reason for carrying out research in this particular area is to find out the reasons why the number of residential landline users is declining. Also, regarding the data showing the decline, the author intends to determine how the residential landline service is surviving i.e. is it safety reasons, generation basis etc.

The writer believes that the proposed research will add value to the existing body of knowledge based on epistemology (knowledge acquisition). To the author's knowledge, the topic of whether the era of the landline service is coming to an end or not has not been researched in depth. The data collected will provide a unique insight to the impact of innovative communication and the social and economic impact on the demise of the landline service. The theory of innovation may deem as a solution for Eircom to regain competitive advantage. Research will show the benefits of the technique and the methods to utilise it within a business. Also, from a mobile company's perspective, they could use innovation to their benefit relating to maximising their position of withholding the customers from the landline service.

The question; "Is the era of the residential landline service coming to an end?" has crossed the author's mind more frequently recently as the mobile phone is becoming more dominant and cut backs are becoming more prominent. The telephone has been in existence since 1876, invented by Alexander Graham Bell[1], showing the importance and necessity of it up to the present day. However, the decreasing number of residential landline customers has raised concerns to whether the residential landline service has reached its peak.

Innovation on its own is an interesting topic to study considering the various aspects a business could use to benefit from it. Richard Branson (1998) articulates that "An innovative business is one which lives and breathes "outside the box". It is not just good ideas; it is a combination of good ideas, motivated staff and an instinctive understanding of what your customer wants".[2] The author would like to explore more about innovation concentrating specifically on the telecommunication's sector.

The writer proposes to give a refined explanation of the topic within the literature review using the information gathered. This section will be entirely based on secondary research giving a vast amount of data. The writer intends to give the reader an insight into the topic before adding new information in the dissertation through primary research.

1.1 Background to the Research

The literature review will involve various research boundaries mainly focusing on;

1. The theory of innovation.
2. The historic information on the telephone.
3. The types of communication available to the present date and its influence on the residential landline phone.
4. Background information on Irish Telecommunications Company, Eircom.
5. Background information on ComReg, the communications regulator.
6. Literature supporting the reasons for the decline of the landline phone service.
7. The social and economic impact on the residential landline service relating to generation, cut backs, recession etc.

Data that has been researched by the writer was mainly gathered from websites such as the Central Statistics Office, library books, electronic resources such as Google books, Factfinder, Emerald and The Irish Times online etc. Information gathered is referenced appropriately in the Bibliography to prove that there is an ample amount of information to analyse and will convey a suitable explanation for the decline of the Irish Residential Landline Telephone Service.

The Irish Times have a number of articles published stating that *"almost one in five European Union households has cut off their landline cables to use a mobile telephone only"*[3]. This has raised interests for the author to develop on these types of statements.

Drucker, 1999 stated that for a business to survive it should *"innovate or die"*.[4] Innovation is successfully exploiting new ideas and Porter, 1990 stated that *"companies achieve competitive advantage through acts of innovation"*[5]. It is explained in further detail of how Eircom aimed to regain competitive advantage in the mobile sector on the basis of innovation providing a clear view of Eircom's position within the fixed line telephone service.

The "disruptive innovation theory", an element of innovation as a whole, was originally described by Clayton Christensen in the 1997 book *The Innovator's Dilemma*. Disruptive innovation theory holds that existing organisations have the best possibility of creating new growth by executing disruptive innovation into a marketplace; *"radical or incremental improvements that target demanding customers at the high end of the market who are willing to pay premium prices for better products"*.[6]

Disruptive innovation is far from a new phenomenon, but awareness of the issue is starting to grow rapidly as more and more businesses recognize the threats and opportunities that disruptive strategies offer, especially as the pace of change in technologies and markets continues to grow.[7]

An article from the Emerald database reports on how the mobile phone plays a major part in young people's lives. It stresses that mobile phones are not just landline substitutes but are personal extensions, identity statements and fashion statements; paradoxically, the control they give to their owners to communicate when and where they choose makes mobile phones an instrument for privacy as well as independence[8].

The Irish Times published a piece of writing about the effect the mobile has on the landline service and how people have discontinued the service of the landline phone within their home to save money. The article ends with a sentence articulating that the journalist's father who is seventy would never let the landline go.[9] From this news article it seems that the older generation is keeping the landline phone service alive, hence the researcher aims to gather more information in this area to whether the next generation down will eradicate the existence of the landline phone.

The above data should allow you to understand the purpose of developing on the research topic and give you a small insight to the background of the research.

1.2 Focus of the Research

The research is focused mainly on three main areas:

a.) The residential landline service: The evolution of the telephone will be outlined in the literature review to acquaint the reader with an overlook of the historic development. The issue of the decreased numbers of residential landline customers will be highlighted. From the research boundaries mentioned above, data gathered will highlight the reasons behind the declining numbers and if the landline will eventually come to an end. The writer will intend to gather information in terms of theory and statistics regarding the number of households that use the landline phone. Various journals, articles and reports will provide an up to date collection of information regarding the landline service in Ireland.

b.) Innovation in communication (technical impact): The information gathered in this area will concentrate on defining innovation, how it creates competitive advantage, the types of communication that are available to an individual and the impact of it against the landline service. The data collected on innovation may prove a solution for Eircom to employ to reduce the probability of the residential landline service coming to an end and to recover lost customers. Or, it could be used by mobile operators to maximise the potential of their service leading to the landline phone service being discontinued. The author will aim to collect data regarding the importance of innovation giving examples of when and where it was used.

c.) The social and economic impact: The data gathered for this focal element will relate to the present economic climate and how it is affecting the people regarding cut backs, money saving, trends etc. It will be a short overview of the present situation to supply substantial evidence of the impact it has on the demise of the landline phone within the home.

d.) Eircom and Vodafone: The researcher plans to gather data on Eircom's performances over the previous years. Annual reports of Eircom will be outlined in the literature review along with articles of any events that Eircom was involved in e.g. articles from newspapers such as The Irish Times reported the acquisition of Meteor by Eircom in 2005.[10] On a competitive basis, Vodafone is also analysed with the view of taking benefit of the issue and to acquire their view of the landline telephone service.

1.3 The Research Objectives

1. Primary Objectives

The ultimate objectives of the research project are:

- To investigate the impact of innovative communication and particular reference to the social, economic and technical impact against the decline of exploitation of the fixed line phone service.

2. Secondary Objectives

In relation to ontology, the writer intends to examine the following research areas by carrying out both secondary and primary research to accomplish the dissertation effectively:

1. To outline the significance of innovation and how it adds value for the customer in the communication sector.
2. To provide a synopsis of the life cycle of the telephone in Ireland i.e. historic information of how people use to communicate in the past.
3. To find out why the number of residential landline users are declining.
4. To examine the impact of innovative communication (technical) e.g. mobile, internet, Skype, email etc on the usage of the residential landline phone.
5. To study the social and economic impact regarding cut backs within the present economic climate, the generations or age groups that have or do not have a landline phone within their household etc. (rationale may relate to safety issues, full coverage, the services of the landline phone relating to sky box system, alarm systems etc.)
6. To investigate whether Eircom has or has not a strategy to sustain competitive advantage to survive the overtaking of the mobile phone usage within the home, and also how they intend to battle the declining numbers of the residential landline customers. As well, in a comparison view, Vodafone, a mobile operator will be examined to see how they would react to the declining trend of the residential landline service.

1.4 Limitations of the Research

The limitations or complications that the author perceives or expects are as follows:

1. **Time:** The majority of the research will be carried out from January to July which limits the amount of time to allow the researcher to gather a sufficient amount of data to answer the objectives sufficiently.

2. **Accessing information from Eircom and Vodafone:** It can be difficult to organise a meeting with a person in a diligent position within a company. Thus, it may be a challenge to acquire a member of management of Eircom or a representative from Vodafone to take part in an interview.

3. **Financial requirements:** As the author is currently a student, finance may be restricted due to certain aspects of the research project e.g. the amount of questionnaires distributed, price of phone calls (questionnaires over the phone), printing costs, internet costs regarding the payment of e-journals, newspaper articles etc.

4. **Questionnaires:** the number of questionnaires distributed may depend on the nature of individuals i.e. whether they are respondent friendly or not. It may be difficult to attract people to fill out a questionnaire as it can be time consuming, a burden etc.

1.5 Summary of the Findings

Research has highlighted that there is a high probability of the Irish Residential Landline Service going extinct. The landline telephone service is declining on a yearly basis as statistics have confirmed. Mobile usage is at an outstanding 96% in 2010, 25% more than fixed line phone users. These figures were supported by the research gathered in the Western Region of Ireland where 74% of one hundred and sixty respondents are thinking of discontinuing the landline telephone service in the coming years.

Innovation is an important element for business survival. Components of innovation are utilised within the landline service where Eircom are restructuring their business to avoid insolvency. Disruptive innovation is also seen within the study with regard to Vodafone capturing a number of customers from Eircom by introducing their new service '*Vodafone at Home*'; a fixed line telephone package which can include high speed broadband.

Innovative communication (disruptive innovation) has impacted heavily on the fixed line service. Evidently, mobile phones are more popular among society along with the substantial increase of internet surge using communication systems such as Skype and social networks e.g. Facebook. Social and economic issues have also made an impact on the service with particular attention to the younger generation as they adapt quicker to new technology. Young couples are resourcing to mobile telecommunications rather than installing a fixed line telephone in their home.

1.6 Structure of the Thesis

The thesis is pertinently presented in seven chapters;

Chapter One: This chapter has described the rising issue of the declination use of the Irish Residential Landline Telephone Service and outlines the motivation behind the research distinguishing the focus of the research.

Chapter Two: presents the literature regarding the communication used within Ireland concluding with how new types of communication has affected the Irish Telephone Service leading to a decline with additional influences of social and economic issues.

Chapter Three: describes the research methodology adopted to conduct the field work keeping in mind of ethical considerations.

Chapter Four: portrays the analysis of the primary research gathered defining the reasons behind the decline of the Irish Residential Landline Service.

Chapter Five: summarises and discusses the main findings from the research study correlating the literature review with the primary research meeting the objectives of the research. It will finish offering conclusions and suggestions for further research.

1.7 Summary and Conclusions

As aforementioned, literature and figures has shown that there is a decline in the Irish Residential Landline Telephone Service. However, research has also shown that it is surviving by certain elements e.g. the older generation, safety aspect etc.

It is a question that often passes people's minds but never seems to be fully answered: Is the era of the residential landline service coming to an end? Some may say that it most certainly will with the convenience of the mobile phone. However, others may prefer to keep their landline on the basis of full coverage, safety etc. The writer intends to find out the reasons for the decline of the residential landline use.

To the author's knowledge, there have been very few empirical studies carried out on the declining issue of the Irish Residential Landline Telephone Service. Therefore, this study aims to identify the reasons behind this matter with the combination of literature and primary research. The researcher believes that the study will add to the existing body of knowledge using research methodology.

The intended interview with Eircom's management will identify whether Eircom is under threat with the decreasing numbers of residential landline telephone customers and whether they have a strategy to implement to counteract this problem. Also, the interview with a mobile operator representative will give a view from another side regarding how the situation may benefit them.

As disruptive innovation (first outlined by Christensen in 1997 as stated earlier) is an emerging tactic for new businesses or existing businesses to gain competitive advantage, the research will examine the importance of it for businesses to use it in order to survive the increased intensity of competition. The interview will highlight whether Eircom, the main Irish Telecommunications Company, has considered implementing the idea of disruptive innovation to compete against the mobile phone service. The interview with a representative from a mobile company will provide extra information relating to how innovation could benefit them in the long run regarding the situation.

The intense research of the existing body of knowledge will give a strong basis for the topic to grow on. The background of the research will give the reader a better understanding of what the topic is about and the extra knowledge that the research has gathered will answer the research title and the related objectives.

2. Literature Review

2.1 Introduction

The following chapter entails the historic and current information available regarding the residential landline telephone service. It provides background information of how innovative products and services have hindered the growing trend of the fixed line phone service. The research that is gathered within this chapter should convince the reader that there is validation in the study carried out and also, it supports the primary research that is outlined further into the empirical study.

The areas that are covered within the literature review include a descriptive explanation of what Innovation is and how it is relevant to the issue of the declining use of the residential landline service. It continues to provide historic information of how the phone service started and the several types of telephones that were invented throughout time.

In relation to the research question distinguished in Chapter One, the writer relates to the present fixed line telephone service and its providers whilst also establishing the communications regulator of these suppliers. Thereafter, several types of alternatives of communication, other than the telephone, are stipulated. The impact of these substitutes is outlined including the social and economic affects.

Information regarding the decline of the residential landline phone service is delineated providing a platform to carry out the primary research. Research questions are chosen, taking in consideration of the literature gathered which are further dwelled on in the following chapters.

2.2 Theory of Innovation

Innovation is creating something new and should be substantially different to be innovative from existing inventions. Albert Einstein defined innovation as follows: *"innovation is not the product of logical thought, although the result is tied to logical structure"[11]*. Hence, in order for an innovative idea to be successful, logic or a valid plan must be incorporated to ensure achievement.

Peter Drucker, a social ecologist defined innovation as: *"... the specific tool of entrepreneurs, the means by which they exploit change as an opportunity for a different business or a different service. It is capable of being presented as a discipline, capable of being learned, capable of being practiced. Entrepreneurs need to search purposefully for the sources of innovation, the changes and their symptoms that indicate opportunities for successful innovation."[12]* Thus, innovation creates opportunities for entrepreneurs, businesses, start-up businesses etc as they can create a niche market by innovating something new and obtain competitive advantage over their competitors. As well, the customers benefit from innovative businesses as their needs are fulfilled, pricing wars tend to lower prices and there is a greater selection of goods and services.

Innovation is the process by which entrepreneurs convert opportunities into marketable ideas. They are more than just good ideas. It is a procedure of converting ideas into something of value to make money in the business sector. [13] Innovation may involve adjusting an existing product or service, or modifying them to include a different function. It may also entail renovation to improve the purpose of the product or service.

Innovation can be distinguished by:
- Invention: introducing a new product
- Extension: adding to the original process or product
- Duplication: repetition or copying, and
- Synthesis: combining different parts into a complex whole [14]

In order for an organisation to successfully embrace innovation within the business environment, key components need to be implemented such as:

- sharing the vision on both managerial and operative level,
- to employ an appropriate structure for the company to enable creativity i.e. flat or tall hierarchy. The structure of the company may need to be restructured as part of an innovation process in order to change the process of business and to improve it.
- to sustain effective team working, and
- to create a climate or a culture within the company to allow innovation to grow i.e. employee participation, decision making process involving all levels of the organisation etc. [15]

The Irish Government has invested €8.2 billion into the National Development Plan 2007-2013 to enhance physical infrastructure, human capital and commercialisation regarding to innovation, and technology and science. The Department of Enterprise, Trade and Employment have established an Innovation Policy Statement, *"Innovation in Ireland"* which highlights the opportunities and outlines the progress of innovation within Ireland. The Government aims to develop the knowledge economy by improving knowledge transfer – an important element to sustain innovation. Businesses apply their market research to the marketplace by identifying problems resulting in creating something new and solving a problem, by establishing their target market and by making the product/service available to them. Development agencies such as Enterprise Ireland are set up to support Small Medium Enterprises (SME's) by providing funding for R&D (Research & Development) projects and investment into facilities such as the Innovation Management Scheme and Innovation Partnership Initiative. Gross expenditure on R&D has increased over the years as business expenditure on R&D rose by 25% between 2004 and 2006. This shows the importance of R&D in businesses to enhance competitive advantage by using innovation effectively. [16]

2.2.1 Types of Innovation

There are two types of strategies for innovation which are radical/rationalist and incremental innovation. Radical innovation is where a company quickly introduces a product or service to the market, or by creating a new business process or structure on the basis of a rational action i.e. appraise, determine and act. However, there is higher risk with radical/breakthrough innovation as not all issues or views are taking into consideration giving the possibility of overlooking a fault. Incremental innovation is a step by step development where the procedure involves the process of making deliberate steps, measuring and evaluating the steps, and adjusting the process if necessary. [17] The following diagram exemplifies both types of innovation whilst also showing disruptive innovation which is later explained. [18]
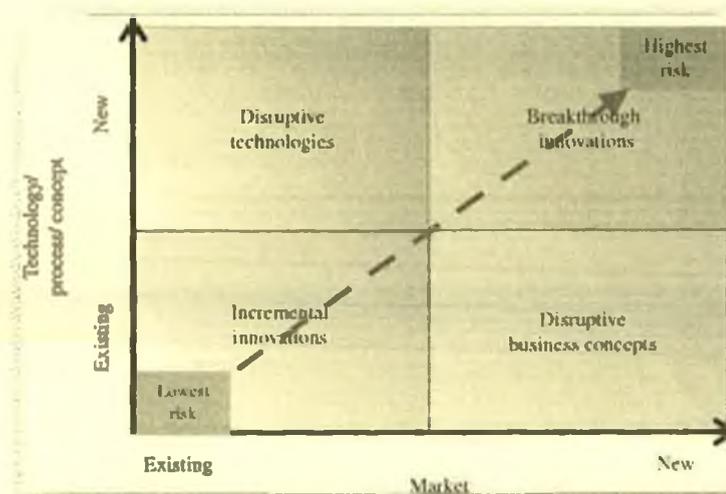
Figure 1: Types of Innovation

According to Anthony et al (2009)[19], a business needs to identify opportunities, formulate and shape ideas, build the business and it's capabilities in order to grow using innovation. A successful organisation always listens to their best customers, segment their target markets, avoid sunk costs, carry out transformation when needed, and use disruptive innovation as a key growth lever.

2.2.2 Disruptive Innovation

Disruptive innovation is an innovation that creates a new and unforeseen market by applying a different set of values e.g. Sasson's "film-less photography" where Kodak introduced the digital camera in 1975.[20] Disruptive innovation is recently becoming more prominent within the business market as the concept is a better understood by businesses. As a result, organisations are using the technique of disruptive innovation to obtain competitive advantage to over power their competitors.

Disruptive innovation initially involves the introduction of a product or service that is not better but simpler, less expensive and more convenient than existing products or services. The following illustration shows the pattern of disruptive innovation[21] explaining the transition where the disruptive innovation surpasses the rate of improvement that customers can fully use or absorb the new market e.g. low cost airlines such as Ryanair obtained some of Aer Lingus' market with their "low cost no frills" offers.[22]

The Disruptive Innovation Model

Performance

Pace of Technological Progress

Sustaining Innovations

Performance That Customers
Can Utilize or Absorb

Range Of
Performance
That Customers
Can Utilize

Disruptive
Innovations

Time
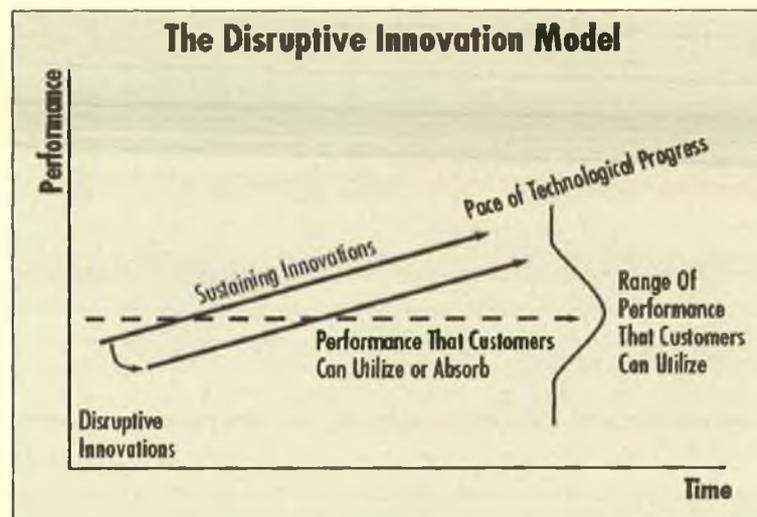
Figure 2: The Pattern of Disruptive Innovation

Established organisations put most of their investment in fulfilling the needs of their high end customers leaving the opportunity for new entrants to target their low-end customers. This then results in the new entrants eventually making improvements to target the established company's high end customers determining disruptive innovation.

Disruptive innovation is often associated with entrepreneurs working at the bounds of a mainstream market and seeking groups whose needs are not being fulfilled. It creates a problem for existing players because the needs of such groups are not seen as relevant to their mainstream activities and so they ignore them as not being important leading to an unidentified potential competitor. [23]

2.3 History of Telecommunications

2.3.1 Ancient Communication

As it is now in modern times, long distance communication was needed in early historic times for the battleground in particular. Signalling was a type of communication used to commune with others across the battle field to maintain control and transfer messages. Homer Iliad, a writer in 700 BC highlighted two types of signalling; beacon fires and beacon smoke, both operated by the ancients.

Different colour flags were utilised and loud voiced soldiers were used also where they were situated on hilltops to project their voice though a megaphone across the war area.[24] An alphabetical fire system was developed in 150 BC by the Greeks to signal letters of the alphabet.[25] A messenger by horse to deliver information or a town crier propagating the news was a method used in 1683AD. [26] These methods were the first to be used for communicating with other people until the event of Otto Guericke producing the first electrical machine in 1675 resulting to Grey and Wheeler creating an electric telegraph in 1729. The electric telegraph conducted power through silk threads over 203 meters long.[27]

2.3.2 Telegraph

Developing from the electric telegraph device, Steinheil produced the first telegraph system in 1837 in England. The telegraph system was made to benefit the railways across Europe to transmit information regarding the movements of trains across the country.

