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Creating an ICT-based marketing tool: a case of Lammasguru Ky

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Creating an ICT-based marketing tool: a case of Lammasguru Ky

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Information and communication technology (ICT) becomes an essential means in every type of business. It creates various opportunities for business development. Use of effective ICT-based marketing tools can help to promote and expand the business.

The purpose of this Bachelor's thesis project is to create a website for Lammasguru Ky that satisfies the company's needs. Lammasguru Ky is a sheep farm established by an international student. This thesis guides the case company to implement the website as an appropriate and effective tool for marketing and promoting their business.

The thesis consists of two parts, a theoretical and empirical section. The theoretical section provides an overview of research and literature on the subject. The empirical section focuses on creating and implementing the website. For this research, a qualitative approach and action research method are used. The research presented in this thesis is based on data collected during interviews with founding partners of the case company and a literature analysis.

The expected outcome of this project is a functional website for the case company that will provide customers with information about the business, its products and services. The website will help to bridge the communication gap and deliver information between the company and customer.

Key words: ICT, marketing, website, Lammasguru Ky

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1 Introduction

The number of businesses using information communication technology (henceforth ICT) is increasing rapidly (Koltz 2002). ICT is adopted in e-business and e-commerce by creating their website to sell goods and products through the Internet (Maired, Martin, & Brookes 2008). New research and innovations of ICT tools have changed the way of business activities. Businesses can benefit from ICT in many areas such as marketing, networking, and being active in markets. The use of ICT in an agriculture industry is relatively less than in other industries. Small farms can have their own websites in affordable costs, which can help in growing their businesses. Emerging technologies introduce new opportunities as well as threats for farms. Farms also need to exploit new opportunities with the help of technologies in order to expand their business. (Koltz 2002.)

The purpose of this thesis is to find a solution for marketing issues of a case company. This thesis is conducted with co-operation of Lammasguru Ky, the case company, which is a typical small Finnish farm. It includes the research and empirical study associated with the case company. I ensure the case company in fulfilling a part of their marketing solution from a website. With the use of the website, the case company can stay competitive in markets. Theoretical bases, the process of creating the website, and the implications of the website are discussed. Occasional visits and regular discussions with the case company motivated me to conduct this thesis research.

1.1 Objective

As regards to the purpose of finding the solution for marketing issues, I define the objective of this project is to create a website for the case company. From the ICT-based marketing point of view, a website can be a marketing tool for a company. The steps followed to achieve the objective are following. At first, I review relevant literature, research tradition and methods. Then, the best fit website from the cost and usability point of view is created. Finally, the website is implemented.

1.2 Research topic, aim and questions

The topic of my thesis is 'ICT-based Marketing'. In general, the 'ICT-based Marketing' is an approach for a market communication via Internet. It helps to improve companies' access to market information.

The general aim of this thesis is finding and creating an appropriate means of marketing communication tools. In order to achieve the vision and objectives, this thesis introduces a

new ICT-based marketing strategy. At this moment, the case company is following the traditional marketing strategy. The case company objectives, mission, vision, and marketing strategies are explained in Chapter 2.

Answering the following two research questions enables me to create a website and justify the benefits of the website in marketing.

1 How can the case company benefit from the website?

The case company can benefit from a website in several marketing issues such as exchanging information, creating awareness and trustworthiness in public, and developing sustainable network. For the purposes of this thesis, I define the website as a source of information. To address this research question, first, I present relevant marketing literature. After reviewing the relevant marketing literature and explaining the use of ICT, I focus on to create a website for the case company. The data that I present as literature arise from studying the relevant marketing books, journals, and other reliable online sources. Second, website as a marketing tool is explained. The issue regarding the first research question is elaborated in chapter 4.

2 What is the suitable development environment for the website of the case company?

There are many environments and platforms available to create a website. Upon creating the website, a unique set of programs, tools and techniques are gathered. I used different open source programs, tools and techniques such as PHP, MySQL, HTML and CSS to create the website for the case company. An open source refers to the source code available for free of charge. The source codes are published openly for users, and that can be modified. I choose several open source tools and programs for different purposes while creating the website. I use Notepad++ as the text editor. PHP is used in server side technology, and MySQL is used for database management. Furthermore, I use HTML, CSS, JavaScript and other tools and techniques wherever required. To answer this research question, I discuss the process, tools and techniques used to create the website in Chapter 5.

1.3 Methodology

The research method used in this thesis is action research as it is a research and development work. I used different research techniques such as interviews, and documents analysis to collect the data. All the data used are in the qualitative form. The interviews were conducted with five founding partners separately in person. The same sets of questions were asked to all the partners of the case company. It was used to avoid the biases of individual perception. The document analysis includes financial, marketing, company policies, and available materi-

als from similar business. The detailed overview of the methodology is presented in Chapter 3.

1.4 Limitations

Most of the interviews were conducted in Nepali language. So translation may not carry the exact expression of the original version of the interviews. Most interviews were conducted only once at different period of time.

The contents of the website may be changed because it can be edited and modified with the permission of the case company.

1.5 Structure of thesis

This thesis is divided into 8 Chapters. The introduction of this thesis is introduced in Chapter 1. In addition, research topic, aim, and questions, and continues with methodology, limitation and structure of thesis. Chapter 2 includes the brief description of the case company, its business environment and marketing strategy. The research methodology is discussed in Chapter 3. Chapter 4 discusses the literature review of the thesis. It is focused on theoretical background of the related topics that explain the theory of marketing, use of ICT in marketing, and website as a marketing tool. Development plan, process, tools and techniques used while creating the website are described in Chapter 5. Implementation of the development work of the project is presented in Chapter 6. Finally, Chapter 7 continues with discussion and final conclusion is concluded in Chapter 8.

