

Business essays - online shopping mall



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Online Shopping Mall

This report presents the feasibility study for developing the online shopping mall for UK retail outlets and customers. The idea was generated by looking at the staggering growth of the internet user and online shopping specially in UK with a record 12. 8 billion pound online sale last year.

This report analysis the need for online shopping mall as it provides a big opportunity to those who have less technical skills in developing the retail online sites for themselves and these hosting sites will help them do the online business with les administration for a fee only.

The report is divided into nine sections starting from the explanation of what are online shopping mall and its importance in today's competitive business world along with the emphasis on how technology helps business to grow.

Types of technology available for developing online shopping mall are also discussed. For backend development MySQL 5. 0 database is used. On front end JSP will be used to develop the script as it's easy to learn as well as more versatile.

The basic cost involved is for renting the space on ISP servers, the purchase of domain name, the registration with the search engines (directories) and the most important advertisement to generate traffic for the online shopping mall.

In the end a detailed project plan on the basis of time and activities is explained in context of the feasibility of online shopping mall from data study till construction of the site and maintenance.

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Aims and Objectives

Aims

The aim of this study is to present a formal report and a power point presentation on the feasibility of developing the online shopping mall for UK customers and retailers.

Objectives

The objective of this feasibility report is to:

- Provide about the background, importance and growth of the online shopping mall in UK.
- Preparing a feasibility report by providing the information regarding site development, technology available and cost involved
- Prepare the project plan and
- Prepare a four minute power point presentation to explain the feasibility of online shopping mall.

1. Introduction

1.1 Concept of Online Shopping Mall

The idea of online shopping mall originates from e-commerce. E commerce is in practice in most of the developed countries of the world such as USA, UK, and Europe etc where shopping concept is changing from physical purchase to virtual buying. This type of business is very popular among the retail outlets that are looking for a boost in their sale by offering customers new channels or mediums to make a purchase. This way not only the customer has more options but companies also enjoy an increase in their sale due to increased online outlet.

Even after the immense success of e-commerce there was a big group of business who either knew how to do e-commerce or they were unable to manage the administration of such technical field which required a lot of web knowledge. This generates a need of a place where these retail outlets can start their online business but without any hassle.

Online shopping mall is basically the by product of e-commerce. The idea is to provide the easiest platform to these retail outlets that can do online business without any trouble or risk. It's a site where any retail outlet can get registered and have a space and the rest of the administration will be done by the host of that online mall. Not only that but also the host will be the one who will take care of all payment procedures.

Online shopping mall provides a lot of benefits to the retail outlets on the site such as administrative, management of the site as well as invoicing of the business. Customer is benefited too. He has not only the variety but also ease to find what ever he is looking for at one place. The choices available to customer is many as products available on online shopping mall can range from within the product category (all Nike products) or an entirely different product type (homecare, clothing, electronics etc.) from as many retailers possible .

1. 2 Scope of Online Shopping Mall In UK

Europe has a staggering 42 million user of internet and talking of Britain, 11 000 users are adding to the list annually. This gives an immense boost in the revenues generated by online activities on monthly basis.

Among all the internet activity online shopping is not only generating the maximum revenues but also is growing at the fastest speed. It can be proved by the fact that almost 30% of all the sites are used for trading rather than attracting the advertisers for the means of business. By looking at this statistics and knowing that this will grow to another 30% within next few Years' businesses are attracted towards internet to boost their sale with a relevant low cost, one of the best feature of online shopping.

Moreover online shopping mall further reduces the cost and hassle for those retailers who have less technical skills to take the optimum advantage of the online business.

According to the report of Ian Grant, as compare to Italy, Germany, France etc UK is the top most country in online shopping having a sale of approximately 12. 8 billion pounds along with a record growth of 75% in online sale since 2005 till date

2. Building The Online Shopping Mall

In general there are 4 basic steps which you have to follow to have an online shopping mall

- Get a company who will host your site
- Get yourself domain name for your online shopping mall.
- For a search engine you need to get directories. So Register with them
- Attract internet user through advertisement (traffic generation)

To maintain the sites you have to arrange the important tools required for order processing, invoicing and transaction

2. 1 Background Research For Building An Online Shopping Site

Before starting to build an online shopping mall we need to have clear idea of few things that will be needed once the site is complete.

- Domain name
- Website Hosting
- Secure Server Certificate
- Merchant Account
- Payment Transaction gateway.

2. 1. 1 Domain Name

The domain name is that name by which will be recognized on the internet, to show our online appearance we need a domain name for our website, this name can be a of up to 67 characters in length and should be easy and meaningful to remember so that customer can remember it easily. The domain name is registered with a suffix, this suffix is a '.' Extension and represents the nature of the website. Few common extensions are

- . com- used for commercial business website
- . net.- used for commercial network
- . org - used for organization.