The instrument had modes of alerting the receiver when a message was received, mainly by two needles hitting against two different bells creating two different tones. This evolved later into having the needles supplied with ink that made dots on sheet printing the information. In England, by 1851, 2,819 k of line, 11,750 km of wire and 198 stations were installed leading to 24.6 million messages sent in 1878. [28]

2.3.3 Telephone

Dr. Robert Hooke (1635-1703) was the first to suggest that sounds could be communicated over wire. After many experiments and tests, a Scottish man, Alexander Graham Bell established a product called the telephone in 1876 of which he got patents for to protect his methods and equipment. As the invention cultivated, the obstruction of unfavourable trunk wires were placed across England that carried the voice transmission creating a negativity of ruining the environment with wires and high poles. Thus, various telephone companies united in 1889 as the National Telephone Company where standardised systems and procedures were established and there was a more centralised telephone system to attract more demand.

Reception was improved by a pair of twisted wires rather than one in later years and with continuous enhancements made by the telephone companies and the English government (creating competition between businesses rather than monopoly), the telephone became more popular. [29]

The first type of phone model was expensive allowing only a few individuals to acquire one. It had a cone-type mouthpiece to transmit the voice which only a few individuals were honoured to own one. Wooden wall telephones were used where the caller spoke into a mouthpiece on the phone and pulling a handle on the box to operate it. The candlestick telephone was used until replaced by the Dreyfuss desk phone which was produced in different colours making it fashionable. [30]

2.4 Types of Communication

Communication has become more modernised where new systems and methods are utilised to communicate with people. Travelling has become extensively popular over recent years due to the Irish economic downturn and simply due to young people becoming more curious of what the world has to offer. Individuals are applying for one year visas to travel abroad to countries, the most popular being Australia and America as statistics show that emigration has increased from 45.3% to 65.1% between 2008 and 2009. [31]

In 2009, 2,501 Irish people received residence visas for Australia which increased from 1,989 in 2008. Majority of the visas were issued for specific skills in demand such as information technology and engineering. Also, one-year backpacker visas issued to Irish people aged 18 to 30 rose by one-third, to 22,788 in 2009 which was 17,120 in 2008.[32] These factors would contribute to the volume of communication worldwide where families are keeping in contact with family members or even friends that update each other of their travelling experience abroad through various types of communication.

2.4.1 Mobile Phone Communication

Mobile phone communication has become embedded into lives of all types of societies, professions, age and cultural backgrounds. The mobile phone has made an affect on how people communicate with each other having an influence on their social lives, relationships, data gathering etc. Statistics have proven that the number of mobile phones have exceeded the number of people in Ireland meaning that individuals own more than one phone. ComReg, the National Communications Regulator reported that the Irish Republic, with a population of 4.2 million, has five million mobile subscriptions. [33] The mobile phone operators in Ireland are Vodafone, O2, Meteor and 3 with competing price packages and cost saving packages.

The following graph, published by the Communications Regulator in July 2010 illustrates the market share of each mobile phone operator resulting in Vodafone obtaining 44% market share. With Vodafone being the leading mobile phone service provider in Ireland, O2 have 33% market share and Meteor gaining 21% market share. It was also reported from the survey that Meteor attracts a younger customer base with users aged between 18 and 24 years of age. Vodafone acquire a more mature range of customers with an age bracket of 65 – 74, whilst O2 obtain customers over the age of 25. [34]
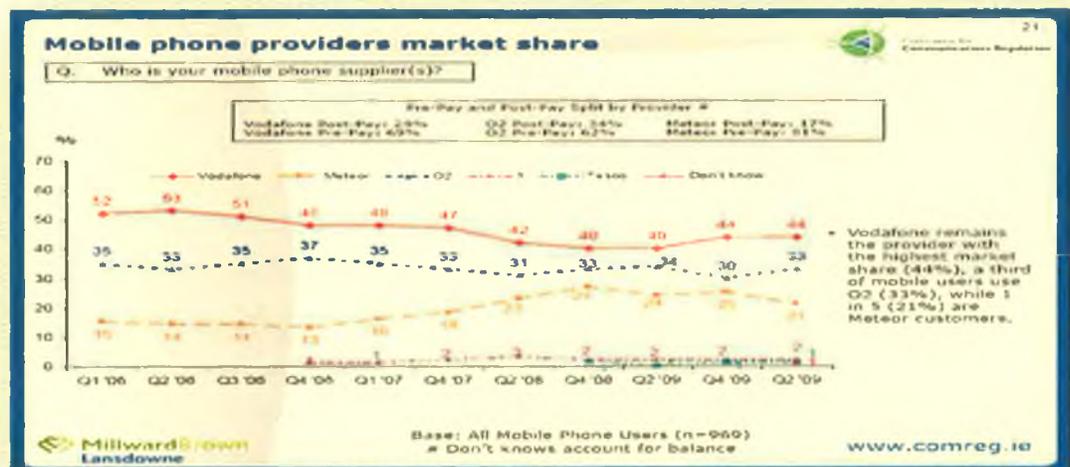
Figure 3: Mobile Phone Service Suppliers

Research was carried out by Cawley & Hynes (2010) to depict the trends on mobile phone usage among Irish teenagers. A sixteen year old boy that was interviewed stated: "*You always need your mobile phone. It feels like you're missing a limb if you don't have it. If you don't have it when you leave the house, or if it's not in your pocket, something just feels wrong without it.*" This record shows the importance of the mobile phone in young people's lives today. Teenagers prefer texting to talking and cherish their mobile phone as a source of communication to their friends/boyfriend/girlfriend. Fifth year school students received their first phone at the age of eleven and second year school students got their first phone at the starting age of eight showing that the mobile consumption is becoming more popular at a younger age in recent times. [35]

The Central Statistics Office carried out a Household Budget Survey from 2004 to 2005 which determined the pattern of household expenditure and to update the Consumer Price Index. From this particular survey, it was stipulated that the mobile phone ownership continued to rise as expected. It was stated that over 84% of households have at least one mobile phone which was only 44% five years earlier.[36] These figures are likely to increase once again when the household budget survey is updated.

Mobile phones are improving on a continuous basis reducing costs for the customer regarding battery power, memory etc. The device has moved from being a "block" phone when it was first introduced to touch screens. Recently, it was reported that a student invented a "green" mobile phone that uses coke liquid for the battery life of the phone replacing the bulky battery chargers. The battery runs four times longer than the lithium battery. However, Nokia, at the time of the invention, deemed it to be too futuristic but a definite thing of the future. [37]

2.4.1.1 Text Messaging

Eighteen years ago the first text message was sent by a twenty two year old, Neil Papworth, via the computer to a mobile phone on the Vodafone network. Papworth text "Merry Christmas" to Richard Jarvis in December 2002 and since then it has been phenomenon.

It took a few years thereafter to advance this type of communication due to structuring charging systems and develop a suitable network for text. However, texts slowly caught on leading to trillions of texts being issued to the present day. [38] In 2005, CSO reported that Irish mobile users sent 4.4 billion text messages throughout the year which was calculated to be 1,053 text messages per person. [39]

2.4.2 Social Networking

Social networking involves the process of friends and colleagues keeping in contact by sending e-mails, setting up blogs and instant messaging allowing them to meet new people and converse with each other on an informal or formal basis. Individuals can set up a profile which includes photos, video clips, images and audio clips. The following a number of ways of social networking. [40]

2.4.2.1 Email

E-mailing is a well known type of method for communicating electronic messages which is in existence for over twenty years. Websites offer free e-mail facilities that require a web browser but do not need software for it to work e.g. www.yahoo.ie, www.hotmail.com and www.gmail.com. [41] Email was one of the first applications on the Internet where it started to be used for internal networks of many organisations and then provided by public access network services as mentioned earlier.
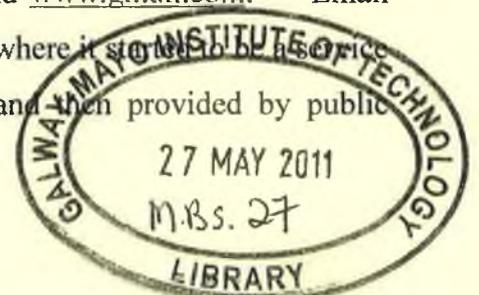
2.4.2.2 Facebook

Facebook is one of the largest social networking sites in the world attracting 400 million users topping Google, the renowned search engine available online. [42] Facebook was first established by College students; Mark Zuckerberg, Eduardo Saverin, Dustin Moskovitz and Chris Hughes. It was initially made available to Harvard students with the intention of getting to know each other better. This innovative network was further used by other colleges and schools and eventually by 2006 the social network site was made accessible to people world wide that had a valid email address mainly targeting at adults as well teenagers. [43]

It was recently reported that there are approximately one million Irish users. The head of online operations of Facebook in Europe, Mr. Colm Long stated that on average, *"users spend 25-30 minutes on the site each time they visit and that 55 per cent of those frequenting the site are female...the 35-plus age range is the fastest growing one...thought this was interesting as people seem to think Facebook is for 18-year-olds and younger....about a third of our users are from the 18-25 range, another third are 25-35 and the last third is 35 and above..."* [44]

The Irish Independent reported on the 24th July 2010 that Facebook reached 500 million users overall. At the age of 26, Zuckerberg has grown Facebook to the value of €31 billion since its establishment which is an outstanding achievement for a young person. He refused to sell Facebook to Yahoo four years ago for the price of €770 million, a figure that not many people would refuse. However, Zuckerberg, an innovator saw a future for Facebook and turned down the offer. He now aims to build the social network into what "it could be" – a statement implying something new is going to be introduced by Facebook. Even the Government are astonished at how attentive the world's population are into this particular website. [45]

2.4.2.3 Twitter

Twitter encourages social networking around the simple question of "What are you doing?" It is a service to allow communication between family, friends and work colleagues and to keep in touch with each other through Twitter. Twitter involves 'tweeting', formally known as updates where users of the social network update their status of what they are doing, their whereabouts etc.[46]

In 2006, Twitter was created by Jack Dorsey, an American business person and software architect, and was acknowledged by MIT's (Massachusetts Institute of Technology) Technology Review as an outstanding innovator under the age of thirty five.[47] Since 2006, Twitter has become popular and universally notable with more than 100 million users. [48]

The social network focuses on niche technology where users can send and receive tweets via the Twitter website, compatible external applications such as smartphones or by short message service, SMS. The updates are capped at 140 characters as SMS messages are also capped at 140 characters. Twitter has variable privacy options allowing users to request permission before interaction with another user. The social network, Twitter, is the fastest growing network worldwide due to its simplicity and offers a unique alternative to Facebook and MySpace.

It was reported by The Irish Times in April 2010 that users post approximately fifty million short messages a day. This proves that Twitter is highly popular worldwide promoting communication between individuals and also introducing advertising on their social network to attract more users.[49]

2.4.2.4 Skype

Skype is currently the most popular type of voice over line type of communication due to its high quality of voice transmission and low cost. EBay have 30% stake of ownership and they sold the rest of their stake (deal valued at $2.75 billion) last November 2009 to a private equity firm Silver Lake, Joltid Limited, investment firm Andreessen Horowitz and the Canada Pension Plan Investment Board. [50]

The Irish Times reported that Skype was established in 2003 and has more than 500 million users. The company aims to nearly double annual revenue to $1 billion in two years from $551 million in 2008. [51] The following diagram (figure four) exemplifies the massive growth of Skype between 2005 and 2009.[52]
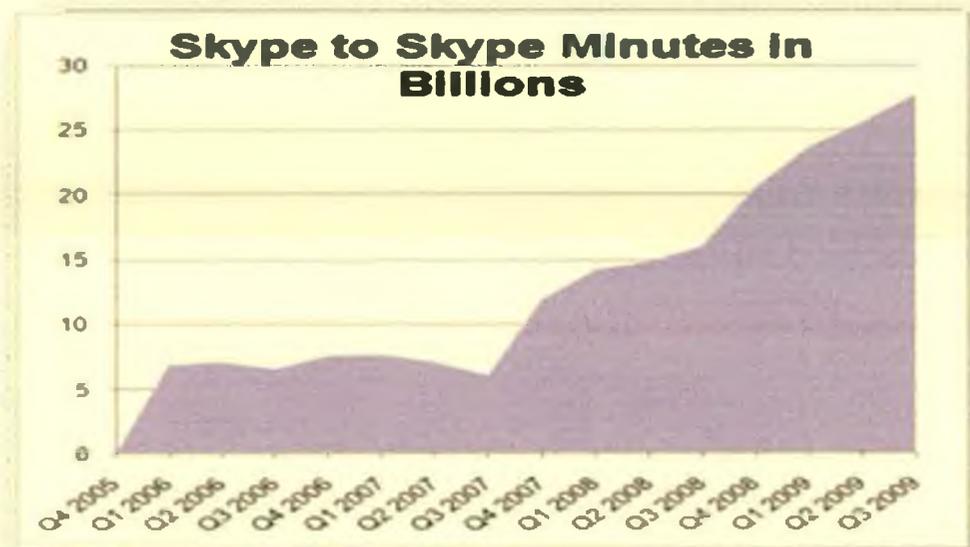
Figure 4: Growth of Skype

Skype is software that can be uploaded over the internet onto a computer and allows people to make free communication from computer to computer to anywhere in the world that has also has Skype (similar to VOIP). One can call more than one person at the same time with Skype. It is a system where individuals can 'call' each other and are required to have headsets, microphones and a webcam (optional) in order to communicate with the receiver effectively. Webcams are connected to the PC and incorporates with the internet providing the opportunity of making free video calls.

Skype allows you to generate a phone book of online numbers in which it will show who is on line and lets you have quick access to communicating with that person. [53] A feature of Skype called Skypeout can let a person make phone calls to mobile phones and landline phones but have per minute rates which are reasonably priced. Skypein can allow people to retrieve phone calls through a distinctive phone number. Also, a person can leave a message on Skype voicemail, another feature, if they do not want to disturb the person or if they are unavailable. There are no setup or subscription fees involved with Skype and they assure that it is fully secure as it does not display intrusive advertising and do not allow malware (viruses) or spyware (monitor private details e.g. passwords). [54]

2.4.3 Fibre Optic Communications

Fibre optic communications was first developed in 1970 and has since revolutionised over-taking the copper wire communications system. It involves a diffusion of information from one place to another place by sending pulses of light through optical fibre. The process requires light which forms an electromagnetic carrier wave that is modulated to carry data. [55]

In communications, fibre optic cables are used to carry modulated optical signals which originate from lasers or light for communicating voice and data signals. Fibre optic communication can be used for multiple services such as telephone, broadband internet and television to homes. A CAN (Controller Area Network) network can be installed into a home, as illustrated in figure five. [56]
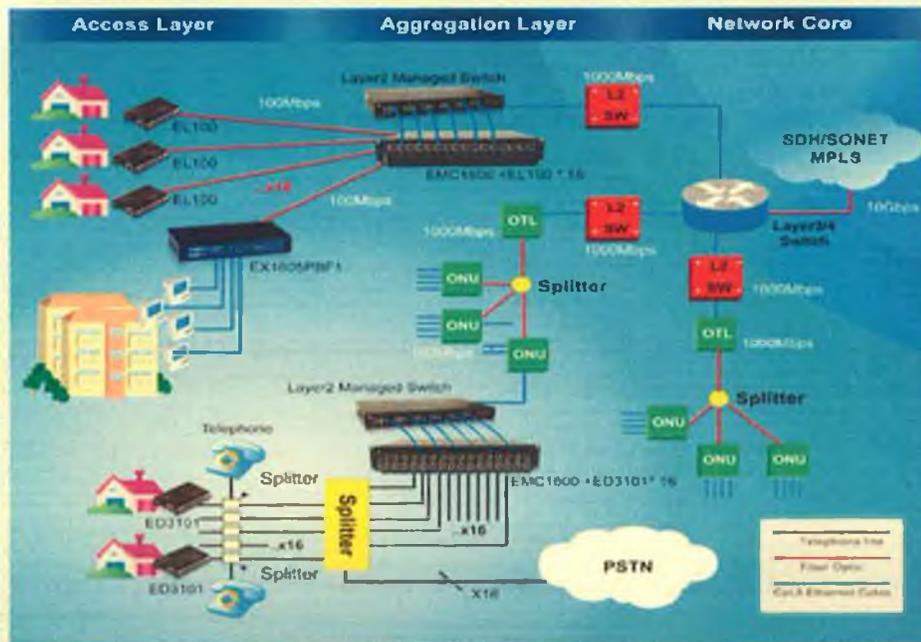
Figure 5: Installing fibre optic communication system

As fibre optic communications systems are becoming more popular, Eircom announced in March 2009 that they aim to invest €200 million into their network. Initially, this was to improve their service of reducing the number faults on its network. The Telecoms industry stated that the copper based Eircom telephone network is in poor condition. In early 2008, 80% of residential faults were repaired within approximately thirty three hours but the company aimed to reduce this time to sixteen hours from June on wards. Eircom stated that they aim to upgrade to "next generation network" by replacing the copper network with high speed fibre optic cables. [57]

2.5 ComReg (Communications Regulator)

ComReg is the statutory body in Ireland responsible for the postal sector and the electronic communications sector which includes telecommunications, radio communications and broadcasting transmission. It was established on the 1st December 2002 and is managed by Commissioners. It is currently chaired by Alex Chisholm. In relation to the Communications Regulations Act 2002, ComReg produces a Strategy Statement every second year setting out objectives relative to the Act. [58]

For the years 2008-2010, the objectives that were established were relative to the consumer, competition, innovation and the organisation. ComReg's vision was to facilitate the conditions for a sustainable, dynamic and innovative competition and to keep the consumers appropriately informed and protected. For consumers, they aim to provide them access to a wide range of products and services that are competitively priced and are those of high quality e.g. Perlico, Eircom and Talk Talk offering price offer packages. [59]

They are also aspired to promote innovation by creating a supportive and predictable regulatory environment so that businesses can make informed decisions on their future investment. From an organisation point of view, they have established a goal to be acknowledged as a leading source of expertise in the communications sector. [60]

In October 2009, Eircom (telephone service provider) challenged ComReg on the basis that four Eircom Talktime Family and Broadband bundles were being sold at a cheaper price creating an unfair advantage for their competitors. The dispute was deemed to be prompted by other mobile operators complaining that they were loosing their customers to Eircom. However, Eircom passed the "net revenue test" ensuring that Eircom was not selling below cost.[61] This prime example shows how ComReg regulates and stipulates its purpose in the Telecommunications sector.

2.6 The Irish Residential Landline Service

Currently, the Irish Residential Landline Service is made up of numerous authorised service providers mainly naming Eircom, BT Ireland, Euphony, Talk Talk and Smart Telecom. [62] Amárach Consultant Company carried out research based on a quarterly survey of 1,000 adults throughout Ireland, aged 15-74. It was estimated that in 2006 70% of the Irish adult population had a landline phone in their home and 82% of them owned a mobile phone also. 82% of the 1,000 Irish residents use Eircom making them the main residential service supplier in Ireland. It was reported that Irish residents have often changed their service provider for reasons such as price packages and bundle calls where price would be the most important factor to customers. However, they have found themselves switching back to Eircom due to the hassle of receiving two bills i.e. the price of the calls and the price of the line rental, or there may have been no major cost savings.[63]

In accordance to the survey carried out by Amárach, the main reasons that Irish residents do not have a fixed line telephone in their home were the following:

1. 54% use the mobile phone instead
2. 10% felt that fixed line costs are too high
3. 10% felt that connection costs and line rental are too expensive
4. 11% were living in rented accommodation
5. 4% planning to get a fixed line in the following six months of when the survey was carried out
6. 4% had other reasons for not having a fixed line
7. 1% were still waiting for installation
8. 1% had easy access to alternative e.g. payphone, work phone etc. [64]

Published in July 2010, ComReg carried out a survey of 2010, quarter two, regarding the switching activity among fixed line users which was similar results to those of Amárach. Figure six illustrates the reasons for switching back to their original home phone provider. [65]
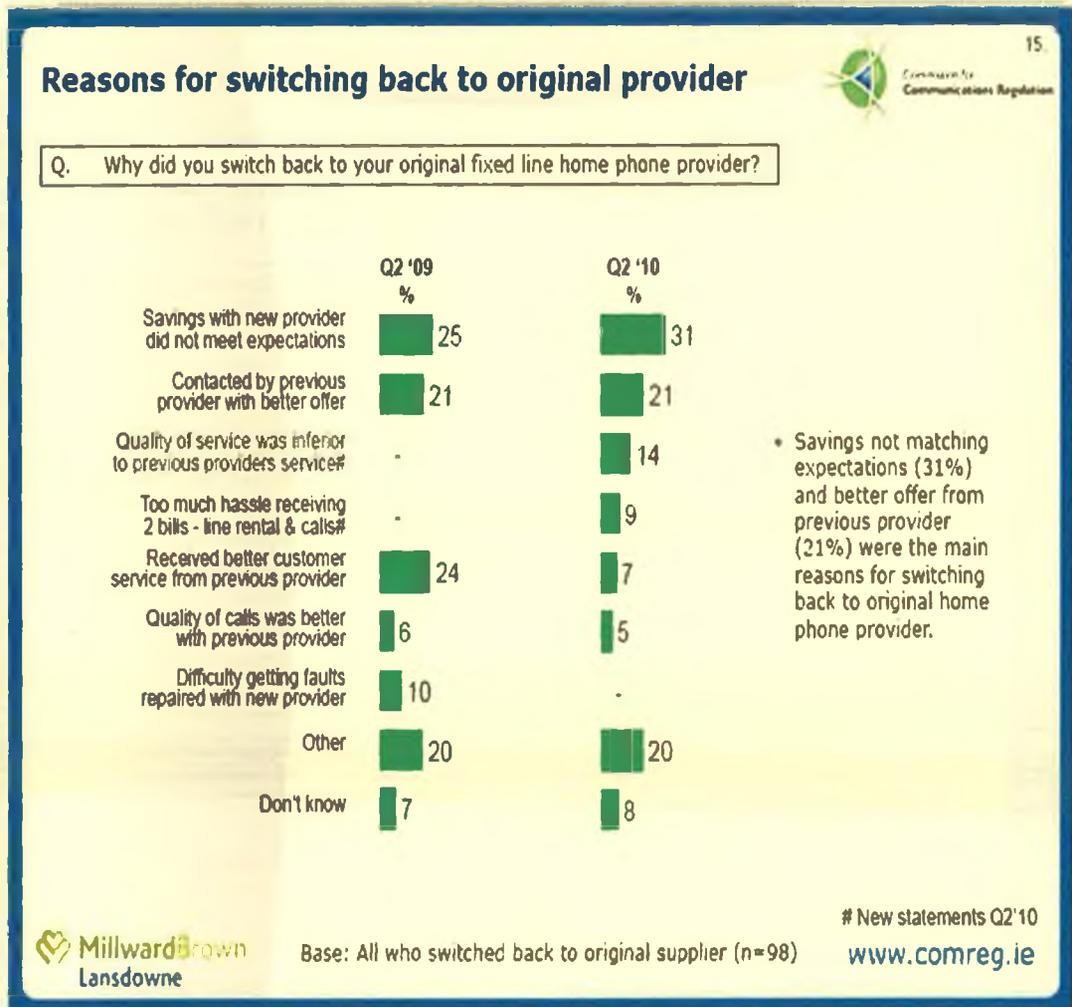
Figure 6: Reasons for switching back to original provider

2.7 Eircom

Eircom is the largest fixed line telecommunications network in Ireland licensed under the National Communications Regulator. Majority of households in Ireland are connected with Eircom and offers Phonewatch which provides burglary alarms, CCTV systems, fire alarms and home monitoring services such as medical alert services.