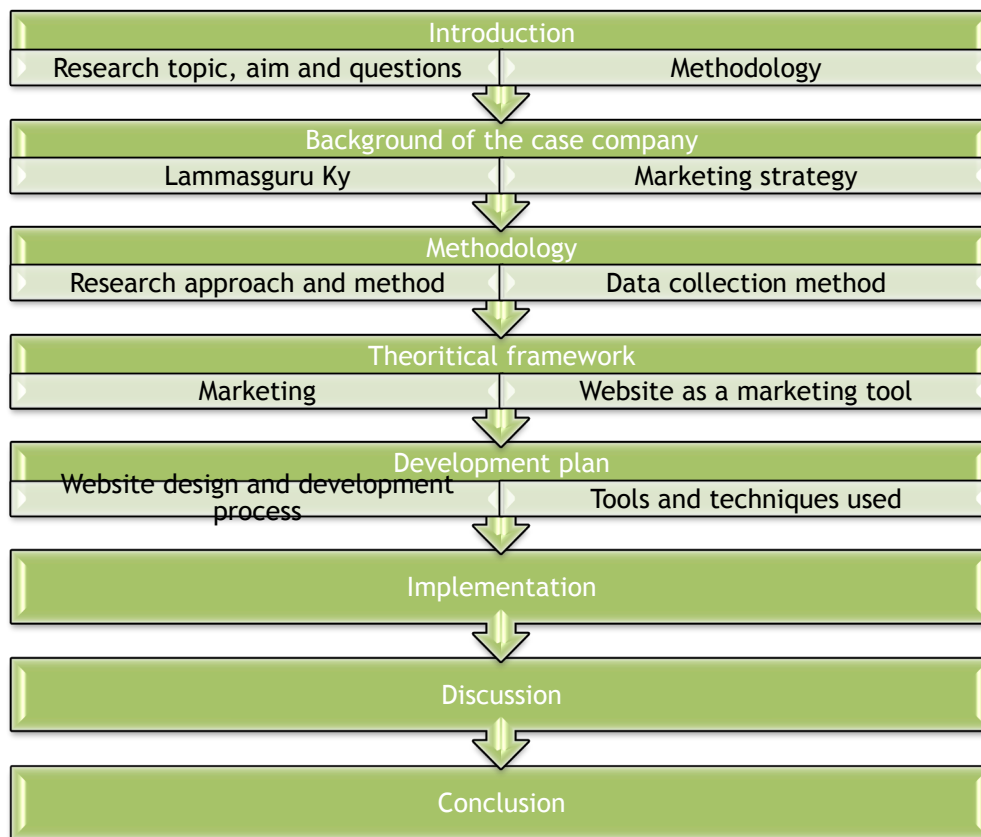


Figure 1: Structure of the thesis

2 Background of the case company

The case company for this thesis is Lammasguru Ky. In this Chapter, I first introduce the case company, and then, its mission and vision, marketing strategy, and business environment.

2.1 Lammasguru Ky

Lammasguru Ky is a sheep farm founded in 2011. The business is registered in Finland with the registration number 2476535-8 and the farmhouse registration number is 851523287. It is located in Arpelantie, Tornio. Guru Group operates the case company. Sachindra Rimal is a CEO of the group. There are other four group members in this company.

This has been the first business investment for the group. For the time being, the case company is the only international farm in Finland (Rimal 2012. Personal communication). Focusing on investors' returns, Lammasguru is targeting meat quality and quantity, and wool as well. In doing so the overall productivity is boosted and commercial benefits are created.

In relating the history of the farm, I discuss a short story of the development of the Guru Group. As a part of the business study at Kemi-Tornio University of Applied Sciences, the group was designed in 2008 to set up businesses in Finland. Due to a well built network with farmers in Tornio region, the group decided to start a business journey from a small farmhouse in Tornio. As a consequence, in September 2011, the first lots of ewes were brought in. At the moment, the numbers of sheep are above 200 and there is an expectation to increase upto 300 sheep by June 2013. Tornio region has a long history in farming and it is a beautiful town with lots of potential in farming tourism as well.

2.2 Mission and vision

The mission of the case company is to grow sheep in a nature to fulfill the quality diet needs at the right price. The case company states that the knowledgeable, and hard working group members are committed to satisfy the customers' needs and expectations. The vision of the case company is to ensure customers the opportunity to buy the high-quality lamb product grown with a good care at the farm's premises.

2.3 Business environment

The business environment is a dynamic system where a business competes. The business environment limits the flexibility of a business. The case company is operating in a challenging but relatively less competitive business environment. Farming is challenging in a sense that it is a less preferred and less profitable business line. Youth in Finland seem to be less interested in any kind of farming. However, the government gives subsidies in farming and the profit margin of farming businesses is satisfactory (Ministry of agriculture and forest, Finland). The slaughter companies buy all the raw products from the farmhouse in the fixed price.

The case company seems to be aware of the competitive business environment. Based on my discussions with the group members, I identify that they consider only those competitors who grow sheep in Finland. They seem to ignore the potential but unrealized competitors who compete with them. For example, a huge amount of relatively cheap lamb product is imported to Finland from New Zealand (Trade Relationship 2010).

In order to remain competitive, the case company needs to be proactive. The case company should update the activities, strategies, and objectives towards customer satisfaction. To meet the target market, the case company needs to review the existing marketing strategies.

2.4 Marketing strategy

Marketing strategy is a tool to achieve the objective of a business (Ferrell & Hartline 2011). Since the case company is a profit making business, a high profit is the major objective of the business. Such a high profit is possible from an appropriate and effective marketing strategy.

The existing marketing strategy of the case company is selling its product to slaughter companies. The slaughter companies set the price of the lambs based on the amount of meat availability. The promotion of the case company has not been significant for end users' awareness. The case company needs to ensure its constant growth and increased profitability to stay competitive in business. I believe in using ICT-based marketing tool helps the case company to achieve their goals. Therefore, there is a need to shift the strategy to ICT-based marketing strategy.

The ICT-based marketing strategy is a modern tool for businesses to be exposed globally. This helps businesses to be in touch with the buyers, suppliers and end users as well. The case company can benefit by adopting such a marketing strategy. A web site is needed to implement the ICT-based marketing strategy. The case company can sell its product to the end users by avoiding the slaughter companies. There are some slaughter professionals who slaughter and ship the product to customers' door. The case company can find individual customers via the web site and provide products to customers. By doing so, the company will be able to gain higher profit margin. There could be a large increase in revenue for the business if they could reach local customers avoiding channels. Unnecessary channels could be avoided with the help of the website based marketing strategy.

3 Methodology

The case company seems to have problems in marketing. There is a need of a sustainable solution of the problem. Action research method is used to identify and solve the problems (Koshy 2010). This thesis consists of two parts. Theoretical section of this research focuses on how could the use of ICT help the case company in marketing issues? How can the case company use the website as a marketing tool to increase sales and networking? Hence, the theoretical part builds a foundation to create a website. In the empirical section, I utilize the interviews as data. Based on the interviews and relevant literature, the empirical part focuses on creating a website.

3.1 Research approach

I use qualitative research approach. There are two different approaches to research, qualitative and quantitative. To comply with the aim of this thesis, qualitative data are used to guide the case company in its marketing issues. This thesis also seeks answers to the question of how to transform the existing marketing strategy into ICT-based marketing. A qualitative research approach provides a deeper understanding of the problems by collecting relevant information and data (Flick 2009). Thus, I choose the qualitative approach in this thesis.

3.2 Research method

The research method used in this thesis is action research. Action research is the method that involves the process of identifying problems and finding solution for those problems (Koshy 2010). The process is continued until the problem is resolved. In this process, a problem is identified, and data is collected then a plan of action is implemented after assuming of several possible solutions. Research findings evaluation and critical reflection is based on evidence gathered.

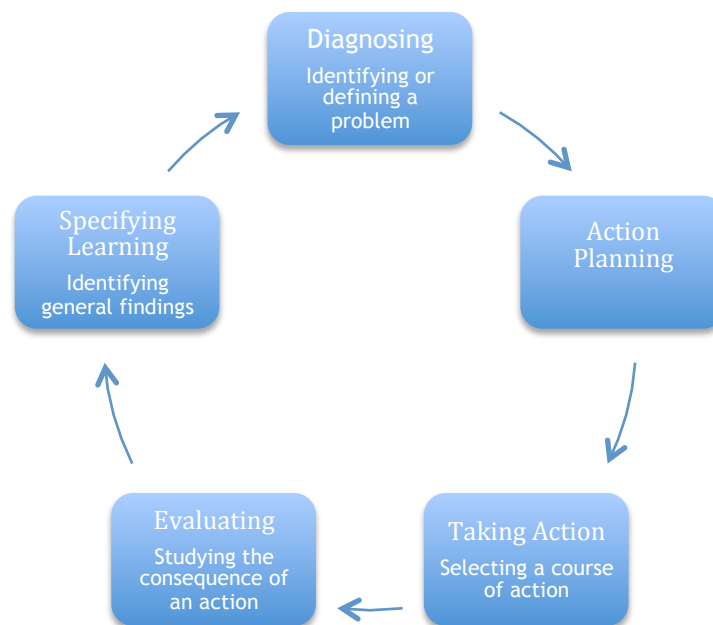


Figure 2: Detailed action research model

Action research requires the involvement of the researcher and the beneficiary of the research (Gustavsen 2008). The case company, the beneficiary, of this research is involved dur-

ing the process of suggesting their website contents while creating the website. There seems to be marketing problems in the case company that can be addressed by creating a website. The solution, creating the website, is implemented on the base of data/evidence collected during the research.

3.3 Data collection method

Data can be obtained from six sources of evidence. They are as: documentation, archival records, interviews, direct observations, participant observation, and physical artifacts (Yin 2009, 98). I applied interviews, documents analysis, and desk research.

3.3.1 Document analysis

Existing marketing strategy, financial statements, advertisements, and internal documents were examined. It was necessary to review the available documents in order to identify the problems. I used internal sources to retrieve significant amount of information. Additional scientific documents were reviewed as a part of literature review and analysis were done to gather theoretical knowledge.

3.3.2 Interview

Interview was the main source of data collection. An interview is a conversation aimed to collect relevant information and data for a research. Generally, interviews are conducted either in person or by telephone. (Yin 2009, 106.)

For the purposes of this thesis, interviews were conducted with founding partners of the case company in person. There are three different ways of conducting an interview, in-depth interview, focused interview, and structured interview (Yin 2009, 107). I used focused interview in this research.

The interviews conducted were focused on investigating major problems in marketing and creating a website. The focused interviews are not as structured as the structured interviews. The focused interviews contain a number of broad and open-ended questions, but the respondents are allowed to speak freely (Yin 2009, 107). Due to risk of biases, I asked the same interview questions to all the founding partners. I interviewed all group members of the company separately. I assume the information collected from interviews is trustworthy for the scientific research.

3.4 Reliability and validity

Reliability and validity are two measurements of the quality of research. Validity is about measuring what was intended to measure or how truthful the result was. Reliability is the degree to which a research or instruments referred to as stability and similarity of the measurement within allocated time. (Golafshani, 2003)

I examined and made verification of the findings by checking and rechecking their reliability, validity, acceptability and feasibility of the internal documents. Based on the analysis and reflection of the literature, I measured the validity and reliability of the findings.

4 Theoretical framework

In this chapter, the theoretical background and literature review of the related subject is introduced and analyzed. In addition, to support this thesis work, the theoretical analysis of marketing, use of ICT in marketing and website as a marketing tool is described from different perspective using various sources.

4.1 Marketing

Marketing is a process of identifying customer needs, manufacturing goods and services, and communicating the value of the goods and services to the customers. Marketing begins with a concept and ends with a customers' satisfaction. It is a complex process. (Kotler & Armstrong 2010, 28)

To simplify, marketing can be classified into four sections; product, price, place, and promotion. Kotler & Armstrong (2010, 76) argues for four marketing parameters such as product, price, place and promotion. Those parameters can be controlled in order to shape the marketing strategy for a business. In the following section, I briefly introduce 4Ps of the marketing mix.