Eircom's fixed line market, yearly basis, has declined by 2%. [67] Also, their revenue has declined by 9 % by the end of December, 2009 as its fixed-line and mobile businesses felt the full force of the recession. [68] According to Comreg's survey of 2010, figure eight illustrates Eircom's market share dropping in 2010. [69]

Historical view of Eircom's fixed line market share

- This chart plots Eircom's market share from research conducted in the residential market since 2005.
- According to these figures, Eircom's market share in the residential market has fallen again since Q4 '09 and now stands at 64%.
- At its highest, Eircom's market share stood at 86% in Q2 2006.

MillwardBrown
Lansdowne

Base: All Who Have Fixed Landline (n=722)

www.comreg.ie

Figure 8: Eircom's Fixed Line Market Share

Research has shown that Eircom is trying to overcome these issues by entering new markets. The Irish Times reported the acquisition of Meteor by Eircom in 2005 expanding their access to a broader range of customers. [70] As well, they aim to obtain a large market of the fixed and mobile broadband customer base in which they surpassed 750, 000 in February 2010.[71]

An EU report published in 2009 articulated that Eircom was "expensive and unreliable" as their landline charge of €25 per month is the highest in the EU. Eircom stipulated, proved by ComReg that the costs of running the Irish network with dispersed populations are higher than EU countries thus they need to charge a higher price. However, comparing the prices of residential line rentals of Eircom being 66% more expensive than the EU average of €15 per month, it is suggested by the Labour party that ComReg should carry out an investigation about the high costs. [72]

2.8 Social and Economic Impact on the Residential Landline Telephone Service

The Irish Times published a piece of writing about the effect the mobile has on the landline service and how people have discontinued the service of the landline phone within their home to save money. The article ends with a sentence articulating that the journalist's father who is seventy would never let the landline go. [73] From this news article it is seen that the older generation is keeping the landline phone service alive, raising the concern to whether the next generation down will eradicate the existence of the landline phone.

Mobile phones play a large part in young people's lives today as they are not only landline substitutes but are also a personal addition, an icon of identity and a fashion icon. Mobile phones are indeed perceived as a necessity by young people as texting is becoming more prominent for social interaction and they appreciate the mobile phone more than the landline due to immediacy and other benefits such as privacy. Landlines are professed to be used for "difficult" conversations and used more by older people.[74]

In regards to the social impact on the residential landline service, an article from the Emerald database reports on how the mobile phone plays a major part in young people's lives. It stresses that mobile phones are not just landline substitutes but are personal extensions, identity statements and fashion statements; paradoxically, the control they give to their owners to communicate when and where they choose makes mobile phones an instrument for privacy as well as independence. [75] As outlined earlier, Irish teenagers depend on their mobile phone for their social activities.

Internet usage is increasing rapidly with the availability of Skype, Facebook, Twitter, etc worldwide as it is cheaper and easily accessed. The International Telecommunications Union (ITU) published results (figure nine) illustrating that mobile communication and internet usage are on the rise showing that fixed telephone lines are steady but are slowly declining on a worldwide basis. [76]
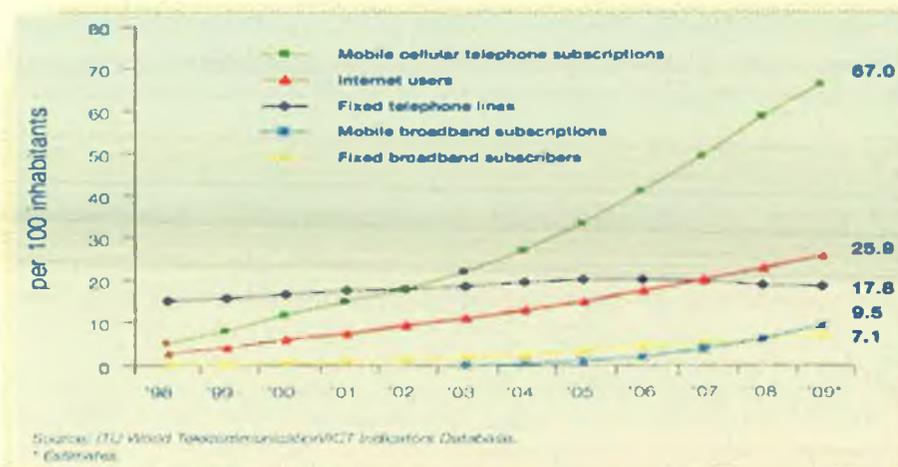
Figure 9: ITU International Growth Rates

Due to the Irish recession hitting at the end of 2007 and reducing in 2010, consumers in Ireland have weak confidence leading to a cut in expenditure on durable consumer goods which is reducing demand for consumer credit.[77] Monetary issues have a large role in the decline of the Residential Landline Telephone Service. Research regarding Amárach has shown that telephone customers find the fixed line costs, connection costs etc too high and prefer to go the cheaper route.

2.9 Declining use of the Residential Landline Service

The Irish Times have a number of articles published stating that *"almost one in five EU households has cut off their landline cables to use a mobile telephone only"*. [78] The CSO reported that the number of households with fixed telephone lines have declined from just over 89% to just under 86% from 2000 to 2005. These figures were gathered from the 2005 Household Budget Survey which is due to be updated soon hence they are expected to fall once more due to the economic, social and technical impact on the Irish Residential Landline Service. [79]

Pertaining to Comreg's survey published in July 2010, there are a number of reasons for not having a fixed line telephone service. Figure ten exemplifies the grounds of these reasons. [80]
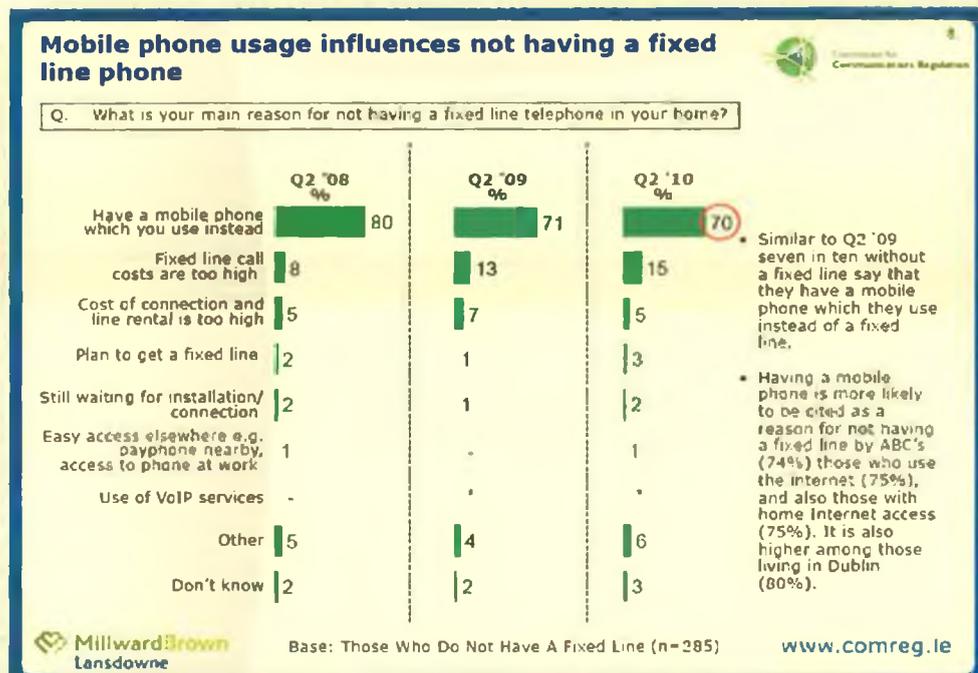
Figure 10: Main reasons for not having a fixed line telephone

In August 2010, it was reported by The Irish Times that a study of 1,000 people aged between 15 and 74 showed more than a quarter of Irish people are now without a fixed line telephone in their homes highlighting the penetration of the mobile phone impact. ComReg published statistics showing that 71% of the respondents had a fixed landline telephone in comparison to 96% owning a mobile phone. It was evident from the data that there is a large quantity of complaints from customers (60% of respondents) regarding problems of the fixed telephone service whilst 90% were satisfied with the service as well as the mobile phone service. On a social aspect, 80% owned a laptop or a personal computer both young and old and 46% were oblivious to the download speed. [81] In addition of this study to the Amárach study and the statistics stated by the CSO, it is evident that there is a decline in the Irish Residential Landline Service and increasing interest in new technology for communication.

2.10 Summary

The literature stipulated throughout chapter two provides the reader with an in depth over view of the telecommunications sector. The study has included a descriptive explanation of how important innovation is within the business environment and how disruptive innovation can have a negative affect on organisations. The research has shown evocative historic information of the Irish Residential Landline Service explaining how the telephone was invented and its performance to the present day. Statistics and graphs have illustrated that the fixed line telephone service is slowly declining, while in comparison, other alternatives to the telephone such as the mobile phone and social networking is on the increase having a negative affect on the traditional service. As well as the availability of the different types of communication, there is an economic and social impact on the residential landline service e.g. teenagers are growing up with the possession of a mobile phone and continue to use for full communication. As a result, figures have proven that there is an economic, social and technical influence on the decline of the Irish Landline Telephone Service.

2.11 Conclusion

In conclusion, disruptive innovation is evident within this type of industry as the new types of communication are having an effect on the fixed line telephone service. Eircom, as Ireland's main telephone service supplier, need to be aware of the techniques of innovation management to overcome the impact of disruptive innovation. Between Facebook, Twitter, Skype etc, communication has increased at a lower cost. Therefore, it would have an impact on the use of the landline telephone service. In view of the literature, the question arises of what is Eircom's and Vodafone's view of this issue.

As Eircom needs to closely monitor these issues, the research project addresses the approach of identifying Eircom's strategy to overcome these identified issues. Interviews will be carried out with management of Eircom and a mobile operator company. The author intends to gather information regarding the opportunity available to mobile companies, particularly Vodafone to enhance their position through disruptive innovation.

In accordance, further primary research is carried out on the Residential Households of Ireland to classify their view of the Irish landline telephone service, and to distinguish the main reason of the decline of the service that was once so prominent in Ireland a number of years ago. The following chapter will describe the research methodology adopted for this study.

3. Research Methodology

3.1 Introduction

This chapter conveys a description of the methodology used to undertake the primary research. The justification for the research methods and tools used is provided as well as reflecting on the ethical considerations associated with the research. The chapter concludes with the data analysis techniques and the limitations of the research. The type of philosophical assumption is chosen within this chapter further explaining its nature.

3.2 Philosophical Assumptions

The two main underlying philosophical assumptions are ontological assumptions and epistemology. Each term has a specific meaning in regards to assumptions of society.

Ontology relates to the beliefs concerning the nature of the world and is one of nominalism/interpretivism as it is knowledge that needs to be experienced and interpreted. Ontological assumptions relate to with what we believe constitutes social reality. [82] The researcher must contemplate whether the world is peripheral and objective, or socially structured and only understood by examining the observation of the actions of human beings. [83]

Epistemology theory involves adding value to the existing body of knowledge by knowledge acquisition. Epistemology focuses on the knowledge gathering process and is one of positivism. Positivism is knowledge that is acquired by measuring hard facts. [84]

After examining the different types of philosophical assumptions, the author believes that both ontology and epistemology assumptions are appropriate for this kind of research study. Thorough research was carried out into the existing data using the internet, websites, books, articles, journals, e-resources etc as shown in chapter two. Relating to epistemology (theory of knowledge acquisition), this is one of positivism (knowledge acquired by measuring hard facts).

In addition, for the primary research of the study on the basis of ontological assumption, mixed methodology is used to gather qualitative data and interpretivism is used to interpret the information obtained. In regards to carrying out questionnaires and interviews for the primary research of the study, nominalism will be applied as it is knowledge experienced. The data will be interpreted to explain the data gathered adding to the existing body of knowledge. All in all, this research study is mainly based on interpretivism as the new data will be interpreted in view of the literature review as shown in the findings and discussion chapter.

3.3 Nature of the Research

The research project is one of a phenomenological paradigm. This paradigm uses qualitative research with emphasis on the quality and depth of the data studied by examining and developing an understanding of life experiences. Paradigm means the progress of scientific practice based on people's philosophies, assumptions they make and the nature of the knowledge attained. Phenomenological paradigm means the understanding of human behaviour and it tends to produce qualitative data using small samples in which the validity is high. [85] A phenomenological study is usually achieved by collecting and analysing narrative materials while ensuring that the methods used ensure credibility of both the data and the results.

A phenomenological approach is chosen for this research study to better understand the phenomena i.e. lived experiences of consumers as the residential landline telephone service declines. The study is also an interpretive approach as the phenomena is interpreted as it is uncovered. The phenomenological methodology selected is Ethnomethodology as it focuses on the process of creating reality. It involves engaging with the interviewee where reality emerges when they explain and consider their feelings about the issue.

Werner and Schoepfle, 1987, believed that ethnography is any full or partial description of a group mainly involving the method of participant observation. Ethnomethodology helps interpret the social world in the way that the members of that particular world do, and allows the researcher to obtain immediate experience of the context being studied. [86]

The main types of data collection methods identified by Collis and Hussey, 2003 are the following[87]:

- Observation
- Interviews
- Diaries
- Focus Groups
- Questionnaires
- Protocol analysis i.e. procedural type of analysis (step by step process)
- Critical incident technique

A qualitative approach is selected as it is more appropriate where the researcher is more participative with the research in hand through methods such as an interview and questionnaires. Even though questionnaires are one of quantitative research (structured analysis of numerical data) the questionnaires that are used within this research study will collect data other than numerical and are interpretive by nature. In the author's opinion, qualitative research is one of nominalism regarding epistemology assumption where knowledge needs to be experienced and interpreted. The study will lead to hypotheses where assumptions are made in regards to the decline of the residential landline service.

3.4 The Objectives of the Research

The main objectives of the primary research are as follows:

- To investigate whether Eircom is acting proactively about the decline of the residential landline service i.e. whether they have a strategy in place or not.

- The author would like to see if Eircom has heard of the technique disruptive innovation which may help them to regain competitive advantage over the mobile service.

- What would be Eircom's general customer profile with regards to generation i.e. older or younger? Also, to investigate their future outlook of the landline telephone service.

- To research a mobile phone company which should provide a different view of the situation of how they may take advantage of the situation i.e. have they future plans in this area etc.

- To research a sample size of Irish households to identify the social, economic and technical impact of the residential landline telephone service.

3.5 Research Methods Selected

In order to create a broader and virtuous view of the research study, a mixture of data collection methods will be used which is known as Triangulation. Denzin defines triangulation as *"the combination of methodologies in the study of the same phenomenon."* Triangulation will provide greater validity and reliability than a single approach and will encourage productive research. In correlation, methodological triangulation is used as both quantitative (questionnaires) and qualitative (interviews) methods of data collection are used. [88]

The two main research methods that are chosen to gather data are interviews and questionnaires. There is a combination of quantitative and qualitative inputs to suit the research in hand and to match analytical requirements. The main advantage of quantitative research is the speed of collecting data. However, there is a risk of loosing richness of the data and contextual implications may be lost which will hinder the interpretation of the phenomena. Qualitative research methods can be quite expensive and time consuming but it can provide a more 'real' basis for analysis and interpretation.[89] Therefore, the researcher is using qualitative research methods including questionnaires (a quantitative method) where questions will be designed to gather qualitative data.

3.5.1 Interviews

Interviews are a commonly used method of data collection that is associated with both positivist and phenomenological methodologies. It entails person to person interaction via face to face, voice to voice or screen to screen between two or more individuals aiming to gain specific information. There are two types of interviews:

3.5.1.1 Structured Interview

Structured interviews are a positivistic approach using closed questions that are pre-determined. An interview with closed questions is where the respondent's answer is selected from a number of prearranged alternatives generating factual questions. They are convenient for collecting factual data and are easy to analyse. Verbal or visual prompts may be utilised to gain extra information from the respondent.[90]

3.5.1.2 Unstructured/Semi-Structured Interview

Unstructured/Semi-Structured Interview is one of a phenomenological approach where the questions have not been pre-determined. A framework is generated by the interviewer called an interview guide in order to efficiently conduct the interview. The order of the questions can change and new questions can occur. Themes are chosen in correlation with the topic in hand e.g. Competition, pricing, customer base etc. This type of interview obtains extra information and usually contains open-ended questions to explore answers more in depth. [91]

Easterby-Smith, Thore and Lowe (1991) suggest that both types of interviews are appropriate when:

- To develop an understanding of the respondent's world
- Create a step by step logic of a situation
- The topic is highly confidential
- The interviewee is reluctant to be truthful only if it is a one to one confidential situation. [92]

Semi-Structured Interview is chosen in order to gather extra comprehensive data. It would be the most suitable type of data collection method to gather information regarding the residential landline service that is not already disclosed. The interview will entail a structured opening but design may change as procedure continues on to gain various data and a broad amount of information. A Dictaphone will be used to record the responses of the questions. A rapport will be established before commencing the interview and an explanation of the purpose of the interview will be given to create clear communication. It is important to ensure the interviewee that the information recorded will be kept confidential.

3.5.2 Questionnaires

Questionnaires are also another popular type of data collection method as it is cheap and less time consuming. Questionnaires are in correlation with both positivistic and phenomenological methodologies where it consists of a list questions and the answers are recorded by respondents. It is a structured type of research method where questions are carefully prepared in view of eliciting reliable and valid responses. It is important that the questions are presented clearly and easy to understand, and that the layout is professional and uncomplicated for the respondent. Prior to the list of questions, the purpose of the questionnaire should be clearly explained to encourage the respondent to complete it fully and assure them that the information provided will be kept strictly confidential as shown in Appendix A.

3.5.2.1 Type of Questions:

With a phenomenological approach the following types of questions[93] are used:

Closed and open-ended questions: these allow the respondent to answer the question any way they prefer.

Dichotomous questions: these questions only give two alternatives e.g. do you...? Yes or no?

Multiple choice questions: these are extended dichotomous questions where there are more alternatives provided and more than one can be chosen.

Rating Scale: These are questions of semantic differences where the respondent indicates their choice on a scale.

It is essential to test/pilot the questionnaire before distributing to avoid mistakes or imprecise questions. A number of methods to distribute the questionnaire are identified by Collis and Hussey which include[94]:

- By post
- By telephone
- Face to face
- Group distribution
- Individual distribution and
- Survey Monkey – computer generated questionnaire sent by e-mail[95]

The methods of distribution chosen for this research project is by face to face and by telephone as they deem to be the cheapest type of method and are less time consuming.

3.6 Sample Size and Sample Selection

A sample is a predetermined part of a statistical population whose properties are studied to gain information about the whole (population). Sampling is a technique of selecting a suitable group of representatives of the population for the purpose of determining traits or factors of the entire populace.[96] The researcher hopes to identify the traits such as age, nationality and gender that use landline and mobile services to create a hypothesis regarding generation. As a result, conclusions are drawn about the population in whole taking into consideration of the statistics created.