A product is the value offered to customers. It is a blend of functional and emotional benefits. Ultimate purpose of a product is to satisfy customers. Customers are said to be satisfied when the value offered by a product meets or exceeds their expectations. Every product has its own brand name, which include its price. (Kotler & Armstrong 2010, 76)

The price of a product is the amount of money a customer pays to purchase. The price of a product should cover all the costs and yield the desired amount of profit. Price affects the level of demand in markets. Thus, pricing can influence the profitability of a business. (Kotler & Armstrong 2010, 76)

A Place is the location where a product and payment are exchanged. Place can be physical and virtual. Internet is an example of the virtual place. A distribution channel connects the business to the end users. (Kotler & Armstrong 2010, 76)

Promotion refers to all communications done to create awareness, to persuade, and to retain customers. (Kotler & Armstrong 2010, 76)

In this thesis, the area of interest is a promotion of Lammasguru Ky and its offerings to markets. In particular, the focus lies on the use of ICT for promotional purposes in order to increase sales and profit margin. Farms are interested to market their products to earn maximum profit. Without creating awareness, the customers would not know about the farm's existence in markets. There are many farms competing over satisfying same needs. Use of Internet can be a competitive edge. Thus, promotion through a website seems a promising solution for the company.

4.2 Use of ICT in marketing

ICT refers to Information and Communication Technology that provides access to information through telecommunication. Modern innovation of ICT are radio, television, Internet, e-mail, computer, mobile phones, IT services, hardware, software, application and other communication technologies (Moursund 2005, 4). Due to innovation of recent ICT, the means of communication, shopping, marketing, travelling and different activities has changed. (Kotable & Helsen 2000)

According to Kotable & Helsen (2001), the use of ICT in marketing is being practiced on e-business and e-commerce in 1990s. E-commerce through Internet has changed customer's expectation concerning price, comparability, speed and services. The integration of ICT with business improves efficiency and competitiveness of the company. It can connect customers, employees and suppliers through communications and transaction. ICT plays a major role in marketing to create a value for customers.

Internet becomes an effective ICT marketing tool, which allows access to the large number of users from different parts of the world at the same time. It provides various types information of the company, and their products and services. It allows a company to promote, advertise, and sell their products and services. Internet and website becomes an effective medium for communication, distribution and transaction. Consumers can get all the information of products and services, which they want to purchase. After selecting products, they can make payment online through company's website. Since, the content of company's website included different images, audio, video, animation and other multi-media, consumers can

make their decision about products easily and quickly. It is the best platform for every business and companies to display their products and services globally. (Brown 2011)

4.3 Website as a marketing tool

Marketing is an essential aspect of any business to achieve their goal successfully (Kotler & Armstrong 2010). There are numbers of medium for marketing the business. In this modern age, Internet and website has played a vital role to run a business smoothly. Both company and the customer can get the benefit by exchanging their information by using Internet and website. Creating own website of the company could be a better solution for the company to promote their business. It allows sharing and exchanging the information of products and services between the customer and company.

A website is set of interlinked webpages which is located in web server. It contains files, documents and related resources like home page, contact us page that can be accessed by the user through a web browser. Web server is used to store the web pages accessed by web browser such as Internet Explorer, Mozilla Firefox, Safari, Google Chrome. It contains information of the company, products or services. (Shah 2009)

A website is an important source of information about the company. It can be integrated with multimedia features such as text, documents, audio, and video as an information source. It helps a company to expand the existing business by promoting their products and services to the large number of customers. Since, website can be accessed at any time from anywhere, the company will be able to interact with customers, understand their needs and get respond immediately. (Bell, Fletcher 2004.)

Different companies may have different website with various features. There are mainly four types of online presence websites, (Chaffey, Ellis-Chadwick, Johnston, & Mayer 2006, 14-16) which have different objectives for different markets.

Transactional e-commerce site: This type of site enable a customer to purchase products online according to their preferences available in company's website. For instance, www.amazon.com, www.ebay.com

Service-oriented relationship building a website: In this site, customers may not be able to purchase products online directly however detailed information is provided through website to stimulate purchase and build relationships.

Brand-building site: these types of websites help customers only to get online experience of the brand because products are not available for online purchase.

Portal or media site: This types of website provides gateway to information. The website contains information on the website and through links to other websites. www.yahoo.com is an example of this type of website.

A website is one of the effective marketing tools for business. The large numbers of consumers used to visit the company website to search product information, compare prices or to purchase online.

As the population is increasing rapidly, demand of agriculture products are also increasing significantly. To meet the target of demand, agriculture based company should also identify and implement emerging technologies to meet consumer preferences and demands. The use of ICT in agriculture enhances the agriculture product, improve markets, and make efficiency in work. Direct marketing of products on the Internet by creating own website can generate many opportunities. It can help to improve sales and profit by expanding the existing business. The website can be used to improve customer services, make aware consumers, and save time and money. A company can have own website to sell or promote their product. The company can use website e-mail and feedback form as a communication medium to communicate with consumer. (Koltz 2002.)

5 Development plan

There are some issues to be considered before designing and developing a website. The quality of content, structure, navigation, layout, graphical interface are the factors that affect quality website. The design is reviewed and tested to achieve good design. Other issues such as time and cost are also considered.

5.1 Website design and development process

Felke-Morris (2013) explains the website development cycle as shown Figure 2, which consists different stages such as, conceptualization, analysis, design, development, testing and launch, maintenance, and evaluation.

5.1.1 Conceptualization

The first step before designing a website is to determine the purpose and goals of a website. The goal of the website might be short-term and long-term. Publishing a homepage with only general information of a company is a short-term goal and long-term goal is creating a website for a company to promote and sell their products or services online. The preferences of

the audience are determined before designing a website to make it usable and attractive to users.

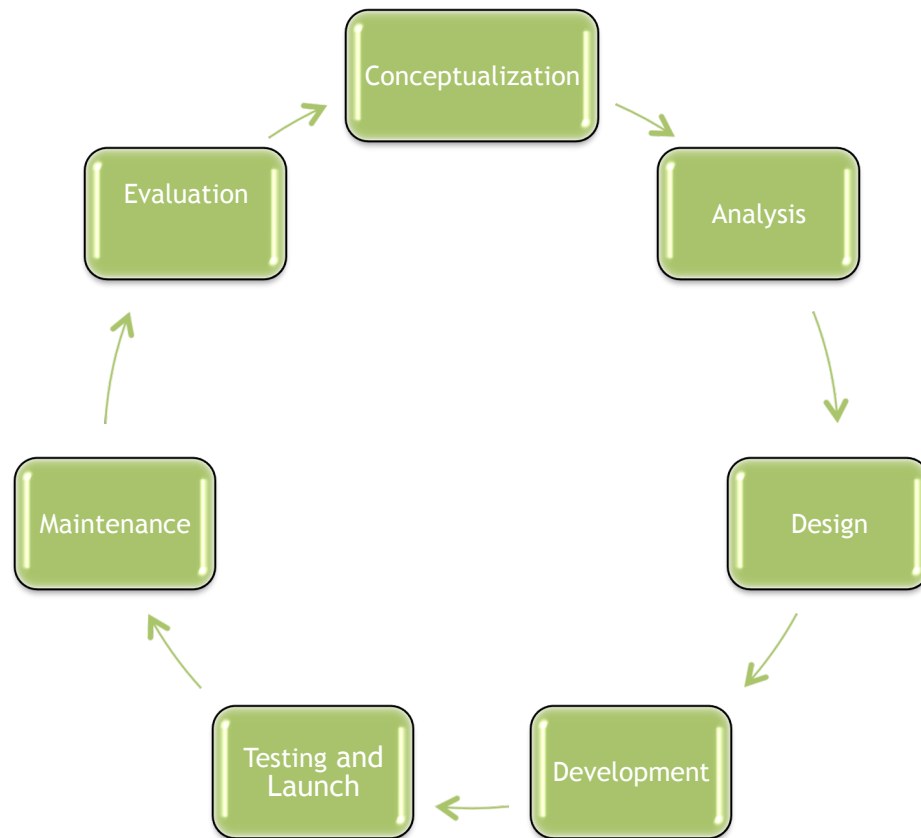


Figure 3: Website development cycle

5.1.2 Analysis

All the requirements such as functionality, environmental and content which are needed and helpful to design a website are determined during this analysis phase. Besides this, estimated cost and time involved in creating a website are also analyzed in this stage. A site map is developed using all the information gathered from stage one. The site map is a working list of all topics and categories of a site that will be implemented while designing a website. The functionality requirements involve technical tools and technologies such as HTML, PHP, MySQL that will be implemented while designing a website. Hardware, and operating system, which will be used by the user and a web server, is environmental requirements. Contents that are required for the website are also collected in this stage.

5.1.3 Design

During this phase, the prototype of a website is designed after determining best website organizational forms and page layout. There are different website organizational forms. The commonly used are hierarchical, linear, and random. Hierarchical is used to build a hierarchy of menus and content pages. It can be easily navigate from one page to another page in the website. In linear organization, pages of the website are viewed by clicking “next” and “back” button within a particular set of pages. For example, tutorial, presentation, and order form are created in a linear style. Random organization does not contain clear navigation for visitor.

5.1.4 Development

All the previous tasks are gathered together to create usable and effective website. All the elements from prototype are used to create an actual and functional website. Different files and folders are created with related names for text, pages, images, media and server-side scripts. Home page is created first. After creating a home page, content and other pages with navigational structure are created and integrated with other functions of the website.

5.1.5 Testing and launch

After creating a functional website, all pages are tested before launching the website. All the functionality of pages, forms or other scripts is tested. It is tested with different web browser to ensure the website is optimized to view properly in those browsers. Screen resolution and other issues are also tested before launching the website. Different testing tools and validators are used to validate scripting languages and codes that are used in web pages.

Once the tested website is reviewed and approved, it is published by uploading files to a server.

5.1.6 Maintenance

New information and content will be modified and updated according to customer’s needs and necessity. There are always errors and bugs, which can be noticed by new users. So, the files of the website are modified by editing, adding or deleting as required to minimize the errors.

5.1.7 Evaluation

After launching the website it is time to review the site whether it meets the customers needs and goal. The website created for this project is evaluated by the member of the case company also and they are satisfied with this work.

5.2 Domain name and web hosting

A domain is a unique name for a website. It serves as an address which is used to access the website on the Internet. It is better to select the domain name of website short and meaningful that can be remembered easily by the user. There are different domain name with an extension such as .com, .gov., .org., and .net for different purposes. For instance, .gov is used by government agencies, and .org extension is used for the non-profit organization (Jenkins 2013, 569). Domain name is registered after selecting the appropriate name for the company. It is effective, if the selected domain name includes business name or purpose. In this project, lammasguru.com is registered as domain name.

Web hosting is done by webhosting provider, which offers storage for the website and makes our website available on the Internet. There are several types of web hosting available. It can be categorized as virtual hosting, dedicated hosting, and co-located hosting. (Felke-Morris 2013, 444.)

5.3 Tools and techniques used

HTML

HyperText Markup Language (HTML) is the set of markup symbols and codes that are written to create web pages that can be displayed in a web browser. HTML consists elements and enclosed tags within a web page. HTML can be used to add images, graphics, and other media such as audio and video on a web page.(Felke-Morris 2013, 36.)

CSS

Cascading Style Sheets (CSS) is the style sheet language used for configuring structure and format of the web pages. It is used to define text, colors, styles, and font and page layout separating the content from the presentation style of web page.(Felke-Morris 2013, 98.)

Notepad++

Notepad++ is an open source tools that can be used as code editor and text editor. It has different customizable features and easy to use. Different scripting and programming language such as PHP, HTML, and CSS can be edited by using Notepad++.

PHP

PHP is an open source widely used server-side scripting language that is designed for web development and can be embedded into HTML. It is one of the main tool to create a dynamic website. A server is required to execute the PHP code. (PHP 2013.)

MySQL

MySQL is a popular open source database which is most used for processing the data in the database. It is fast, powerful, and easy to use. MySQL is available for different platforms including Windows, Unix, Linux and Mac OS. (Oracle 2013.)

In this project, MySQL is used to manage database of login form and work report form.

phpMyAdmin

phpMyAdmin is an open source database management software to access the databases on MySQL. It is written in PHP and easy to use because of its user interface. It helps to manage databases, create or delete tables, fields, and export MySQL database. It is available in different languages with web interface so it is more popular among the users.

XAMPP

Xampp is also an open source web server program that can run on various operating systems such as Windows, Linux, and Mac OS. XAMPP stands for:

X- Cross platform

A-Apache server

M- MySQL

P- PHP

P- Perl

As from the above abbreviation, XAMPP means the set of different programs that can run in cross platform. It consists a web server package of Apache as a HTTP server, MySQL database, PHP and Perl scripting and programming language. Xampp is used as a web server to test a website without any access to the Internet. It is used by website developer and programmers to test the web pages before hosting online in the Internet. (Apache Friends, 2013.)