Therefore, the sample selected is the Connacht area examining the Counties Galway (78,661 households), Roscommon (20,734 households) and Mayo (443,431 households). The size of the sample is one hundred and eighty households in the Western Region of Ireland.[97]

3.6.1 Type of Sampling Selected

There are systematic, stratified and random methods of selecting a sample. The type of sampling used for this research project is random sampling. This may be the most important type of sampling. A random sample allows a known probability that each elementary unit will be chosen. For this reason, it is sometimes referred to as a probability sample. The type of random sampling that is proposed to use is cluster sampling. A cluster sample is obtained by selecting a group from the population on the basis of simple random sampling. The sample comprises a census of each random cluster selected e.g. a village.[98] Therefore, the author will concentrate on the more dense areas of Counties Galway, Mayo and Roscommon focusing on villages and towns. This type of sampling should cover all age groups of the population.

3.7 Data Gathering Phases

Secondary data is mainly gathered prior to the commencement of the primary research between the months of January and June. In addition, the researcher will continue to add to the literature over the months of July and August. The timeline for conducting the primary research is illustrated in Table 1.

Table 1: Primary Research Timeline

	Jan	Feb	March	April	May	June	July	Aug	Sept
1. Preparation of Questionnaires									
2. Distribution of Questionnaires and Analyse Data									
3. Interviews									
4. Analysis of the Research Findings									
5. Discussion re: Research Findings									

1. **Preparation of Questionnaires:** The researcher aims to start the primary research early as possible to gather as much data as possible.

2. **Distribution of Questionnaires:** The author intends to start distributing the questionnaires in June and to collect and analyse the data in July

3. **Interview:** The writer proposes to plan and organise a meeting with the Western Region Manager of Eircom and a Manager from Vodafone in the month of April. This is anticipated on the grounds of the Eircom and Vodafone management being able to arrange the interview in April.

4. **Chapter Four – The Research Findings:** This is a collection of data from the primary research including background information of the target population.

5. **Chapter Five – Discussion:** Once the data is accumulated, an analysis of the findings regarding the literature review is presented and compared with the author's results and interpretations of the primary research. This chapter is aimed to be fulfilled in late June and July.

3.8 Ethical Considerations

It is essential to carry out the research in an ethical manner given the trust of both the researcher and the respondent. Ethics is defined by Cooper and Schindler, 1998 as *"the norms or standards of behaviour that guide moral choices about our behaviour and our relationships with others"*. [99] Operating ethical research ensures that there is no adverse affects on anyone as a result of the research activities. It is important that a researcher has a code of ethics in place to ensure that values, needs and expectations are accommodated. Collins Dictionary (1979:502) defined ethics as the following: *"in accordance with principles of conduct that are considered correct, especially those of a given profession or group"* putting emphasis on *"principles of conduct"* and *"considered correct"*. [100] Ethics is relevant to those who collect the data and those who offer them the data. The researcher should respect the confidentiality of the data gathered and ensure that the information will not be disclosed.

The following are number of elements that are important in research regarding ethical considerations which are identified by Sekaran and Roger, 2010[101]:

1. To treat the information given by the respondent strictly confidential and respect their privacy.
2. The researcher should not represent the nature of the study to the respondents i.e. the purpose of the research must be clearly explained to them.
3. Personal or intrusive information should not be solicited and treated with sensitivity by the researcher.
4. To revere the subject's self-esteem and self-respect.
5. Duress should not be applied upon the respondent and their choice of not doing the survey should be respected.
6. Respondent bias must be considered.
7. The researcher should ensure no misrepresentation or distortion when reporting on the data collected and efficiently interpret the data provided.

In correlation with the researcher and once the respondent has agreed to participate in the survey, they should cooperate fully with the researcher. They have the obligation to be truthful and honest in the information they provide whilst also avoiding misrepresentation of the data given.[102]

It is the researcher's responsibility to obtain informed consent, evade deception, perform in a professional manner, and keep data secure, and to interpret the data carefully using appropriate analysis techniques. The researcher should comply with the main principles of the Data Protection Act, 1998 which are illustrated in Table 3.1.[103]

Table 2: Principles of the Data Protection Act 1998

Data must be:	Fairly and lawfully processed
	Processed for limited purposes
	Adequate, relevant and not excessive
	Accurate
	Not kept longer than necessary
	Processed in accordance with the data subject's rights
	Secure
	Not transferred to countries without adequate protection

By and large, an individual about whom data are held and processed has the right to know the nature of the data, and to see a copy.[104]

3.9 Data Analysis Techniques

As the researcher adopted a phenomenological paradigm, non-quantifying methods would be more appropriate to analyse the primary research which are as follows:

- General analytical procedure
- Cognitive mapping
- Data displays
- Grounded theory
- Quasi-judicial methods

As the questionnaires are a quantitative type of data collection method, the information will be analysed by using charts and graphs to illustrate the data gathered. Charts and graphs will portray the data precisely and will help to communicate the data better. [105]

In addition, a short paragraph explaining the data illustrated will be provided. Bar charts, pie charts and scatter graphs will be utilised to analyse the data. The remainder of non-numerical information will be assessed using qualitative analysis methods.

The interviews will be analysed by using general analytical procedures. In regards to general analytical procedure for qualitative data, it is important that all material collected from interviews and questionnaires are recorded and properly referenced. The date, time and name of the interviewee should be clearly stated and a coding procedure is put in place. Questions are generated into a conceptual framework for data collection and a data checklist is used to ensure specific data is collected i.e. coding frame with themes specified as shown in Appendix D & F. Coding the data involves allocating a specific code to each theme of the interview e.g. competition, future outlook etc. When each variable is coded, grouping can be done relative to the specific theme into smaller categories. The summaries or the grouping of codes will assist the analysis procedure and will construct a new theory regarding the research question. [106]

When analysing the primary research, Lincoln and Guba[107] suggest four criteria that should be followed:

1. Creditability
2. Transferability
3. Dependability
4. Conformability

3.10 Limitations of the Research

The limitations of the research include the following:

1. Time constraints may restrict the researcher to fully develop on the research. Time, effort and trust worthiness have to be exercised fully to ensure that data will be collected. Spending time building trust with the respondent can limit the time spent on the actual activity of collecting the data.

2. In addition to building trust with the respondent, there is a high risk of non - respondent bias[108] where questions are poorly answered or questionnaires are not returned.

3. The population that the study covers is limited to the Western region of Ireland including the counties Galway, Roscommon and Mayo. The sample may give an inaccurate analysis as it represents a small number of Ireland's total population. Sample bias (i.e. a sample not representative of the population as a whole)[109] may occur but the researcher aims to minimise the bias.

4. The whole process of Interviews can be quite expensive and time consuming. As the researcher's occupation is student, it may be difficult to spend a substantial amount of money to obtain sufficient information through conducting an interview.

5. There is the issue of confidentiality with interviews which may restrict the respondent to disclose important information. Also, the interviewees may not be able to meet the researcher as they can be quite busy and can be difficult to get in contact with them. In response to this issue, the researcher, to the best of their ability will assure the interviewee that the data revealed will be kept confidential and guarantee them that the interview will be concise.

6. Triangulation or mixed methodologies can be quite complex to manage and analyse. Therefore, problems may arise when evaluating the research findings and may be difficult to interpret the information gathered through the methods selected.

3.11 Summary

Chapter three outlined the research methodology of the study defining the type of research used. Philosophical assumptions were delineated and explained followed by a description and justification of the nature of research. The objectives of the research were distinguished and the research methods of the study were classified. The structure of the interview process along with the design of the questionnaire was also elucidated in detail. The sample size and the type of sampling were selected. Phases of the data gathering process were clearly presented in a table outlining the timeline. Ethical considerations in association with the research study were addressed to ensure moral ethical standards. Finally, the data analysis techniques chosen for the research were explained whilst also highlighting the limitations of the research.

3.12 Conclusion

As aforementioned, the research methodology is explained and justified throughout chapter three. Along with the detailed description in chapter three, the writer obtains a clear and defined structure of their research of how they gather and analyse it.

The following chapter four presents the research findings and a comprehensive analysis of the data gathered. The chapter explores the view of the Irish residents of rural Ireland mainly concentrating on the Western region of the country to represent the total population. The questionnaires will be thoroughly examined and remarked on using charts and graphs to illustrate the data. The interviews will be investigated by using general analytical procedures using a coding procedure for the themes of the interview.

4. The Research Findings

4.1 Introduction

Drawing from the research findings, chapter four provides a detailed analysis of the questionnaires that were distributed in the Western Region of Ireland and the Interviews that were carried out with a member of management each from Eircom and the mobile operator company, Vodafone. Firstly, the chapter begins with a description of the target population of the research study also highlighting basic background information of the interviewees. It then continues to investigate the data gathered from the questionnaires that were distributed and persists to the information obtained from the interviews performed.

4.2 Target Population

A population is a group of individuals, items, or objects from which samples are taken for measurement. The population that the writer wishes to study and add to the existing body of knowledge is the residential homes of Ireland and the companies Eircom and Vodafone for a professional outlook.

4.2.1 Residential Homes of Ireland

The study of the residential homes of Ireland is to find out the number of houses that use the landline service, the mobile service, their characteristics, their view of the landline telephone service etc. It was recorded by the CSO in April 2006, that the number of private households in Ireland was 1,469,521. [110] As it would be too expensive to do a census of the whole population, sampling was carried out which was defined in chapter three.

The sample size defined for the research study is the Connacht region (as shown, represented by the green colour in figure eleven[111]). It mainly focuses on the counties Galway which has 78, 661 households, Mayo with 443, 431 households and Roscommon which hold 20, 734 households.[112]

Figure 11: Connacht Region of Ireland

4.2.2 Eircom

Another target group that the researcher investigates is the Irish Company, Eircom. According to Eircom's recent studies, Eircom is the leading provider of the fixed line telecommunications service in Ireland and obtains 69% of the revenue market share of the Irish fixed line telephone market. The company has acquired 1.2 million customers which continue to rise. They provide a wide range of services such as internet and voice services to three customer segments; residential, business and enterprise markets. This established company is also Ireland's leading broadband service provider possessing 560,000 broadband customers whilst attaining 43% of the internet broadband market. They are established with 7,000 employees being one of Ireland's larger employers and had revenues of €1,982 million by the financial year ending June 2007. As aforementioned, Eircom purchased Meteor in 2005 becoming Ireland's third largest mobile phone operator. [113]

4.2.3 Mobile Phone Company: Vodafone

The mobile company, Vodafone will provide a different view of the situation of how they may take advantage of the situation; have they future plans in this area etc. In May 2001, after the acquisition of Eircell (a mobile and broadcast division of Telecom Eireann), Vodafone established a strong presence in the Irish Market. Vodafone is now a leading company in the mobile communications market with a view of being the *"the communications leader in an increasingly connected world".*[114] They obtain 45% market share and have 2.265 million customers. The company employs over 10,000 employees.

They performed an acquisition of Perlico in 2007 which as a result made them the largest provider of broadband solutions in Ireland adding on 70,000 customers, and also, giving them an instant fixed line customer base. They also partnered with Google, My Space, eBay and YouTube to launch a service of bringing the internet and the mobile together called Vodafone Mobile.[115] In addition to acquiring Perlico, they entered the fixed line phone market and launched a new service in 2008; *"Vodafone at Home"* where they supply a new home phone with the same number and offer the choice of having broadband with the same package at a cheaper price. This new offer is further examined in the analysis of the interview with Vodafone.

4.3 Analysis of the Data with Relevance to the Research Question

The following is a full analysis of the primary research obtained using the data analysis techniques outlined earlier. The data collected is examined with relevance to the main research question/title; *"The Impact of Innovative Communication on the Residential Landline Telephone Service in Rural Ireland"*

4.3.3 Analysis of the Questionnaire

The questionnaires were distributed during the period of May, June and July and were distributed to 185 households across the Counties Galway, Mayo and Roscommon. Sixteen questionnaires were ineligible and nine questionnaires were not retrieved from the respondents totalling to one hundred and sixty (figure twelve) valid questionnaires. Totalling the amount of respondents in addition to spouses and residents/children, there were six hundred and twelve individuals involved in the survey. Various amounts of data were collected from this research method and were analysed (Appendix B) whilst also gathering extra information from additional comments from a number of respondents.

No. of Households per County

■ No. of Households per County
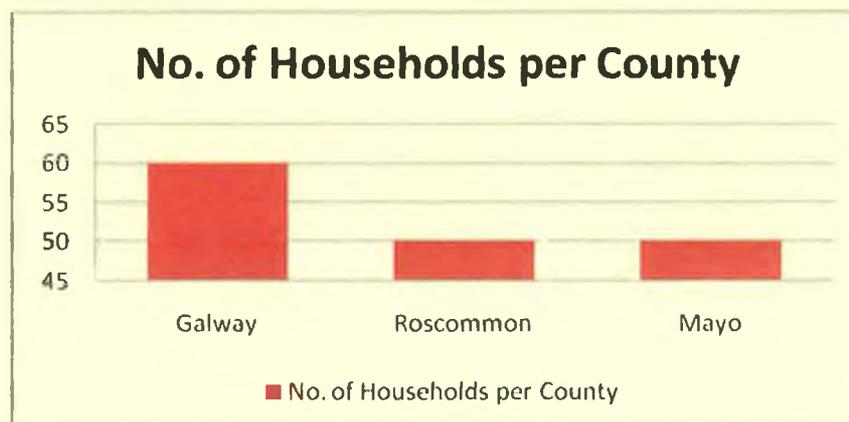
Figure 12: Number of households surveyed

As shown in figure thirteen, the age bracket of participants and their spouse (if any) ranged from 18 to over 80 years of age giving a broad aspect of views for the research study. From the one hundred and sixty respondents, one hundred and forty seven had spouses.
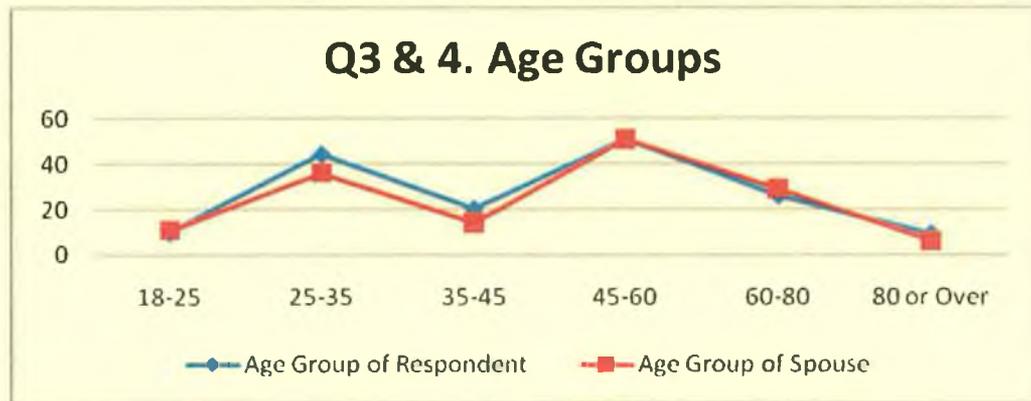
Figure 13: Age bracket of participants

Figure fourteen shows the distribution curve of the respondents' ages where the mean age is forty seven and the dispersion of sixteen on either side. The calculation[116] for this statistic is given in Appendix C.
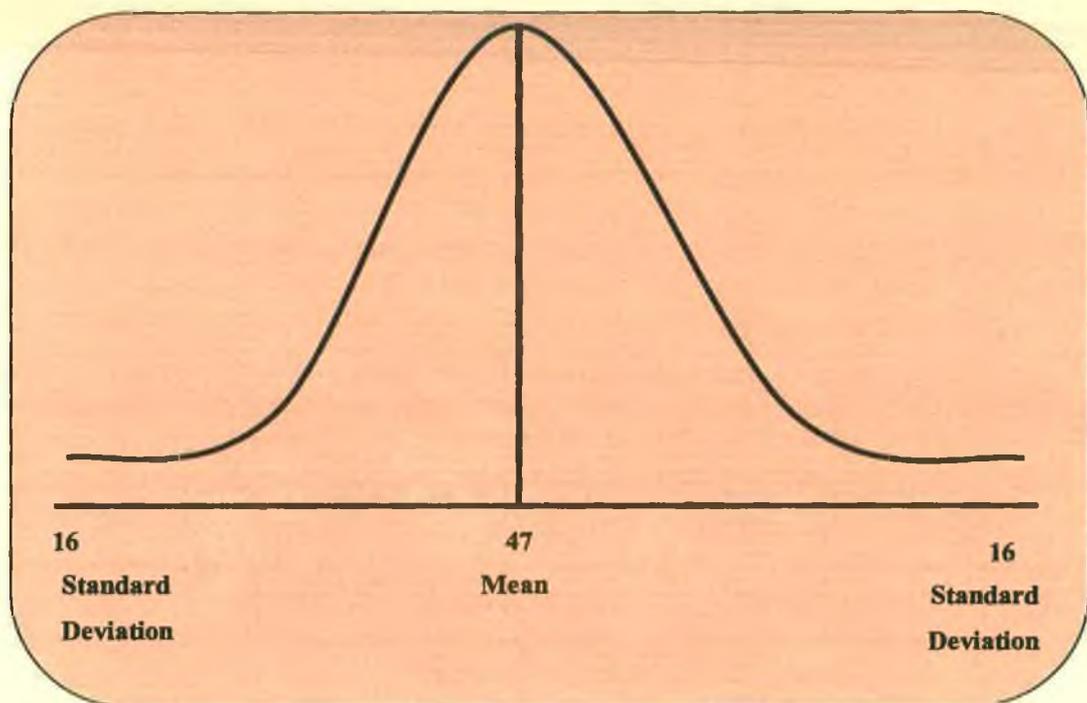
Figure 14: Normal Distribution Curve

The age group of individuals that were resident with the respondents ranged between 0 – 45. Approximately forty four respondents had at least three children living in their household and in around twenty two respondents had up to two children living with them all up to the age of eighteen years old. The following graph illustrates the occupations of the bill payer showing that forty nine respondents (30.6%) were either farmer or housewife. 8% of the respondents were teachers, 6.9% were civil servants, 5.6% were doctors, 4.4% were truck drivers, 2.5% were nurses, 1.3% was students and 3.1% obtained other work titles.
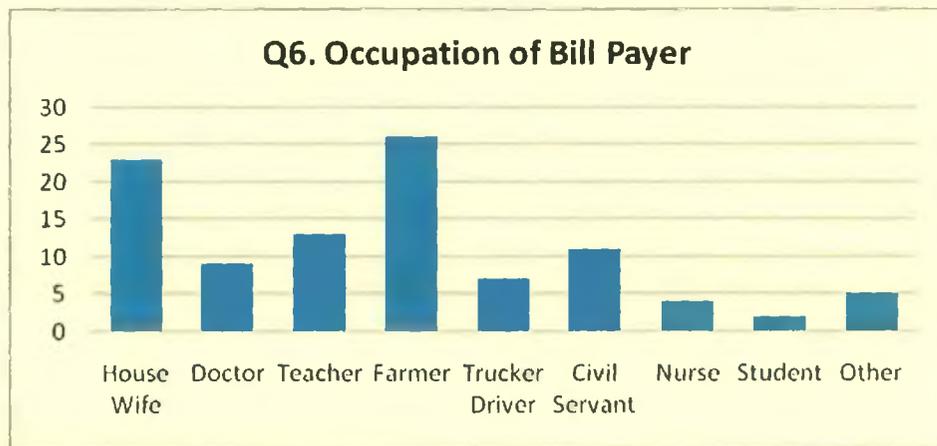
Figure 15: Occupation of Bill Payer

30% of the respondents had family living abroad in countries such as Australia (31%), the USA (11%), and in certain areas of Europe (17%). Regarding the small number of respondents 30% is quite a large figure showing the changing trends of people moving abroad to either seek for work or basically a change of scenery. In correlation to these facts, of the 77% of respondents that have internet access, 66% of them use Skype in which 20% use it to keep in contact with their family members living abroad. They found Skype as a valuable piece of technology as they could easily keep in contact with their loved ones and also see them while talking to them, a priceless element of Skype.

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Furthermore to the social network, 79% of internet users have a Facebook/Twitter account set up and 50% of these "Facebook addicts" or "Twitters" spend less than an hour online. The high number of users shows that the social network is getting more prevalent to date and that internet users are spending longer "surfing the net". Skype, Twitter and Facebook are all sources of communication that deems to be the standard in the high tech world and are also becoming more fashionable e.g. if you do not have a Facebook account you are almost considered as *"not too trendy"*.