JavaScript

JavaScript is a client-side scripting language that is mostly used to make a web page more interactive by adding different elements and features. It can be used to add functionality, display date and time, and validate forms. (Felke-Morris 2013, 564.)

jQuery

jQuery is a JavaScript library which is fast and simple with different features. It is free and open source used to perform animations, handle events that work with different web browsers (Jenkins 2013, 455). Many popular websites are using jQuery including Google, Twitter, Dell Inc. jQuery is used to manage animation of pictures which is placed in Home page on the website of this project.

Adobe Photoshop

Adobe Photoshop is a graphic editing program developed and published by Adobe Systems (Adobe System 2013). I use this software to edit pictures which are used in the website in this project.

6 Website for Lammasguru Ky

This chapter presents the process of designing and developing the website for the case company. The designing and developing process, tools and techniques used to create this website are discussed in previous chapters.

Layout

Since websites are judged by its layout and content, I designed the layout of this website simple. I designed layout manually using HTML and CSS with Notepad++ text editor. It contains a logo and banner on the top of the website. Navigation bar is adjusted under the banner with links to different pages such as Home, About us, Login, Contact us and display of date and time. Content is between navigation bar and footer. Order form is created on the right side of content. Blue colour is used on the body and background to match with colour of company's logo.

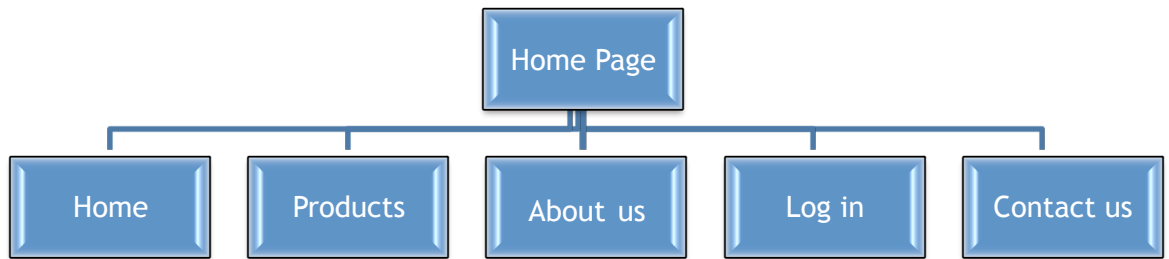


Figure 4: Layout of website

Home page

The Home page is the simply designed with all the information and content to be displayed to the users.

The figure shown in figure 4 is a Home page of the website. The content of Home page contain short information of the company along with few pictures. HTML and CSS are used to design the layout of this page. As customer's requirement, I used blue colour in the background of the webpages. Since the colour of company's logo is blue, customer request to create matchable themes. JavaScript is used to display date and time in every pages of the website on the right side of the navigation bar. jQuery is used to create a slide show effect on the images which is displayed in Home page.



Figure 5: Home page

Contact us page

Contact us page is also created using HTML and CSS. Besides this, Google map is embedded in contact us page by using HTML code generated from Google's map website. This is created believing that it will be easy to visitor to find the company location. The contact us page is created in order to help a user to find all the contact information of the company. The contact information includes postal address, phone number, email-id and map.

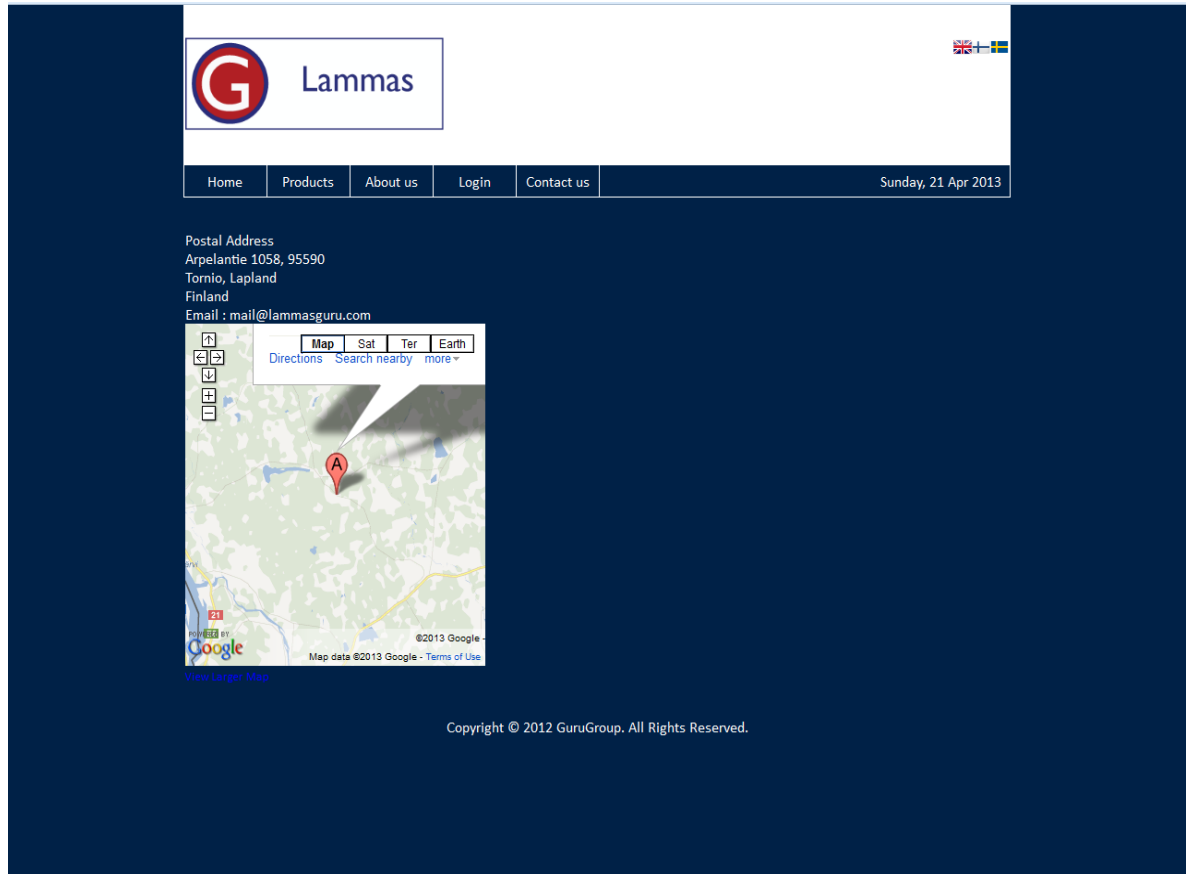


Figure 6: Contact us page

Login Page

Log in page is created for administrator. The administrator can log in by using their username and password. After successful log in, they can add, edit or delete the data of working report of the company.



Figure 7: Login page

The login page is created using HTML, CSS and PHP. HTML and CSS are used to create the layout of this page. PHP is applied to create variables username and password for the user identification function. The username and password should be matched with database in order to enter the system. When a user clicks the Log In button the username and password are sent to id.php and will connect to the MySQL database.

The following Figure 7 is an example of PHP syntax of login system.

```

1 <?php
2 $host="localhost";
3 $username="admin";
4 $password="admin";
5 $db_name="guru";
6 $tbl_name="lamlgin";
7
8 $link = mysql_connect("$host", "$username", "$password")or die("cannot connect");
9 mysql_select_db("$db_name")or die("cannot select DB");
10
11 $username=$_POST['username'];
12 $password=$_POST['password'];
13
14 $username = stripslashes($username);
15 $password = stripslashes($password);
16 $username = mysql_real_escape_string($username);
17 $password = mysql_real_escape_string($password);
18
19
20 $sql="SELECT id FROM lamlgin WHERE username='$username' AND password ='$password'";
21 $result=mysql_query($sql, $link);
22
23
24 $count=mysql_num_rows($result);
25
26
27 if($count==1)
28 {
29
30     session_start();
31     $_SESSION['username'] = $username;
32
33     header("location:welcome.php");
34 }
35 else
36 {
37
38 }
39 ?>

```

Figure 8: Login PHP syntax

Log In database

This is the database of log in information that can be used by the administrator. As shown in the figure below, administrator can manage the database form phpMyAdmin control panel. It is easy and simple to use this control panel. It does not require any deep knowledge or skills.

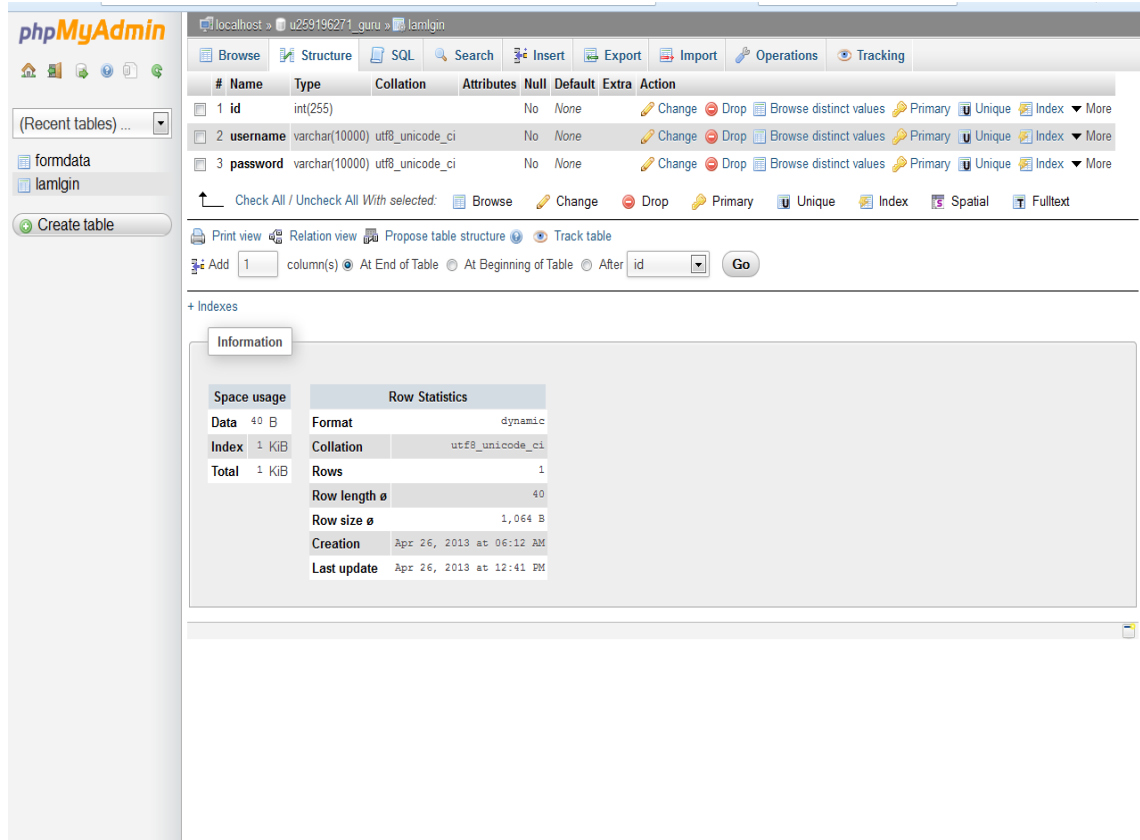


Figure 9: Log in database

7 Discussion

In the previous chapters, I introduced the case company, described relevant literature, and created a website with explaining the process that I went through. The following sections in this chapter discuss the outcome in connection to the literature, providing the answers to the research questions identified in the beginning of the study. Additionally, I analyze the managerial implications of the website in the case company.

7.1 Analysis of finding

The research questions were addressed in different chapters in detail. Following are the analyses of the answers that found in this thesis.