Out of the one hundred and sixty respondents, 79% had a fixed line telephone in their household. The following pie chart demonstrates which telephone company the respondents used for their service. Eircom has obtained 75% of the custom followed by Perlico and Talk Talk. However, when interviewing the residents the main reason they use Talk Talk is because of the company's numerous phone calls to move to their service and felt pressured into signing up with the company. Perlico mainly use through the door leaflets and word of mouth to advertise their service, a more subtle type of advertising.
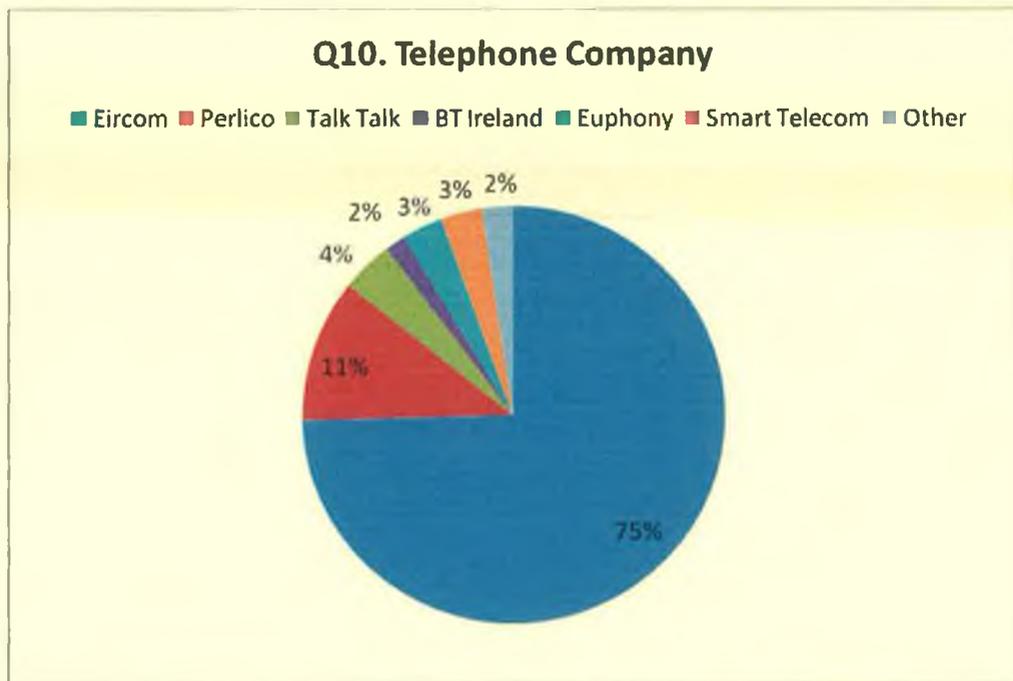
Figure 16: Telephone Company

In addition, 33% were quite happy with the service of the telephone company in comparison to 10% being unsatisfied with the service. The majority of landline telephone customers spend less than €130 per month were 39% spend €90 - €130 per month, 17% spend €70 - €90 per month and 26% spend less than €70 per month. 17% spend more than €130 a month.

Respondents explained that they aim to reduce their bill to less than €100 per month by maximising the company's offers e.g. Perlico offers include free landline to landline calls and Eircom have a package that includes a certain amount of minutes free to landlines, mobiles and the use of broadband all in one package. Conversely, some respondents find it hard to reduce their bills as not everyone is at home all the time and find themselves ringing the mobile phone instead.

76% of respondents have internet access in their home in which 89% use broadband. Only 11% use dial up for internet access and, quote, were *"extremely unhappy with the service because of the slow connection and speed of downloading and uploading data"*. 78% of internet users do not use the same internet service as the landline telephone service as they seek for cheaper offers. 40% of the internet users are using mobile internet service as they are more convenient for laptops and being on the go. 62% of Eircom customers acquire both the fixed line telephone service and internet access from the company. One particular resident felt strongly about the issue of nationwide coverage of internet access: *"In parts of rural Ireland, it is quite hard to get full coverage of any internet service where the internet may crash in mid process, the loading of web pages is quite slow etc."*

Figure seventeen illustrates the popularity of each company for internet service. Out of the mobile companies, Vodafone and 3 are the most popular internet providers because of the speed and expedience. Eircom is quite popular also as broadband is normally included in their offers package.

Q16. Internet Service

■ Eircom ■ Perlico ■ Talk Talk ■ Vodafone ■ O2 ■ Meteor ■ 3 ■ Other
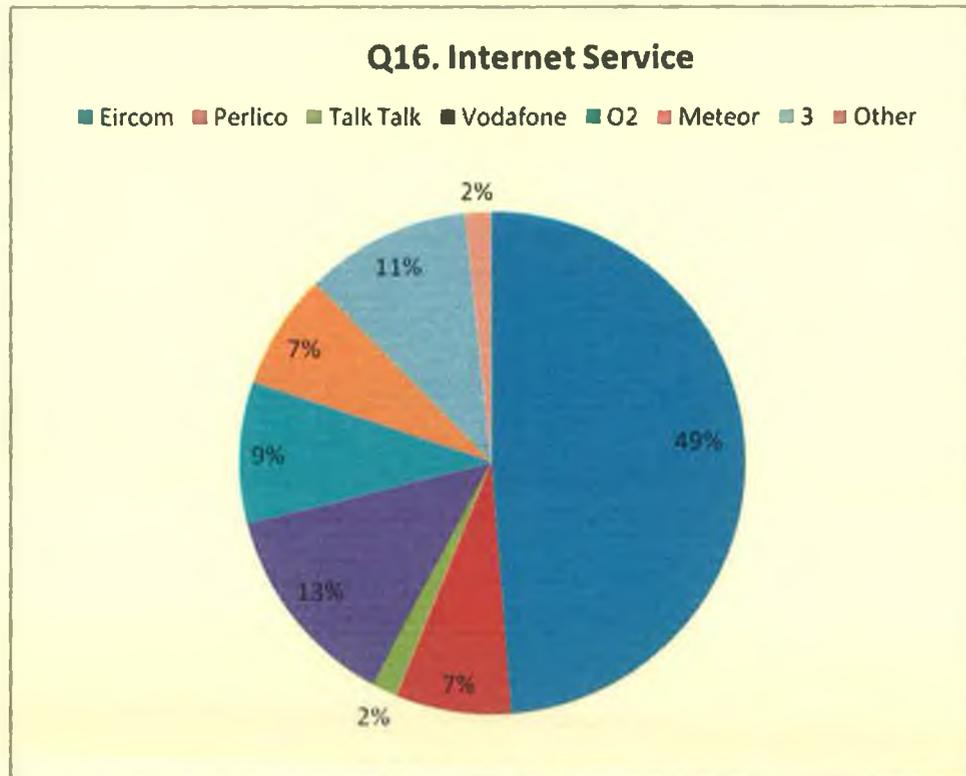
Figure 17: Internet Provider Companies

Out of the six hundred and twelve residents involved in the survey, 98% owned a mobile phone in which 38% owned two or more mobiles. Some stated that the second mobile was used for work keeping phone calls separate from personal calls and others stated that they got another phone for different functions e.g. some bought the iPhone as a second mobile to download music, games, applications etc.

Out of the one hundred sixty respondents just two did not own a mobile phone and 94% of that group claimed that they used the mobile phone more often than the landline telephone (Figure 18).
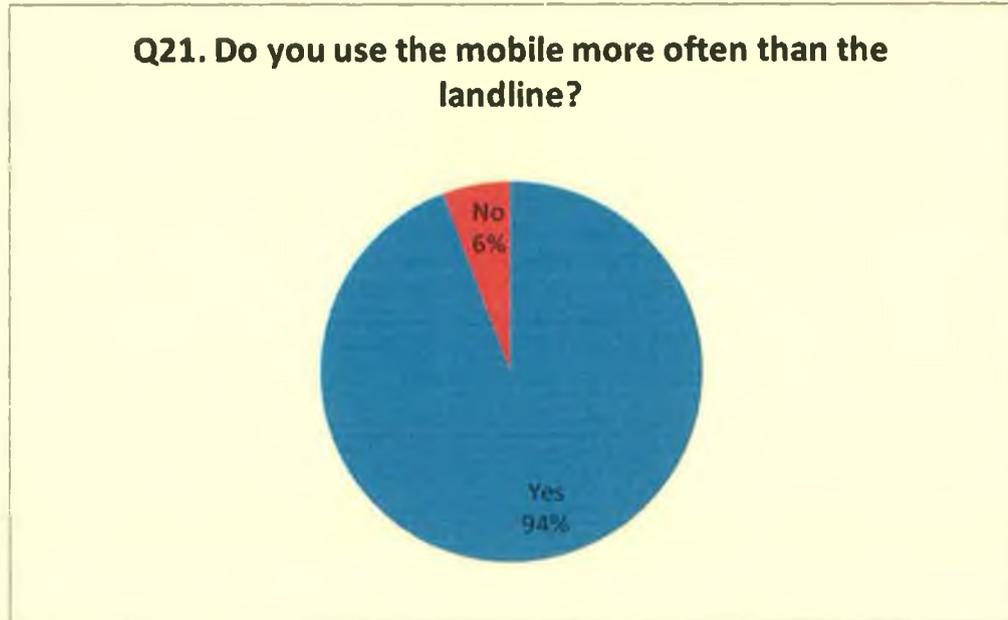
Figure 18: Mobile Vs Landline Telephone

Vodafone leads the popularity level with the respondents with 31% using their service followed by O2 (28%), Meteor (26%) and 3 (13%). Not many people are using 3 Mobile Network but stated that they found their mobile broadband access to be quite good especially in the more rural parts of Connacht.

In relation to the future outlook of the Residential Landline Phone Service, 74% of landline customers have thought of discontinuing their landline telephone (Figure 19) due to the fact of being too expensive and being rarely used.
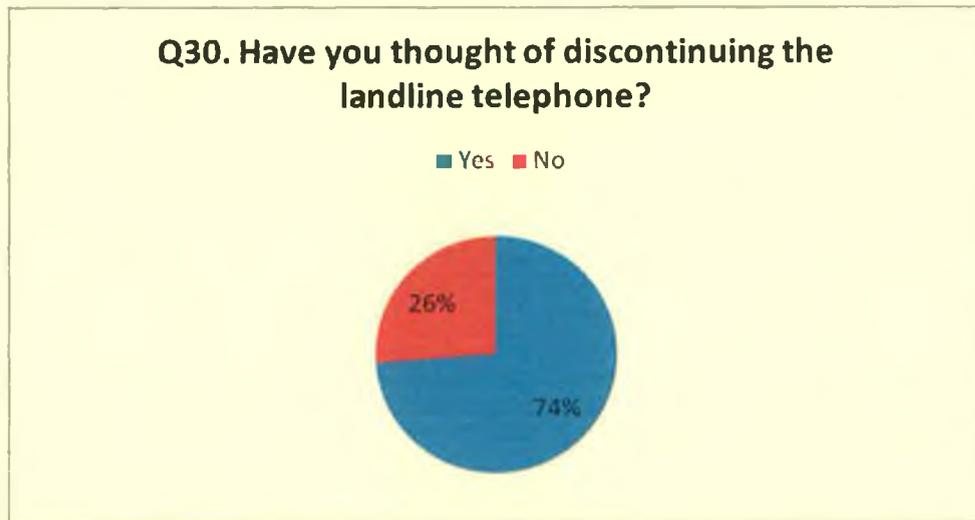
Figure 19: Discontinuing the landline telephone

From the one hundred and forty nine mobile users, 85% believed that they will be fully dependent on the mobile phone in years to come eradicating the fixed line telephone in their household. The remaining respondents felt that there are safety issues with the mobile phone regarding 24 hour full coverage, battery life, the safety of having a fixed line telephone installed into the household etc.
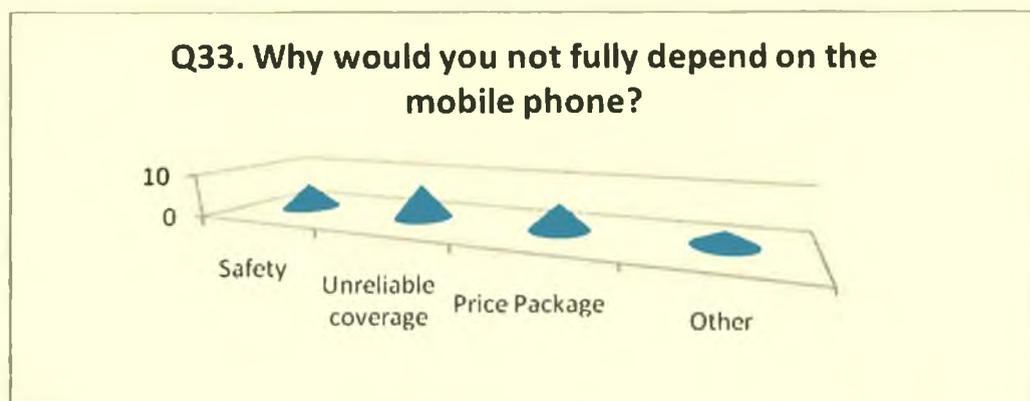
Figure 20: Dependency on the mobile phone

Extra views obtained from the respondents included:

"...feel that the landline is more secure and confidential ... broadband could be monitored by state services which is not a nice thing knowing someone else is tapping into your internet service..."

"... I really loath those that ring up from a telephone company and hassle you to change to their service ... they non-stop ring until you do..."

"... it is always convenient to have the landline as the mobile coverage, especially in the country areas, can be unreliable at times... however, mobile usage is the most popular as text messages make a quick and handy method to communicate..."

In general, with the data gathered from the questionnaires it is quite evident that people are opting against the landline telephone service mainly because it is too expensive and majority of the population obtain a mobile phone. In addition to the figures illustrated in the graphs and charts, it is clear that a high number of people are losing interest in the fixed line telephone as there are cheaper and better means of communication. Respondents that did not own a mobile phone were in the age bracket of 80+ which seem to be keeping the landline service alive. Social networking is becoming more predominant worldwide and is affecting the usage of the landline telephone service. With the closing remarks and the results for the future outlook of the fixed line telephone service, there is a high probability or high level of confidence that the majority of the population will discontinue their landline phone in years to come.

4.3.4 Analysis of the Interviews

4.3.4.1 Interview A: Eircom

A list of questions was generated and categorised in a coding frame prior to the Interview which was with a member of Eircom's Management of the Western Region of Ireland (Appendix D). The interview was successful as an abundance of information was gathered (please see Appendix E for full citations). In association with the coding frame the interview is analysed under the theme headings evaluating the data collected.

1. **Marketing:** When Eircom bought Meteor for €440 million, they marketed Meteor as Eircom Mobile so that they would have their company name associated to their new mobile offer, and also to conceal the substandard image of Meteor of bad coverage and association with a young customer base. As well, the Eircom brand itself is saving the company's reputation as the interviewee stated *"there is an inertia out in the market place that people are reliant on Eircom almost loyal in the way that they don't want to leave but do complain that they are expensive"*. In relation to the pricing element of marketing, Eircom are almost imitating IBM in the 1980's, a multinational corporation which had a slogan of *'dearer but better'* in their marketing campaign. Eircom are using this image to portray themselves as a high quality service provider reducing the impact of setting a high price. This is one strategy that Eircom are using to reduce the impact of the decline of the landline telephone service but needs to be enhanced more to build competitive advantage.

2. **Customer Service:** As Eircom is highly regulated their customer service is affected e.g. if a customer is looking for a deal or something extra in their package it may have to be refused as all new offers have to be made available to customers nationwide. If they agreed with their customers all the time they could lose millions. It is a very restricted system but Eircom have to stand by the decree.

The interviewee admitted that Eircom has "*... poor quality customer service ...slow to react to problems ... waiting period for a customer regarding fixing problems of the service can be quite long ...*". To minimise the amount of people leaving Eircom, the company needs to improve on their customer service.

3. **New Technology:** In today's modern world, younger people adapt at a quicker pace to new technology and are leaps ahead of the older generation. Hence, there is an imbalance of age groups using new technology. Skype is becoming popular particularly with the youth as "*... it is cheaper for users e.g. student, holiday packer etc*" and the "*Special factor of it is seeing the person on line and talking to them rather than over the phone*". Skype is not a major issue to Eircom at the moment as there are issues of VOIP with Skype but it deems to be a threat in years to come. Wireless technology and fibre optic systems are also affecting the landline phone service which is fully discussed in future outlook.

4. **Business Performance:** New developments of housing estates are not being wired anymore as people are installing wireless technology. Eircom are losing quite a lot of business because of this issue as they use to pre-cable the establishments and connect the residents to their landline telephone service acquiring profit. Additionally, the use of dial up connection for the internet is dying out because of its extremely slow speed and connection break downs. The interviewee stated that "*dial up had 28 k – 32 k per second where broadband has 3 mb per second*" hence broadband are quickly overtaking dial up internet. The most that would use dial up connection would be Banks for confidential purposes.

Eircom seems to be getting most of their business from their Eircom PhoneWatch sector where burglary alarms are connected to the landline service, and also elevators in buildings have a direct connection to the fixed line for emergency calls.

5. **Retention:** As mentioned above, Eircom are highly regulated making it difficult to retain their customers to competitors. Eircom aims to maintain custom by evaluating the customer's bill highlighting the problem areas e.g. increased calls to mobile phones. They also do *"add on services"* where they would offer (if allowed by Comreg) extra services to their package such as free minutes to landline/mobile, internet connection etc.

   Normally, if a customer leaves Eircom the company is notified by the CAU (Central Authorisation Unit) giving limited time to Eircom to defend their business. The company has set up a call centre in regards to this issue to call customers and offer their *"add on services"* or help them to reduce their monthly bill to maintain custom. It is evident that Eircom are very restricted of what they can offer due to the regulations also being a contributory factor to the decline of the residential landline service.

6. **Social Issues:** The Eircom Manager stated that the *"older generation is holding on to the service resulting the landline phone service surviving"*. Old Age Pensioners (OAPs) are getting their landline rental paid for by the Social Welfare Department thus main reason of the older generation using the landline service. However, the interviewee also presumes that not every OAP would know that this is available.

   He added that "i*n the 1980's if you didn't have a landline phone in your home you were deemed not that important, now everyone has a mobile - a device that you have to have ..."* In association to the company's surveys, they have found that households with teenagers residing in the home have cut their landline telephone service due to rising bills i.e. teenagers using the telephone for numerous phone calls. The household then resorts to the mobile phones for communication. Furthermore he affirmed that nowadays if you knew an individual that has a landline telephone you would still ring the mobile.

7. **Revenue:** Eircom's revenue has been affected greatly and has been declining on a year on year basis. The manager stated that the company describes it as "*the pillarising of legacy networks by new technologies ...*", basically affected by the introduction of new technologies e.g. dial up was a massive earner for Eircom but this has been affected by the introduction of broadband. It was declared by the interviewee that although Eircom is profitable earning €7million a year, they are €14 million in debt. The corporation responds too late when they have lost 20% of their revenue and then "play catch up" with their competitors. The manager maintained that Eircom "*is being reactive, not proactive ...*" which is not an ingredient of success.

8. **Competition:** Eircom are being highly affected by their competitors. Perlico would not be their most threatening competitor as they simply use literature for their advertising and would not have a large customer base. The larger competitor that Eircom are monitoring at the moment is Vodafone – "*cash cow - they are making loads of money*" at the moment with their new campaign; '*Vodafone at Home*'. Also, a new ominous competitor is Imagine - a wireless technology provider designed to give you high speed internet access and an advanced phone service with no line rental charge. Eircom are trying to compete against these companies by bringing out new offers such as Talk Time Packages. However, Eircom is quite vigilant of these competitors as they are becoming more competitive in the market place.

9. **Regulation:** As aforesaid, Eircom is extremely regulated where ComReg monitors their activities so that they will not affect the smaller telephone companies. It is quite difficult for Eircom to successfully compete with the stronger competitors as they are checked by the government body. As a result, Eircom's 85% share five years ago has been reduced year on year due to losing customers to their competitors; "*They still have a big proportion of business but people are moving away slowly...*" The tight regulation has depreciated Eircom's competitive advantage considerably.

10. **Future Outlook:** In order to survive the highly competitive marketplace, and to recover from the situation of being heavily in debt, Eircom are re-structuring their company. Companies were brought into Eircom to re-innovate such as Singapore Telecom who stripped the company from 14,000 to 6,000 employees and TelecomBCN (a Spanish telecommunication school) to move the assets out of the business. Eircom has to meet drastic measures to move away from the problem of being insolvent.

In correlation of avoiding liquidation, Eircom are aiming to enter large growth areas. Wimax is one growth area which is a telecommunications protocol that provides fixed and fully mobile internet access and will improve the speed of uploading and downloading data on the internet. In addition to Wimax, Eircom intends to introduce "Converge Technology" which is *"where VOIP, broadband, mobile etc are combined"*. Also, they aim to launch a phone that will be a mobile and also a landline telephone.

The second large growth area is fibre optic communications moving away from the copper wire i.e. fixed line telephone. Even though copper is one of Eircom's profitable sellers, it is also becoming a hindrance as it is high maintenance and expensive to buy – rain even effects the copper connection which affects the landline telephone service. The Western Region Manager stated that *"the Managing Director instructed six months ago to stop buying copper to have fibre all the way"*. However, this was not practicable enough as they would need copper to fix breakages. Yet this statement shows that Eircom are serious of moving fully to fibre optic communication as a *"... future aspect of Eircom is having one connection for the home, for TV, broadband, telephone etc ... instead of a dish you can get fibre, all for a cheaper price... "*.

When interviewing Eircom's Western Region Manager, the main issues highlighted were that Eircom are too slow in reacting to problems and are not proactive. Also, Eircom cannot afford to make mistakes, hence their introduction of new technology is slowed down as it *"needs to be 101% fully proven and proved"*. This allows time for competitors to introduce it first; a strategy not always recommended. With the intensity of the competition in the telephone market and with new technology, it is having a high impact on the telephone service provider, Eircom. Revenues are evidently declining and customers are moving to mobile devices for communication all of which are having a negative impact on the usage of the fixed line telephone service.

4.3.4.2 Interview B: Vodafone

In correlation with Interview A, a similar coding system and comparable themes were used for Interview B which was with Vodafone's Insights Manager (shown in Appendix F). Regrettably, the interviewee could not meet personally with the author but conversed via email and telephone. The coding system was still used to answer the questions that were prepared for the interview. Also, unfortunately, the interviewee could not answer all the questions fully as it was prohibited by the company (Please see Appendix G for full citations). Referring to the coding frame in Appendix F, Interview B is evaluated under the theme headings as follows.