1 How can the case company benefit from the website?

The website helps the case company in creating awareness in markets. There are customers who would like to buy fresh and quality products. Majority of the lamb product in the markets

is from New Zealand. Such a situation gives a room for the case company to create awareness in customers directly, which is possible from the own website with a low budget. Besides creating awareness, the case company has traditional concept, structure, and business operation that should be changed. Concerning marketing issues, the company is not able to sell its products itself. Normally, slaughter houses buy a product in their price rate and sell to consumers with heavy margin. Hence, the most of the profit of the farmhouse relies on the government subsidies. In this regards, the case company need a better solution in its system for the sustainable growth. Using ICT for marketing purposes could shift the case company in higher level in markets. At the moment, there are small private slaughter houses who could take small orders for the case company. Hence, the case company can send the fresh product to customers using available logistics. It is believing that the case company benefits from the website and it could increase sales and profit.

2 What is the suitable development environment for the website of the case company?

Research question two focuses on identifying and implementing the suitable development environment, tools and techniques while creating the website. As one of the development part of this thesis is to create a website, the requirement in this project are ICT knowledge and skills. Since, I am a student of Business Information Technology (BIT) in Laurea UAS, I have acquired good knowledge and skills of ICT and business during my studies. I implement those knowledge and skills in this project. Mostly, open source programs are selected to create this website. PHP, MySQL, jQuery, and Xampp are examples of opens source programs that are used while creating the website for the case company in during this project.

8 Conclusion

In conclusion, the need of a website for the case company is identified with the help of interviews. The interviews were the main source of data collection. The case company can benefit from using ICT-based marketing strategies. For example, direct sales to the customers can leverage the profit margin of the company. In the process, the domain name is registered and the web hosting was bought. The website is created by using HTML, CSS, PHP, MySQL, JavaScript, jQuery, and other tools and programs. Mostly open sources are used for the source codes. The usability of the website is designed as per the case company's wishes. In this is way the web site is created. The effect of the website yet to be realised in the business.

By the end of this project, I learned more new skills and techniques about database, and PHP. Since it was a real project for a real company, I got a chance to implement the results, which I found during my research. Furthermore, It helps me to enhance my research skills and knowledge.

The website is implemented successfully and function smoothly after hosting online. However, further research can be done in the area of networking with other farmers for mass production and marketing in bigger markets. Due to limitation of time, only essential functionality are created and implemented. Creating only an informative website may not be the solution of the company. In the future, the case company may desire to expand their business by using online purchasing features.

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Appendixes

Interview questions

- 1 What is the objective of your company?
- 2 What would facilitate your company to achieve above mentioned objectives?
- 3 What strategies are being used to create business network and for marketing?
- 4 Do the existing strategies meet this company's goal?
- 5 How do you deliver products to the customers?
- 4 Is there any plan to change the existing strategies?
- 5 What kind of website do you want to create?
- 6 What contents would you prefer to include in your website to be developed?

Order form

The image shows a web form titled "Order Now" with a dark blue background. It contains six input fields: "Name", "Email", "Address", "Phone no.", "Product", and "Quantity". Below the fields are two buttons: "submit" and "Clear".

Working report database

The screenshot shows the phpMyAdmin interface for a database named 'formdata'. The table structure is displayed with the following columns:

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	fsdate	int(255)			No	None		Change Drop Browse distinct values Primary Unique Index More
2	username	varchar(1000)	utf8_unicode_ci		No	None		Change Drop Browse distinct values Primary Unique Index More
3	projectname	varchar(1000)	utf8_unicode_ci		No	None		Change Drop Browse distinct values Primary Unique Index More
4	network	int(255)			No	None		Change Drop Browse distinct values Primary Unique Index More
5	niproduced	varchar(1000)	utf8_unicode_ci		No	None		Change Drop Browse distinct values Primary Unique Index More
6	wstime	varchar(1000)	utf8_unicode_ci		No	None		Change Drop Browse distinct values Primary Unique Index More
7	wftime	varchar(1000)	utf8_unicode_ci		No	None		Change Drop Browse distinct values Primary Unique Index More
8	thrs	varchar(1000)	utf8_unicode_ci		No	None		Change Drop Browse distinct values Primary Unique Index More
9	tmin	varchar(1000)	utf8_unicode_ci		No	None		Change Drop Browse distinct values Primary Unique Index More
10	jdone	varchar(1000)	utf8_unicode_ci		No	None		Change Drop Browse distinct values Primary Unique Index More

Below the table structure, there is an "Add" button with a dropdown menu set to "1" column(s) and radio buttons for "At End of Table", "At Beginning of Table", and "After". The "After" option is selected, and "fsdate" is chosen from the dropdown. A "Go" button is next to it.

The "Indexes" section is expanded, showing "Information" for the table:

Space usage	Row Statistics
Data 148 B	Format dynamic
Index 1 KiB	Collation utf8_unicode_ci
Total 1.1 KiB	Rows 3
	Row length ø 49
	Row size ø 391 B
	Creation Apr 26, 2013 at 06:43 AM
	Last update Apr 27, 2013 at 03:48 AM

Working report form

The screenshot shows a web application interface for a 'Daily Work Report'. At the top left is the Lammas logo, a red circle with a white 'G'. To the right of the logo is the text 'Lammas'. In the top right corner, there is a user profile icon, the text ', Logout', and two small flag icons. Below the logo and user information is a dark blue navigation bar with white text for 'Sales', 'Marketing', 'Accounting', 'Day Book', 'Forms', 'Purchase', and 'Plans'. The date 'Sunday, 21 Apr 2013' is displayed on the right side of this bar. The main content area is a light gray box titled 'Daily Work Report' with the subtitle 'Lammasguru KY, Tornio, Finland.'. The form contains several input fields: 'Name of the Project' (text input), 'Nature of the work' (radio buttons 1-5), 'New Information Produced' (text input), 'Work start time' (hh:mm input), 'Work finish time' (hh:mm input), 'Time taken' (dropdown for Hrs. and Min.), 'Job done' (text input), and 'Form submission date' (yyyy/mm/dd input). At the bottom of the form are 'Submit' and 'Clear' buttons. The footer of the page reads 'Copyright © 2012 GuruGroup. All Rights Reserved.'

Lammas

Sales Marketing Accounting Day Book Forms Purchase Plans Sunday, 21 Apr 2013

Daily Work Report
Lammasguru KY, Tornio, Finland.

Name of the Project

Nature of the work 1 2 3 4 5

New Information Produced

Work details

Work start time

Work finish time

Time taken

Job done

Form submission date

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