1. **Marketing:** Vodafone endeavours to be up to date with their offers satisfying high demanding customers as they *"aim to sustain market leadership"*. Vodafone's style of marketing is one of celebrity endorsements and sport involvement to attract the attention of society nationally and internationally. One particular advertisement attracted quite a lot of media and attention from the public when they brought out their new landline phone system. Vodafone's technique of creating awareness of their service is one of vibrancy and cleverness whilst generating intensity with their competition.

2. **New Technology:** Vodafone keeps up to date with new technology and tends not be affected by certain aspects such as social networking e.g. Facebook and Skype. Customers use *"their service to access the new communication technology such as Skype".* With their wide range of mobile phones particularly the iPhone and providing broadband in their *'Vodafone at Home Package',* the company deems not to be too concerned about the affects of certain new technology i.e. you can use the iPhone to go on line and go on Skype or you can use the mobile broadband at home for social networking. In addition, Vodafone are determined to maximise the benefit of fibre optic communication.

3. **Business Performance:** Vodafone expanded by creating partnership with BT in 2009 and in return their *"customer base has extended and ... ratings for the service have improved".* The overall result of this agreement is that Vodafone were able to introduce their new service using BT's services; *'Vodafone at Home'* with the pursuit of generating income.

4. **Social Issues:** In regards to Vodafone's customers, they acquire *"a general customer base ranging between young and mature individuals"* but yet stated that they concentrate mainly on the younger group of people as they adapt quicker to new technology and are more fashion conscience. As well, younger couples are going mobile with broadband internet access and telecommunications when moving into new households.

5. **Revenue:** Information could not be submitted regarding this theme due to company's policy but the interviewee stated that in May 2010 data was published declaring that the Vodafone *"group revenue increased approximately 8.3 per cent and service revenue for the group rose 8.9 per cent".* These are promising figures and are considered to be the result of launching their new service; *'Vodafone at Home'.*

6. **Competition:** On the basis of the residential landline telephone service sector, Vodafone perceive Eircom as their main competitor as they hold a large amount of the market share. Fury rose between the two competitors when Vodafone's advertisement was released showing households changing the colour of their door to red (Vodafone's brand colour) and initiating householders to '*show Eircom the door*'. Eircom's Talk Time Packages were compared with Vodafone in this particular advertisement announcing that "*customers save 20% more equivalent to Eircom*". Eircom responded with a similar advertisement but household owners stripping the red colour and painting it orange (Eircom's brand colour). It is clear that there is strong competition between these two companies and Vodafone are closely monitoring Eircom's progress in this sector.

7. **Future Outlook:** Due to the account of the company's policy of disclosing particular data, the interviewee was restricted in offering information of Vodafone's future outlook. However, as aforementioned, the researcher believes that Vodafone will invest heavily in fibre optic communication systems.

The analysis of Interview B shows that Vodafone aims to be a strong competitor in the landline telephone service sector by simply introducing a new and improved fixed line service at a cheaper price. They are obtaining a large number of Eircom's customers particularly the younger age group when moving into new houses. The introduction of '*Vodafone at Home*' has made an impact on Eircom by recruiting their customers, sleek advertising affecting their image etc. Vodafone adapt and introduce new technology to meet the needs of demanding customers, an aspect where Eircom are slow to comprehend.

4.4 Summary

Chapter four contained an analysis of the primary data collected in which was relative to the research topic – *"The Impact of Innovative Communication on the Residential Landline Service in Rural Ireland"*. The target population was stated and an overall description was outlined on each target group first discussing the populace of the Connacht region, and then the companies Eircom and Vodafone that was interviewed. Following this, there was a clear presentation of the analysis of the data which addressed the research question throughout.

4.5 Conclusion

Relative to the primary research analysed, there is a clear manifestation that the landline telephone service is declining due to the introduction of new technology and changing generations. Data gathered from both the questionnaires and the interviews show that the majority of the population are using their mobile phone more often than the landline and would ring mobile phones more frequently. It is clear that the older generation seems to be keeping the landline telephone service 'alive' because of security, free landline rental, full network coverage etc. Eircom, the main telephone service provider of Ireland is being highly affected by these issues as revenue is declining on a year on year basis. Their main competitor Vodafone is benefiting from this impact as they now offer both mobile and landline service of high quality and deem to be doing well in this area. Vodafone is creeping up quickly to Eircom, whom feel threatened by this service provider, aiming to gain a large customer base in this sector.

The following chapter, chapter five involves a discussion of the research study presenting an analysis of the findings in the light of the literature review. It will review the objectives stated in chapter one and define whether the research study has fulfilled these objectives. Recommendations are suggested in regards to the research report and it will also highlight areas with the proposition for further research.

5. Discussion

5.1 Introduction

Chapter five is the last chapter of the research study which presents the answer to the research question supported by the data gathered. The data interpreted will be compared and contrasted in view of the literature review and the rationale of the research will be discussed. The objectives of the research outlined in chapter one will be revisited and recommendations will be made in regards to the research topic. No new information is included in this chapter as it is solely discussing the information researched throughout the study. With the informed opinion and judgement of the writer, areas of further research will be accentuated.

5.2 The Impact of Innovative Communication on the Residential Landline Service of Rural Ireland

In view of the primary objective of the research study; *"to investigate the impact of innovative communication, and particular reference to the social, economic and technical impact against the decline of exploitation of the residential landline telephone service"*, the main principle of the data acquisition is fulfilled. The overall research study has added substantially to the existing body of knowledge.

The hypothesis created from the research study shows that the Irish Residential Landline Service is heavily affected by the introduction of innovative communication as well as the social and economic impact of society to this day. The fixed line service was once a necessity as previous history has indicated but it is now deemed to be a service of declination due to a number of reasons which are highlighted throughout the study.

Innovation is an important element for success as notorious people have identified such as Richard Branson[117] and Albert Einstein[118]. It is the seed to growing a unique product or service and should be nurtured until it becomes successful. However, innovation can have consequences where it may negatively affect other producers which is evident in the Irish Residential Landline Service Sector. This is normally known as disruptive innovation and can be seen when innovative communication was introduced e.g. the mobile phone is a commonly used device worldwide where the number of mobile phones have exceeded the number of people in Ireland meaning that individuals own more than one phone. [119] With regard to this piece of information, the research carried out in the Connacht region highlights the issue that people use the mobile phone more often than the fixed line telephone at home proving the literature stated.

As previous research has indicated, there is evidence of declining figures of landline customers and consequently heavily affecting the service provider Eircom. Their fixed line market, on a year on year basis, has declined by 2% [120] which is confirmed both by ComReg's statistics and Eircom themselves in the interview. However, Eircom feel that they are highly restricted by the statutory body ComReg and are unable to compete fully to their ability as they may negatively affect smaller fixed line service providers.

Research has shown that new technology is becoming more prominent in the communication sector as broadband speed is faster and surfing the net is becoming more popular particularly among the younger generation. The research argues effectively that the younger population are resourcing to mobile communication rather than installing the fixed line telephone in their new homes as identified by Eircom. As well as the social aspect, economically people are cutting costs resulting in disconnecting their landline telephone for numerous reasons such as the 2008/2009 recession[121]. With the changing demographics of people travelling abroad and family moving afar to live, communication is increasing over the internet (using broadband) through Skype and social networks such as Facebook and Twitter as identified by the research both from the questionnaires and the literature.

There is a growing body of empirical evidence that supports the theory that the innovative communication is making a huge impact on the Irish residential landline service as well as socially and economically. Vodafone is now a major competitor in the landline telephone service sector stirring tension within the marketplace especially with Eircom. Eircom feel under threat by the leading mobile phone provider hence they are planning big changes within the company as they are currently restructuring the organisation, a key component of innovation highlighted within the literature. [122]

5.3 Objectives Revisited

As already identified in Chapter One, the secondary objectives of the research are as follows:

- To outline the significance of innovation and how it adds value for the customer in the communication sector.
- To provide a synopsis of the life cycle of the telephone in Ireland i.e. history, how people use to communicate in the past.
- To find out why the number of residential landline users are declining.
- To examine the impact of innovative communication (technical) e.g. mobile, internet, Skype, email etc on the usage of the residential landline telephone.
- To study the social and economic impact regarding cut backs within the present economic climate, the generations or age groups that have or do not have a landline phone within their household etc. (rationale may relate to safety issues, full coverage, the services of the landline phone relating to sky box system, alarm systems etc.)
- To investigate whether Eircom has or has not a strategy to sustain competitive advantage to survive the overtaking of the mobile phone usage within the home, and also how they intend to battle the declining numbers of the residential landline customers. As well, in a comparison view, Vodafone, a mobile operator will be examined to see how they would react to the declining trend of the residential landline service.

5.3.1 The significance of innovation

Indeed there is a strong importance of innovation specifically in the landline telephone service sector. Innovation was first detailed in regards to previous research paying particular attention to disruptive innovation. As the research study proceeded, innovation was identified through the introduction of new technology making an impact on the fixed line sector e.g. mobile phones and social networks such as Facebook. In addition to previous figures, it was apparent that these types of new communication methods were popular among the public when carrying out the primary research.

Also, components of innovation were highlighted predominantly when Eircom stated in the interview that they are restructuring their organisation to improve their business process. Innovation is important in the view of adding value to their service and fulfilling high demanding customers. It is expected by Eircom and Vodafone that fibre optic communication systems, an innovative and futuristic method of communication will excel people's expectations.

5.3.2 The Life cycle of the telephone in Ireland

In order to give a better understanding of the landline telephone system in Ireland, a synopsis of the lifecycle of the telephone was delineated within the literature. To maintain the importance of the landline telephone in past years, it was mentioned in the interview with Eircom that "i*n the 1980's if you didn't have a landline phone in your home you were deemed not that important, now everyone has a mobile a device that you have to have*". As well, relative to this comment, it has supported evidence that the older generation are keeping the landline phone service alive because of dependency, trust issues, security, full coverage etc or even the prospect of just having the landline telephone in the home.

5.3.3 The reason for the decline of the residential landline service

The main reasons for the decline of the residential landline service as identified by Amárach's[123] and ComReg's[124] research is that more and more people are using the mobile phone instead; that the fixed line costs are too high; that connection costs and line rental are too expensive; and increasing numbers of young couples are not installing the fixed line into their homes and instead using mobile connection.

In addition, the new research gathered within the study has supported this literature as from the questionnaires the residents of the western region prefer the mobile phone because of its convenience and quick access. Also, Eircom stated that they are recognising the issue of young couples using mobile communication more so than installing the landline. In relation to competition, it is becoming more intense in the fixed line service sector with particular attention on the mobile provider Vodafone which has strong potential within this area of services.

5.3.4 The impact of innovative communication

As mentioned above, innovative communication, mainly including the mobile phone, social networking (Facebook and Twitter), Skype and Fibre Optic systems are making a huge impact on the residential landline telephone service. They are providing a quicker and cheaper process of communication and becoming more unique. For example, Skype has the exclusive element of seeing the person on the retrieving end of the call.

Also, fibre optic systems allow communication by using light providing extra services such as TV, broadband and telephone line in the one package. Fibre will provide a cheaper source of communication for customers and is deemed to be the next new big thing in telecommunication in Ireland; *"next generation network".*[125]

5.3.5 The social and economic impact

Previous literature has established that there is a social and economic impact on the fixed line telephone service and has been sustained by new research that they are making a significant impact. The population are now going for better and cheaper ways of communicating due to factors such as the recession, fashion standards, convenience elements etc. It was stated that Eircom are a very expensive service provider as they are the dearest in the EU alone. [126]

As younger people are quicker in adapting to new technology, they are funding the growth of usage of new communication systems. Primary research has shown that the younger generation are using the new upcoming communicative technology where the older generation are committing to the service of the fixed line telephone. When there was an era of having the landline phone as a necessity, there is now a new era where mobile communication is a necessity for convenience reasons as well as fashion reasons particularly with the younger generation.

5.3.6 Eircom's Strategy and Vodafone's Response

Firstly, in the prospect of creating a strategy to over come the above impacts, Eircom are quite restricted due to the fact of ComReg's regulation. The company are limited in what they can offer to their customers, hence not fully satisfying their demands. Eircom has introduced packages such as Talk Time packages to compete with their competitors but as they are quite dear customers are shopping elsewhere finding cheaper prices for the same service. As well, in the view of improving competitive advantage and avoiding the issue of insolvency, Eircom are currently restructuring their organisation, a component of innovation. The restructuring has resulted in a loss of jobs, a factor not benefiting the current climate, and also taking their assets out of the business to avoid debt. This strategy is one of radical innovation and rapid change but intends to be for the good of the business.

Secondly, Vodafone are becoming the new and upcoming threat to Eircom, Ireland's leading landline telephone service provider. Vodafone are launching eye catching advertisements in regards to their fixed line service. They have used an advertisement to compare their offers to Eircom resulting in harming Eircom's image. Eircom reacted with a similar advertisement but was deemed as copying their idea. The conflict between the companies has attracted interest of the public highlighting the fact that Vodafone may be better than Eircom. Vodafone's approach of entering the landline telephone market was one of disruption yet was one of success as they have acquired quite a lot of custom. Vodafone are using their profound reputation of being the leading mobile phone service provider[127] to sustain competitive advantage in the fixed line telephone service market.

5.4 Recommendations

In view of the research analysis, the author has made a number of recommendations for the companies to improve their performance. With regard to innovation, businesses need to take risks to improve their competitive advantage and retain their customer base.

Eircom need to take chances and introduce something new and attractive at a lower price. The company should initiate disruptive innovation within the market place and to become proactive rather than reactive. They should invest heavily in fibre optic communication systems, a new upcoming feature and present it to the marketplace before their competitors do. New technology should be their main area of enhancement as the younger generation are much quicker at adapting to new technology. Advertisements should be unique with inimitable elements rather than copying their competitors i.e. Vodafone. In order to overcome the issue of the decline in the residential landline telephone service, Eircom needs to be one step ahead of competition rather than continuingly catching up losing their customers to cheaper and better brands. As well, relative to the feedback of the questionnaires, Eircom should improve their broadband coverage network and Meteor mobile phone coverage in rural areas as it will increase their customer base.

On the other side of the battlefield, Vodafone should take full benefit of Eircom's weaknesses i.e. a highly regulated company. Any offer that Eircom make Vodafone could match with better. They already have a large customer base in the mobile phone section in which they could influence them to be a customer of their fixed line telephone service in their home. Vodafone have no insinuations of bad debt or financial difficulty. Therefore, as a cash cow, they should use the extra capital to fund their landline phone service and increase the intensity of competition with Eircom.

On a mutual consensus, a recommendation that may not be fully appropriate for the marketplace but would benefit both companies is a partnership of Eircom and Vodafone in the landline phone service sector. Skills, knowledge, resources, finance etc will be shared among the companies which may help Eircom with their monetary situation and help Vodafone to progress further in the fixed line phone service sector. They both could progress into the fibre optic communication service without difficulty and enter the market place quicker. The companies may benefit from the National Development Plan 2007-2013 to enhance innovative technology. Customers may not benefit entirely from this due to loss of competition with price, but would have their demands fulfilled and receive a high quality service.

In view of the households that were researched, the author recommended that they should be made fully aware of the company's offers by ComReg to allow them to make an informed decision of choosing their landline telephone service provider. Information booklets should be produced and issued to the households of Ireland on a yearly basis or every six months notifying them of prices, services available, coverage area of broadband access etc.

5.5 Implications of Further Research

This study involved a broad survey of the households in the Western Region of Ireland concentrating on the counties Galway, Mayo and Roscommon. Due to the limitation of finance and time, an area of interest for further research would be to research other geographic regions of Ireland i.e. Leinster, Munster and Ulster. Relative to the primary research conducted, the probability of discontinuing the landline telephone may be substantially higher if research was carried out in more regions. A trend may be recognised throughout counties e.g. mobile usage is bigger in Dublin than Donegal due to being densely populated or have more Colleges/Universities in Dublin. Additional views of the issue could be more laudable as it may benefit the investigation of whether the service will die out or not.

Due to the restraint of information from Vodafone, another interesting area of further research would be a case study on this company regarding their view and their future outlook of the fixed line telephone service sector. There is concern in the market place that Vodafone will become a strong and profound competitor with potential to outrun other companies in this sector and it would be interesting to see if they have any significant plans for the forthcoming future.

Hypothetically, research has shown that there is a significant decline in the use of the landline telephone service, an area that can be further delved in. However, in relation to ComReg's research published in July 2010, data showed that there was a slight increase in the fixed line service towards the end of 2009 and the beginning of 2010. Keeping limitations in mind, the researcher was unable to fully research on this new finding, hence, it is an appealing area for further research to identify the reasons for this slow increase.

5.6 Conclusion

This chapter has exemplified the accomplishment of the objectives that were set out at the beginning of the research study. The opening of the chapter involved the discussion of the primary objective and was followed by the secondary objectives. Recommendations were suggested with regard to the companies researched and for the landline customers of the Western Region of Ireland. The section closed with implications of further research which has crystallised the idea and created an opening to investigate more into the telecommunications sector.

Overall, the in-depth analysis of the findings in light of the literature review has shown that there is a high possibility of the landline telephone service being discontinued in future years. The results of the primary research were examined and interpreted while comparing and contrasting them to preceding published writing.

All in all, an historical service has been impacted negatively where consumers are moving to mobile communications instead. New technology is becoming more prominent particularly with the younger generation which will influence the next era down. In light of the phenomenological study, the companies involved within the fixed line service sector may benefit from the recommendations stated above specifically in the area of innovation as it is can create a successful outcome. With an empirically informed opinion, the researcher has identified areas for further research when keeping in mind of the limitations that restricted the expansion of the study.

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Appendices

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Appendix A: Questionnaires

GMIT
GALWAY-MAYO INSTITUTE OF TECHNOLOGY

"An Empirical Study: The Impact of Innovative Communication on the Irish Residential Landline Telephone Service in Rural Ireland."

Researcher: Corina Delaney

Dear Candidate,

This survey is conducted as part of a Masters of Business in Innovation and Strategy Management in the Galway Mayo Institute of Technology, Galway. The aim of the questionnaire is to gather information regarding the declining use of the residential landline telephone service. The information gathered will be used to clarify the main reasons for the decline. The survey is an important part of the data collection process and should only take five minutes of your time to complete. Please be assured that the information obtained from this research will not be disclosed and the information gathered will be kept strictly confidential. All individual's comments will be kept anonymous.

Thank you for your cooperation and taking the time in completing the questionnaire as your participation represents a valuable contribution to the research.

Yours sincerely,

Corina Delaney

Section 1: Introduction

This section is to determine the respondent's profile.

(Tick the boxes)

Q1. Please select the County that you have residence in?

- Galway ☐
- Roscommon ☐
- Mayo ☐

Q2. How many are living in the household?

- Less than 3 ☐
- Less than 5 ☐
- Less than 8 ☐
- Less than 10 ☐
- Other (please specify) ☐

———————————

Q3. What age group do you fall into?

- 18 – 25 ☐
- 25 – 35 ☐
- 35 – 45 ☐
- 45 – 60 ☐
- 60 – 80 ☐
- 80 or over ☐

Q4. If any, what age group does your spouse fall into?

- 18 – 25 ☐
- 25 – 35 ☐
- 35 – 45 ☐
- 45 – 60 ☐
- 60 – 80 ☐
- 80 + ☐

Q5. If any, what age group does the other residents of the household fall into? Please state the number of residents beside each age bracket that you select.

No. of Residents

- 0 – 10 ☐ ___
- 10 – 18 ☐ ___
- 18 – 25 ☐ ___
- 25 – 35 ☐ ___
- 35 – 45 ☐ ___
- 45 – 60 ☐ ___
- 60 – 80 ☐ ___
- 80 + ☐ ___

Q6. What is the occupation title of the household's bills payer? E.g. doctor, house wife/husband, teacher, delivery vehicle driver, farmer etc.

———————————

Q7. Is there any family member/s currently living abroad?

Yes [   ]   No   [   ]

Q8. If yes, how many, and what geographic region are they currently living in?

- No. of family members living abroad _____
- Geographic region _____

  _____

  _____

Q9. Do you use a fixed landline telephone service in your household?

Yes [   ]   No   [   ]

Note: Please feel free to add any extra information here that you consider necessary for this section.

_____

_____

_____

_____

_____

_____

_____

_____

Section 2: Communication

This section is to clarify the main elements of the telephone service you are currently using in your household.

(Tick the boxes)

Q10. What phone company do you get your telephone service from, excluding the line rental?

- Eircom [   ]
- Perlico [   ]
- Talk Talk [   ]
- BT Ireland [   ]
- Euphony [   ]
- Smart Telecom [   ]
- Other (Please Specify)

_____

Q11. On the Rating Scale, circle the appropriate number relative to how satisfied you are with the telephone service that you are currently using?

Unhappy   Average   Happy

1   2   3   4   5   6   7   8   9   10

|---|---|---|---|---|---|---|---|---|

If unhappy, please explain why e.g. expensive, poor service etc.:

_____

_____

_____

_____

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Q.12. Approximately how much would your telephone bill be for one month?

- Less than €50 ☐
- €50 – €70 ☐
- €70 - €90 ☐
- €90 - €130 ☐
- €130 - €160 ☐
- €160 or more ☐

Q13. Do you have internet access?

Yes ☐   No ☐

Q14. If yes, do you use dial up internet or broadband?

_____

Q15. Do you use the same service for both the telephone service and the internet?

Yes ☐   No ☐

Q16. If no, please specify the company you get the internet service from e.g. Eircom, Vodafone etc.

_____

Q17. On the Rating Scale, circle the appropriate number relative to how satisfied you are with the internet service?

Unhappy   Average   Happy
1 2 3 4 5 6 7 8 9 10
|---|---|---|---|---|---|---|---|---|

Q18. If unhappy, please explain why e.g. expensive, slow connection etc.

_____

_____

Q19. How many residents of the household own a mobile phone?

- None ☐
- 0 – 1 ☐
- 1 – 3 ☐
- 3 – 6 ☐
- 6 or more ☐

Q20. Do any of the household's residents own 2 or more mobile phones?

Yes ☐   No ☐

Q21. If yes, how many residents?

_____

Q22. In general, do the residents of the household use the service of the mobile phone more often than the landline telephone service?

Yes [   ]   No [   ]

Q23. If yes, please tick below the appropriate reasons.

- Do not have a landline phone [   ]
- Cheaper to use the mobile [   ]
- Have quicker access to mobile [   ]

Q24. What mobile phone service does the residents of the household use?

No. of Residents

- Vodafone [   ]
- O2 [   ]
- Meteor [   ]
- 3 [   ]
- Other (please specify) [   ]

_____

Q25. Have you heard of Skype, a programme that you can use for communication over the internet?

Yes [   ]   No [   ]

Q26. If yes, do you use it regularly?

Yes [   ]   No [   ]

If yes, how often do you use it?

- Daily [   ]
- Once a Week [   ]
- Once a Month [   ]
- Once a Year [   ]

On average, how long would you spend using Skype?

- Less than 1 hour [   ]
- 1 hour to 2hours [   ]
- 2 hours to 3 hours [   ]
- 3 hours or more [   ]

Q27. Would you use Skype more often than using your mobile phone or the landline telephone?

Yes [   ]   No [   ]

Q28. Have you a Facebook or a twitter account (social network)?

Yes [   ]   No [   ]

Q29. If yes, how often do you spend using the service?

- Less than 1 hour
- 1 hour to 2hours ☐
- 2 hours to 3 hours ☐
- 3 hours or more ☐

*Note: **Please feel free to add any extra information here that you consider necessary for this section.***

_____

_____

_____

_____

_____

_____

_____

_____

Section 3: Future Outlook

This is to determine your future plans of the residential landline telephone service.

(Tick the boxes)

Q30. Have you ever thought of discontinuing the landline telephone service?

Yes ☐   No ☐

Q31. If yes, why would you discontinue the service in your household?

- Expensive ☐
- Rarely used ☐
- Hindrance ☐
- Other (please specify) ☐

_____

_____

_____

_____

_____

Q32. Can you see yourself fully dependant on the mobile phone in the coming years?

Yes ☐   No ☐

99

Q33. If no, why would you not depend on the mobile phone solely?

- Safety of having a fixed landline telephone installed ☐

- Mobile's unreliable network coverage ☐

- Excellent price package with the telephone service ☐

- Other (please specify) ☐

_____

_____

_____

_____
_____
_____
_____
_____
_____

If you have any extra thoughts on the issue of the decline of the Residential Landline Service, please feel free to share your views with the researcher.

Thank you for taking the time in completing this questionnaire.

Appendix B: Data Analysis of Questionnaires

Q1. No. of Households per County

Q2. No. of Residents per Household

Q3 & 4. Age Groups

Q5. Age Group of Residents

Q6. Occupation of Bill Payer

Q7. Family Members Living Abroad

101
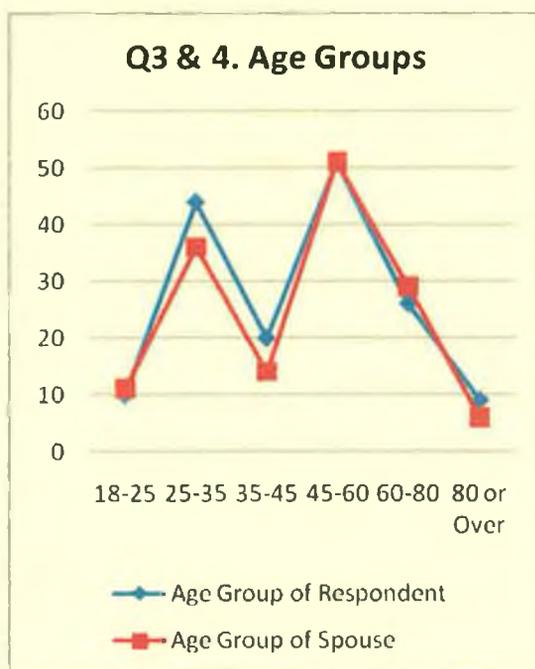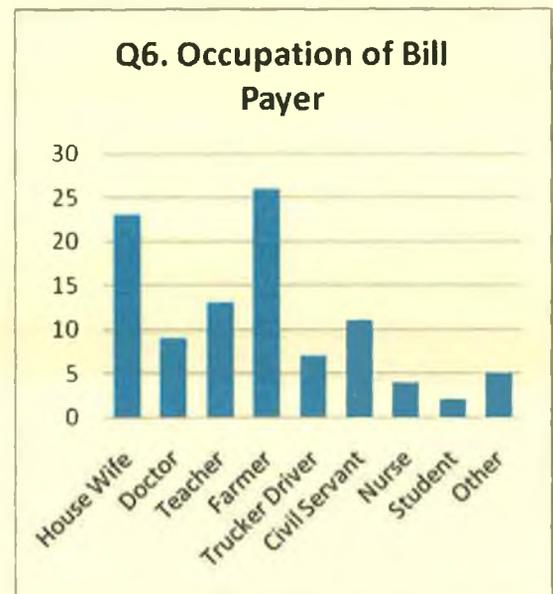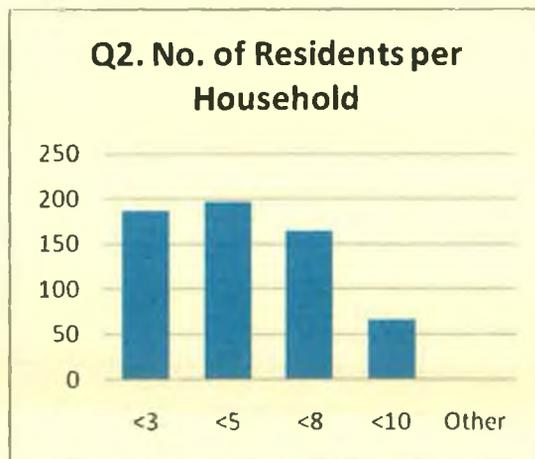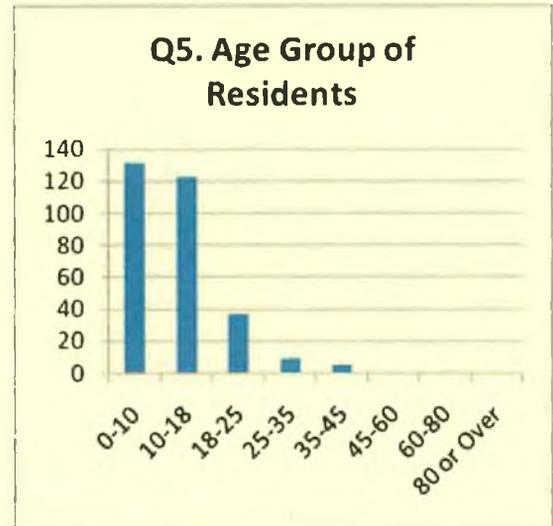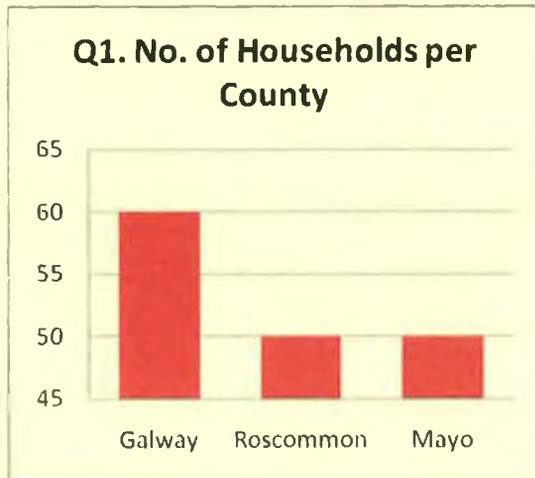
Q8. Geographic Region

- New Zealand
- Australia
- USA
- Canada
- Europe
- Other

6%
17%
27%
8%
11%
31%
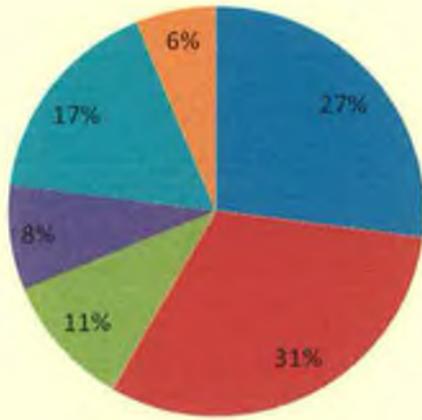
Q10. Telephone Company

- Eircom
- Perlico
- Talk Talk
- BT Ireland
- Euphony
- Smart Telecom
- Other

2% 3% 3% 2%
4%
11%
75%
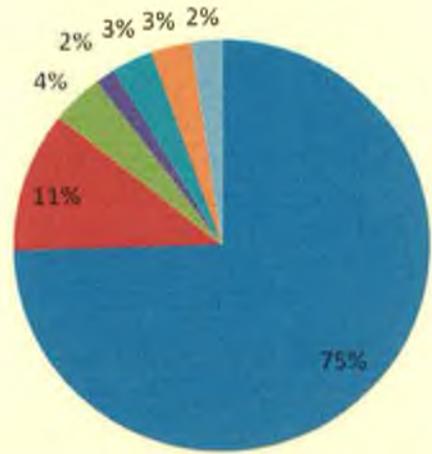
Q9. Fixed Landline Telephone

- Yes
- NO

21%
79%
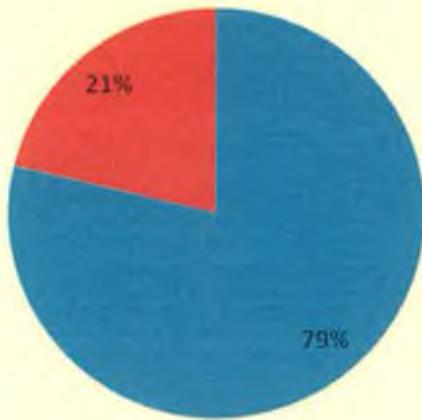
Q11. Satisfaction of Telephone Service

45
40
35
30
25
20
15
10
5
0

41
39
18
15
13

Unhappy   Average   Happy
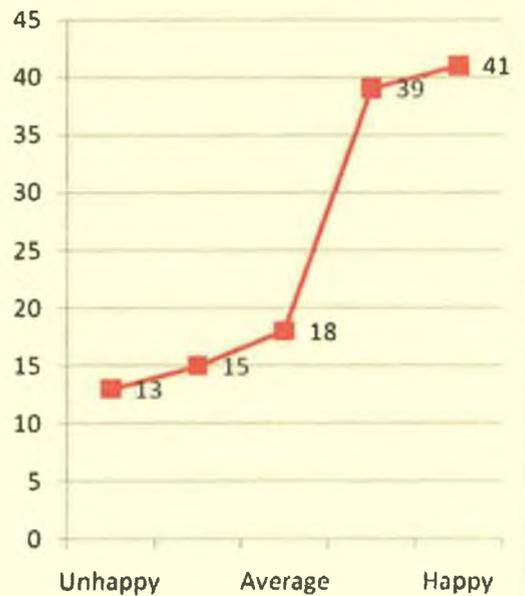
Q12. Telephone Bill per month

14	19	22
	49	18
		4

< 50   €50 - €70   €70 - €90   €90 - €130   €130 - €160   €160 or more
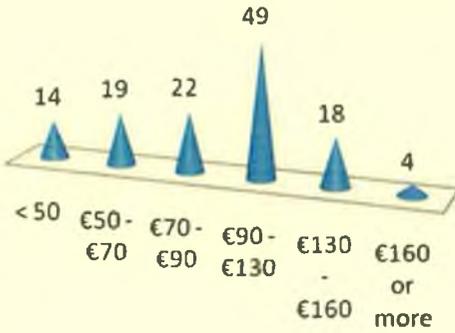
Q15. Do you use same service for both phone and internet?

Yes 22%

No 78%

Q13. Internet Access

Yes   No

Q16. Internet Service

■ Eircom   ■ Perlico   ■ Talk Talk
■ Vodafone ■ O2   ■ Meteor
■ 3   ■ Other

2%
11%
7%
9%
13%
2%
7%
49%
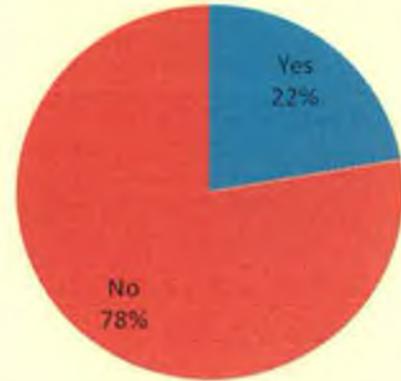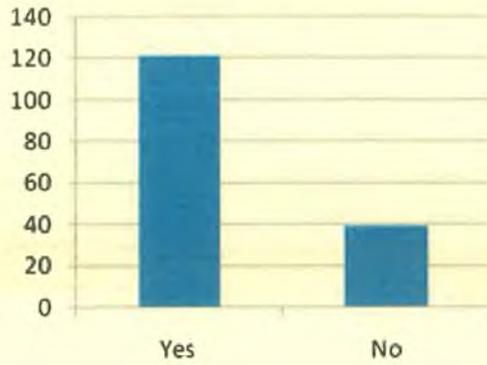
Q14. Do you use Dial up or Broadband?
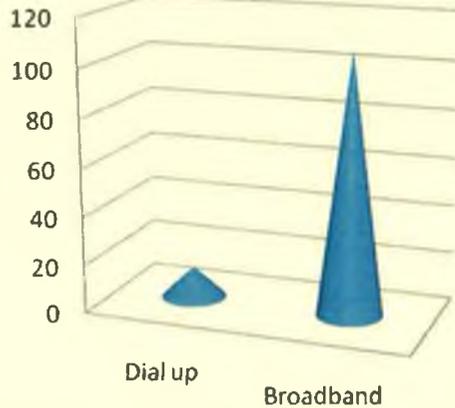
Dial up   Broadband
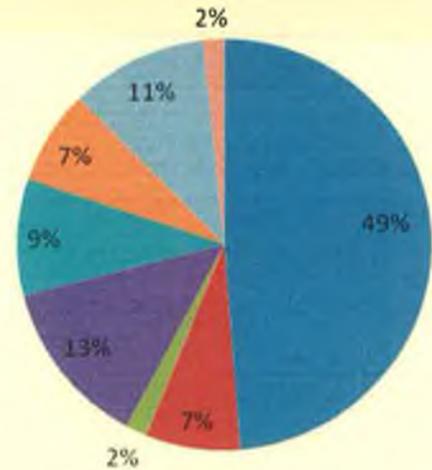
Q17. Satisfaction of Internet Service

Unhappy — 16
— 20
Average — 24
— 27
Happy — 34

Q20. Own 2 or more Mobile Phones

■ Yes ■ No

38%

62%
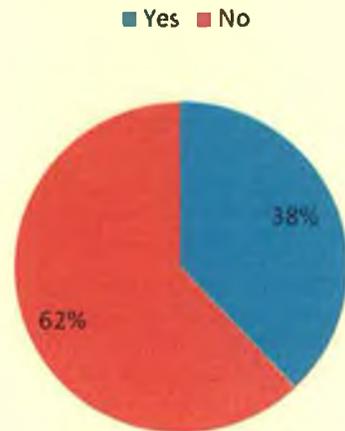
Q19. No. of Residents Owning a Mobile Phone

None
0-1
1 - 3
3 - 6
> 6
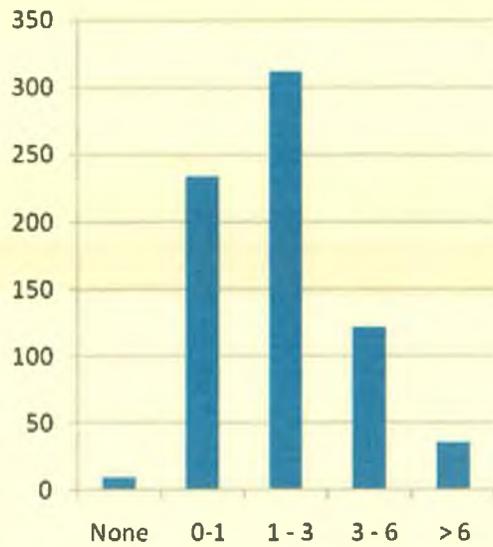
Q21. Do you use the mobile more often than the landline?

No
6%

Yes
94%
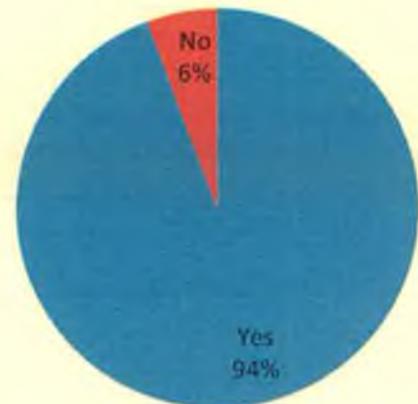
Q22. Why do you use the mobile more often?
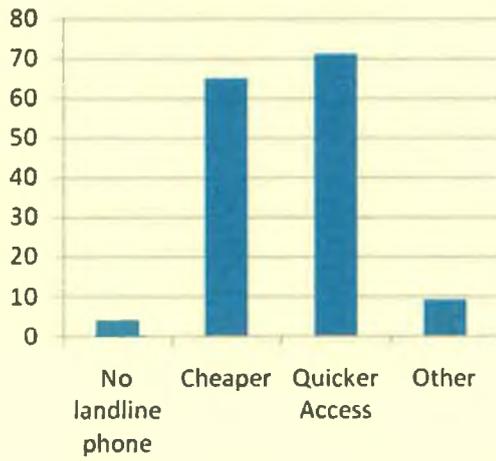
Q24. Familiar with Skype
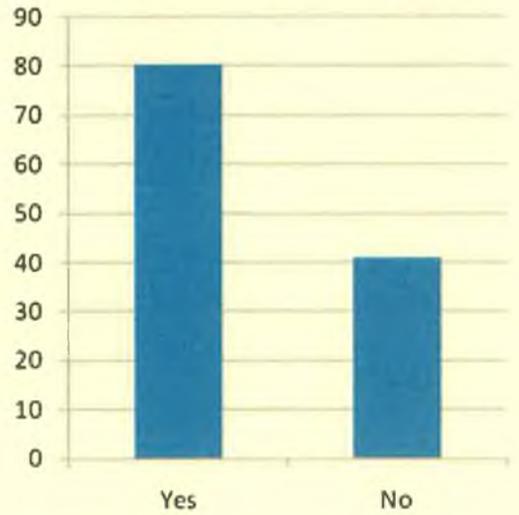
Q23. Mobile Service used by Residents
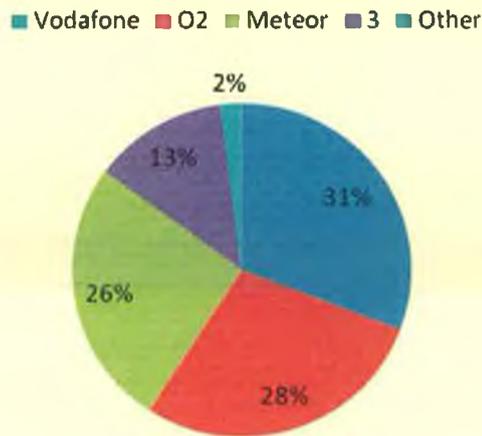
Q25. How often?
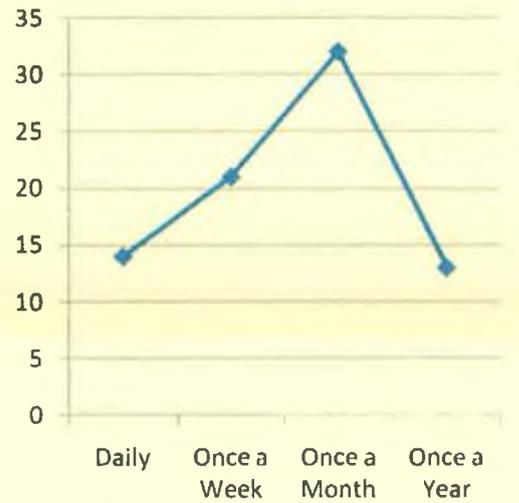
Q26. Do you regularly use Skype?

■ Yes ■ No
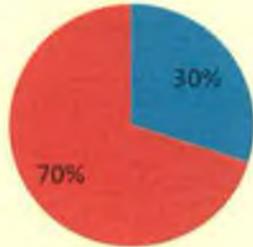
Q29. How long do you use the social network?

| | < 1 hour | 1 - 2 hours | 2 - 3 hours | 3 or more hours |

How long would you spend using Skype?
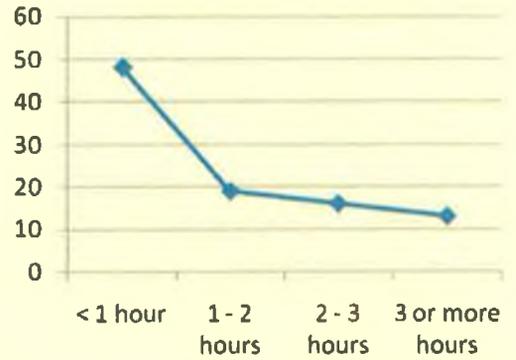
| | < 1 hour | 1 - 2 hours | 2 - 3 hours | 3 hours or more |
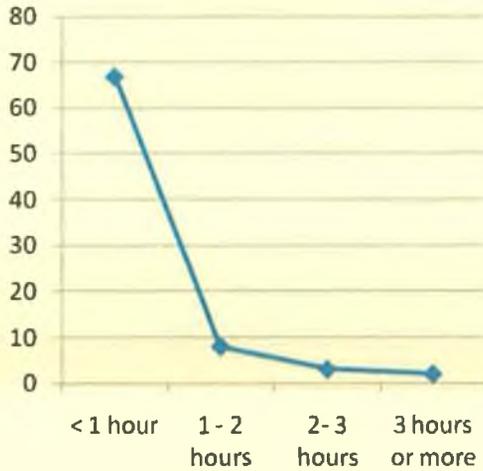
Q30. Have you thought of discontinuing the landline telephone
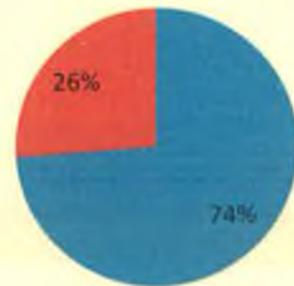
■ Yes ■ No

Q28. Do you use Facebook/Twitter

■ Yes ■ No

Q31. Why?

Why? Expensive Rarely Used Hindrance Other
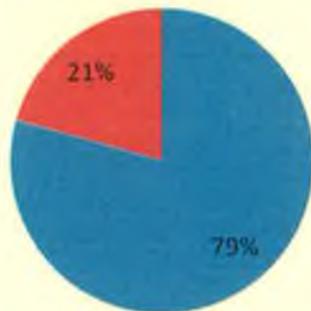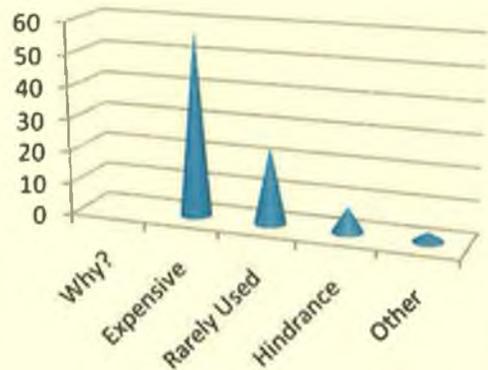
Q32. Can you see yourself being fully dependent on the mobile phone?
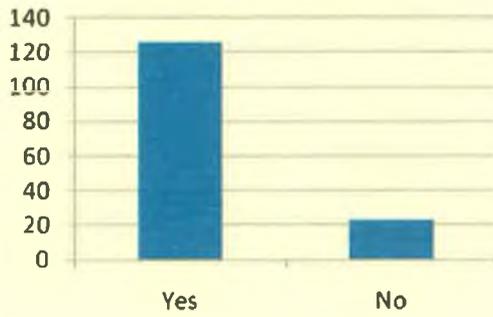
Q33. Why would you not fully depend on the mobile phone?
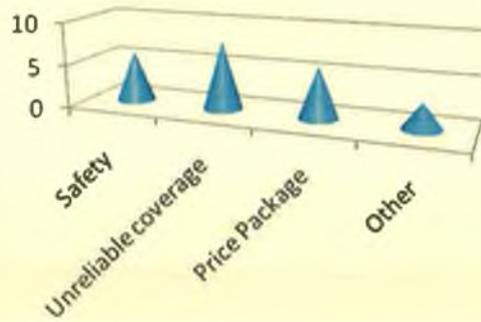
Appendix C: Normal Distribution Curve Calculation

	x (midpoint of age group)	f (number of respondents)	xf	x^2	f. x^2
18-25	21.5	10	215	462.25	4622.5
25-35	30	44	1320	900	39600
35-45	40	20	800	1600	32000
45-60	52.5	51	2677.5	2756.25	140568.75
60-80	70	26	1820	4900	127400
80+	80	9	720	6400	57600
	294	**160**	**7552.5**	**17018.5**	**401791.25**
		Mean (18-80) (7552.5/160) μ	47.20313		

Standard Deviation δ = $\sqrt{(\sum fx^2/\sum f) - (\sum fx/\sum f)^2}$

$\sqrt{(401791.25/160) - (7552.5/160)^2}$

$\sqrt{(2511.20) - (2228.14)}$

$\sqrt{(283.06} = 16.824\ \delta$

Appendix D: Questionnaire for Interview (A): Eircom Management

GMIT
GALWAY MAYO INSTITUTE OF TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA NA GAILLIMHE-MAIGH EO

"An Empirical Study: The Impact of Innovative Communication on the Irish Residential Landline Telephone Service in Rural Ireland."

Researcher: Corina Delaney

This research study is conducted as part of a Master of Business in Innovation and Strategy Management. The name of the interviewee will not be disclosed and all information provided in this study will remain confidential. For further information and confirmation please contact:

Supervisor: Mr. Owen Foley

18th May 2010

Appendix D: Questionnaire for Interview (A): Eircom Management

The following is a list of general questions that was prepared for Interview A. The interview was based as a semi structured interview and questions were asked relative to the answers stated in addition to the questions below in table three.

Table 3: Coding System for Questions for Interview A

Code	Theme	Questions
A	Marketing	1. Has the company carried out field research such as surveys of their customer base to identify any problems they are experiencing, areas that they could develop in etc. 2. In the marketing section of the company has Eircom carried out promotion campaigns to retain residential landline customers and if so, were they effective?
B	Customer Service	3. How would you rate Eircom's customer services regarding their offers, after sales services etc.
C	New Technology	4. In relation to new technology having an impact on the residential landline service, which types would be the most affective e.g. the mobile phone, Skype, etc.
D	Business Performance	5. Based on the research gathered, does Eircom perceive the declining trend of the residential landline service as a risk for the business regarding performance, profitability etc.
E	Retention plans	6. To overcome the severity of the impact of the declining numbers has Eircom a contingency plan in place regarding new strategies such as new technology, new innovative services or price offers?
F	Social Issues	7. Does Eircom have a customer base of an older or younger generation?
G	Revenue	8. What area would generate most profits for Eircom e.g. Broadband, landline, etc?

H	Competition	9. What is your analysis of Eircom's competitors? Which company would be your biggest threat e.g. Perlico, Talk Talk, Esat etc.
I	Regulation	10. Does ComReg affect Eircom's performance?
J	Future Outlook	11. What is your opinion on Eircom's future outlook?

Appendix E: Interview A; Citations Correlating with Coding System

Date: 18th May 2010

Location: Theatre 1000, GMIT, Dublin Road, Galway.

Time: 14:00 pm

Duration: 1 hour 5 minutes

Interviewee: Anonymous – Mr. X

Occupation: Eircom Manager of the Western Region of Ireland

Prior to the commencement of the Interview, the interviewee was assured that any information disclosed will be kept confidential and the name of the interviewee will be kept anonymous.

Table 4: Interview Citations

Code	Theme	Answers
A	Marketing	*"to boost revenue... bought out Meteor ... marketed Meteor as Eircom Mobile to existing Eircom customers to bring Eircom name into and because meteor is associated with bad network, coverage, aimed at kids etc. Eircom has focused on Eircom mobile to get mobile broadband offer out there because they know they are going to loose the landline ...* *Eircom brand is the most marketable brand in the country and that is what saving them. Eircom has motto like IBM in the 1980's (a multinational computer, technology and IT consulting corporation). IBM had a saying that they were 'dearer but better' and that is the philosophy that Eircom is based on ...*

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		... there is an inertia out in the market place that people are reliant on Eircom almost loyal in the way that they don't want to leave but do complain that they are expensive ... contradictory statement but that's reality ... Eircom wont loose enough business to die as a company but will have major affects on it..."
B	**Customer Service**	*"...Eircom is highly regulated so if they do a deal for one customer they have to do it nationwide ... if one is thinking about leaving their service and looking for a reduction; that deal made to them has to be offered nationwide ... they may loose millions doing this ... poor quality customer service ...slow to react to problems ... waiting period for a customer regarding fixing problems of the service can be quite long ..."*
C	**New Technology**	*"... Younger generation are more involved with Skype they are quicker to adapt to new technology ... personally I don't use Skype but it is very easy to use ... it is cheaper for users e.g. student, holiday packer etc. Special factor of it is seeing the person on line and talking to them rather than over the phone ... disadvantage of VOIP is pushing the voice over the internet as the quality is poor it can be crackly ... the voice is changed to VOIP data packages over the internet ... during the day or early morning it is better to use Skype because the States (largest internet user) is asleep and the internet is freed up ... also relative problem of having slow internet access ... Skype is not a massive issue to Eircom as there is a small amount of people using it because of slow broadband connection ... but in future may be a threat... (fibre optic communications systems and Wimax are also new technologies that are more dwelled on in Code J)..."*

D	Business Performance	*"... New developments i.e. houses, housing estates are not taking up landline. Eircom spend a lot of money on pre-cabling those developments e.g. when apartment blocks goes up, Eircom pre-cable them so that everything is done i.e. Patch work, connection etc. Then the resident rings up Eircom, they give address and Eircom can connect you then online to the landline service ... they do software change on a pc and they can change it for approximately €20 plus vat to connect. However, that is not selling now, they loosing out because people are stating they have mobiles so they don't need landlines ... if they need broadband they just get mobile broadband. As an individual I do not have a landline, newer houses are not bothering with landline .....*
		Burglary alarms have taken off for Eircom ... definite growth area for the business because of the recession as the crime rates have risen people are getting more worried hence they are getting alarms ... alarm systems are wired so that is Eircom's specialty ... Eircom Phone Watch monitors alarms ... they are connected to the phone system ... I do not have much exposure to Eircom phone watch which is quite poor ...
		Elevators use landline for emergency calls – regarding insurance purposes lifts have to have a direct connection with no off connection on it ...
		Dial up connection is basically gone...dial up had 28k – 32k per second where broadband has 3 mb per second... lots of problems with copper connections and quality of them, copper affects speed in which broadband is quicker... no improvement plans for dial up connections as fibre is seen to overtake this area...dial up is mainly used by banks for confidential purposes as have point to point connection..."

E	Retention plans	*"... Well Eircom is highly regulated so not much they can do ... Eircom provides a lot of services i.e. add on services ... they do retention by offering services ... help them to cut costs , introduce broadband as part of the package, discount schemes etc. to breach the gap of competition. Eircom customers don't need to ring Eircom to inform them that they are leaving. If the customer is moving service e.g. to Perlico, Perlico will submit a form to the Central Authorisation Unit (CAU) which is partly owned by Eircom ... the CAU are known as the intermediary body, they carry out the process of the transfer ... Eircom can rarely defend their business but there is a seven day period of grace where they can change their mind and in the mean time Eircom can ring (they have call centre regarding same) to reconsider leaving their service by offering cheaper packages etc..."*
F	Social Issues	*"... Eircom carries out surveys to obtain information from residents ... older generation is holding on to the service resulting the landline phone service surviving ... ages of late 30's onwards would mostly be holding on to the service that would have kids and would use broadband through the landline ... but households that have teenagers using the landline phone and are running up bills are cutting costs in which cutting the landline phone ...* *In the 1980's if you didn't have a landline phone in your home you were deemed not that important, now everyone has a mobile a device that you have to have ... even if you know that they have a landline you probably would ring the mobile ... Eircom is well aware of these issues ... obviously the mobile is more popular...*

		... older generation use the landline much more than the younger generation ... old age pensioners are getting their landline rental paid by the social welfare department so why wouldn't they use the phone for free ... also safety factors are involved where they have a phone hooked up with full coverage 24 hours a day ... anything up to mid 30's mainly don't have a landline where they are new house owners ... younger generation are more involved with, Skype they are quicker to adapt to new technology..."
G	Revenue	*"... Eircom has been affected greatly as revenues are down significantly ... they call it the pillarising of legacy networks by new technologies ... in times gone by the dial up for the internet was the massive revenue earner ... when broadband came out the revenue was cut ... a small company could be spending €300 – 500 a month on internet dial up ... then broadband is €50 a month which so much cheaper, that is what hit them the most ... now people coming away from broadband that uses the landline cause they need a landline ... instead they use mobile broadband ... Eircom are loosing out on landline rentals ... half the reason they bought Meteor, they paid €440 million for meteor ... they sold Eircell to Vodafone for €120 million, Meteor fraction the size of Eircell ... they should never have sold Eircell, they would have made money on it ... landline revenue is going down year on year ... also VOIP is affecting the revenue ... Eircom's problem is being reactive not proactive ... they react to the market when they have lost 20% of total revenue, then they do something i.e. Catch up ..."*

H	Competition	*"... Competition definitely affecting them ... Eircom brought out Talk Time packages to compete with Perlico and Talk Talk, bundle package i.e. landline rental, amount of minutes free to landline, free minutes to mobile phone and broadband for approx €54 ... but are still dearer than their competitors ... biggest competitor is Imagine (wireless technology provider designed to give you high speed internet access and an advanced phone service with NO line rental charge.) BT phone use to be their main competitor ... Perlico would not be the highest competitor as they just use drop in literature for their marketing ......Vodafone is a cash cow they are making loads of money... Vodafone and Imagine are their main competitors..."*
I	Regulation	*"... Eircom is highly regulated so if they do a deal for one customer they have to do it nationwide due to Communications Regulator, if one is thinking about leaving their service and looking for a reduction, that deal made to them has to be offered nationwide ... they may loose millions doing this ... Eircom has significant market share/power, that is why they are highly regulated ... they have to go through Comreg re: deals for nationwide so that it wouldn't affect the other phone companies ... the Government should not have sold the network, they should have just sold the retail sector of it ... now Eircom have advantage because if some one needs a new landline they have to go through Eircom ... there is a company available that residents could use to get the landline service set up but that same company still has to go through Eircom (showing the high involvement of Eircom). However Eircom is loosing a lot of business to competitors ... Eircom had 85% share five years ago .... They still have a big proportion of business but people are moving away slowly..."*

| J | Future Outlook | *"... in order to hold on to business Eircom are currently doing a massive restructuring looking at different areas of the business ... Eircom was bought out by Singapore Telecom (a telecommunications company), the deal went through six weeks ago ... Telecom will invest heavily into the business, the owners of Telecom are venture capitalists really to make whatever they can out of Eircom ... they stripped the company from 14,000 staff to 6,000 ... then BCN Telecom (telecommunications company from Australia) moved assets out of the company ... Eircom is heavily in debt to the point of insolvent, they have to do something drastic with the business to survive ... there are problems with the structure of the business, they are trying to get rid of the debt ... loosing revenue ... while it is a profitable business making approx €700 profit a year they are approx €14 million in debt, the interest they owe is quite large also ...*

... Wireless system is getting popular, Eircom has to adapt to new technology ... big growth areas is WiMax (re: Imagine) (Wimax is a telecommunications protocol that provides fixed and fully mobile internet access). Wimax will improve upload and download speed ... Mobile broadband, mobile itself are growth areas ... "Converge Technology" where VOIP, broadband, mobile etc are combined. Cisco system is where the landline phone call can be diverted to the laptop or mobile and can be answered anywhere, it is a mobile extension from work to home ... also new is one handset for all, on the road it is your mobile, at home it is your landline. It is in trial at moment but seen as a growth area ... |

Eircom is moving in to the area of fibre optic communications ... future aspect of Eircom is having one connection for the home, for TV, broadband, telephone etc ... instead of a dish you can get fibre, all for a cheaper price ... rain can even affect copper connections, fibre optic communications are less hindrance ... fibre is light signals converted to data packages ... landline involves data pulsed down the copper line, copper is very limited in what it can do in which fibre travels long distances ... fibre works in rings where if one area was damaged it is intelligent enough to divert signals ... the Managing Director instructed six months ago to stop buying copper to have fibre all the way but this was not practical as they needed copper for breakdowns etc but shows the company really wants to move away from the copper ... it is a way of overcoming the impact of the decline in the landline residential phone service, this is also in trial ... Eircom is slow with new technology, it needs to be 101% fully proved and proven ... if they did have a fault when launching new services - they basically cannot afford mistakes ..."

Appendix F: Questionnaire for Interview (B): Vodafone

GMIT
GALWAY-MAYO INSTITUTE OF TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA NA GAILLIMHE-MAIGH EO

"An Empirical Study: The Impact of Innovative Communication on the Irish Residential Landline Telephone Service in Rural Ireland."

Researcher: Corina Delaney

This research study is conducted as part of a Master of Business in Innovation and Strategy Management. The name of the interviewee will not be disclosed and all information provided in this study will remain confidential. For further information and confirmation please contact:

Supervisor: Mr. Owen Foley

27th July 2010

The subsequent list of questions was prepared for Interview B. This interview was also based as a semi structured interview. However, not all questions could be answered as it was against the company's policy to submit some of the information.

Table 5: Coding System for Questions for Interview B

Code	Theme	Questions
A	Marketing	1. Is Vodafone using any marketing techniques to draw those with a landline telephone to their mobile/home phone service?
B	New Technology	4. Do you find new technology affecting Vodafone's business e.g. Skype, fibre optic communications systems etc.
C	Business Performance	5. Is Vodafone's business performance improving with the introduction of their new product (landline phone and fixed broadband)?
D	Social Issues	7. Does Vodafone have a customer base of an older or younger generation?
E	Revenue	8. Is Vodafone generating much revenue in their new launch of the landline/mobile phone?
F	Competition	9. What is your view of the competition between Eircom and Vodafone?
G	Future Outlook	11. What is your opinion on Vodafone's future outlook regarding the area of the residential landline telephone service?

Appendix G: Interview B; Citations Correlating with Coding System

Date: 27th July 2010

Location: Phone Call

Time: 10:00 am

Duration: 30 minutes

Interviewee: Anonymous – Ms. Y

Occupation: Insights Manager

Before commencing the Interview with Ms. Y, the interviewee was assured that the information disclosed will be kept confidential and the name of the interviewee will be kept anonymous.

Table 6: Interview Citations

Code	Theme	Answers
A	Marketing	*"Vodafone aims to sustain market leadership ... continually develop new products and services... technology advances ... they aim to meet the increasing demands of customers ... add value to their services... their marketing include advertising on the TV, bill boards, magazines etc and use fashion idols such as David Beckham and GAA teams such as Dublin to improve their brand awareness ... the 'Vodafone at Home' advertisement caused some heat with competitor Eircom as broadcasted across the news in 2009, but it was a strong marketing campaign as it attracted attention to Vodafone's new offer..."*

B	New Technology	*"... Vodafone are confident that they are merely little affected by the introduction of new technology as customers use their service to access the new communication technology such as Skype ... people buy mobile phones through their service, some are now obtaining the landline telephone service from them and use their broadband to access these applications like Skype or social networks like Facebook ... fibre optic communications is an area that Vodafone wishes to enhance next but information regarding same cannot be disclosed ..."*
C	Business Performance	*"... due to the strategic partnership agreed between BT and Vodafone in 2009 business performance has improved – our customer base has extended and our ratings for the service has improved ... the contract resulted in the launch of an alternative, competitive telecoms network in Ireland – 'Vodafone at Home'... significant inroads in broadband and the fixed-line market, offering cheaper products and faster internet speeds...by March 2010 Vodafone had 194,000 fixed line and DSL customers..."*
D	Social Issues	*"... Vodafone obtain a general customer base ranging between young and mature individuals... however the younger age group is increasing in numbers as they are more particular when selecting a phone and they adapt quicker to new technology ... they compare with friends phones, they discuss prices, quality, service etc more so than the older generation ... finding younger couples moving into houses taking up the new offer of 'Vodafone at Home' package ..."*

E	Revenue	*"... restricted to disclose information regarding revenue but it was published in May through newspapers that the group revenue increased approximately 8.3 per cent and service revenue for the group rose 8.9 per cent – not totally sure how much revenue is generated regarding the fixed line phone service..."*
F	Competition	*"... tension rose between Vodafone and Eircom when Vodafone mentioned Eircom in their advertising ... on the advertisement it showed households changing the colour of their front door to red – Vodafone's brand colour and stating 'show Eircom the door' ... Eircom's response was similar but showed households stripping the red paint of their doors and changing it to orange – Eircom's brand colour ... 'Vodafone at Home' packages are compared to Eircom's Talk Time packages ... customers save 20% more equivalent to Eircom... there is strong rivalry between Eircom and Vodafone ... they see Eircom as a threat but do not feel over powered by them ..."*
G	Future Outlook	*"... at the moment there is nothing to declare as Vodafone is concentrating on the present service regarding the landline telephone service but Vodafone may have plans concocted behind closed doors for the near future ..."*

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