There are other extensions available as well these include, . biz, . edu, . tv etc. Choosing a domain name is a difficult task as here are around 128 Million domain names registered and that is the reason that's why choosing a name that will represent our MALL will be a difficult task as most of the

name are already taken. Therefore lots of brainstorming is required to select a name with following quality.

- It should be short
- Easy to memorize
- Should not be confusable.
- Not easy to misspell
- Should represent the MALL

Considering these factor we can choose a domain name that will represent our website.

2. 1. 2 Website Hosting

A web hosting company provides space and bandwidth on rent, once our site is developed we can put the content of the website on the allocated space on the hosting server, this transfer can be made from development site to hosting server using File Transfer Protocol (FTP) software's. Once website is uploaded and domain is directed to rented space. The site is up and running and whenever user enters the domain it is directed to this space.

A web server is a powerful computer machine which is designed in such a way that it can bare the load of internet traffic accessing the website present on it. This server can be on any plat form either Linux or Windows but should be able to handle the load. The web hosting companies usually setup these servers in data centres; these data centres are responsible for making the backup and providing security of data. The key responsibility of data centre is to make sure that website is always present on the internet.

A typical process of how the web server makes a bridge between the website visitor and the administrator of the website is shown in the diagram below (courtesy of eaysiteguid. com)

The visitor enter the domain name of the mall in the web browser, the domain name is resolved on the domain name server (DNS) and the user browser connects to the web server which in return send the contents of the website to the visitors browser. Similarly the developer can connect to the web server to upload new contents and for management of website.

2. 1. 3 SSL Protection

Secure Socket layer (SSL) is the technology that provides an encrypted link between your host site and the web server. An SSL is required as we want to provide safe environment to the customer as our website will be involved in credit card transaction, and there might be a chance of theft of information and customer personal information can be jeopardized.

For our Shopping Mall we require SSL certificate to make our customer feel comfortable while they are giving there information to us, they need to be sure that there information will be kept private and only will be used for the transaction they are making, we are obligated to protect our customers.

In the real mall there are guards to protect customers and shops from theft same as we need SSL as our mall guard. Another reason of implementing SSL is that there can be legal consequences as if some one's information is compromised, then as we are not involved in theft but we can be the source that gives the way to let other people information accusable and that customer can get us in to trouble. So SSL can be our first line of defence.

Therefore a SSL certificate is required for our eCommerce site as we may lose customers if we can't protect their information.

How SSL Protects

In SSL the transfer of data from the user webpage to the web server is in encrypted form, the code is scrambled in such a way that no one can use it outside, the encryption can be 128 bits or 256 bits depending on the complexity of encryption, mostly for online shopping sites 128 bit encryption is used, the 256bit is usually used by banks. This certificate is issued by the SSL issuing vendor that provides a certificate with an encryption key, this encryption key is put on the server that does the SSL encryption, the website host will install this certificate on the web server, once installed when a customer accesses the site, a padlock is shown on the bottom of the browser that tells that this site is secure, opening the padlock shows the certificate, which tells who's this certificate belongs to.

The cost of SSL has declined rapidly from 400 pounds to now it is between 20 to 60 Pounds per year, SSL can be purchased by different vendors like VERISIGN. There is a facility to get a shared SSL which is provided by the host. This SSL certificate is further cheaper but the drawback is that when a user or customer checks the certificate the name of the host appears on the certificate instead of the merchant that can cause confusion on the user's mind as the information will not match with the site owner. So it's best to have our own SSL certificate, after getting the certificate we can install the certificate on the root directory of our web server.

2. 1. 4 Merchant Account

A merchant account is an account which is provided by banks or financial institution. This type of bank account allows any e-commerce business to accept credit cards online, it is used by customers to deposit the money electronically that is through credit cards, the process where the money is transferred through credit card is called Card Not Present (CNP) merchant account and is needed when the customer don't send the money in physical form during the transaction.

Merchant account can be opened by any bank which gives this facility to the merchant to accept transaction electronically. To open a merchant account negotiation is done with the bank or institution over the different charges, these charges involved

Up Front Application Fees: This is the fees that the provider charges for handling the transitions, as the number of merchant account provides are increasing and competition is building up, most of the providers waive this fee off.

Statement fee: This is the fix amount fee that the merchant have to pay for his account, this is normally around 10 to 15 pounds per month, and this fee is also called on going fixed fee.

Discount rate: This is the sales commission charge by the merchant account provider on each transaction; it is normally between 2 to 4 percent of the sales.

Fixed Transaction Fee: This is the fixed transaction fee for each sale, unlike the discount rate this fee is a fixed amount and not the percentage, this fee is usually 0.05 to 0.01 pounds per sale.

Termination Fee: This fee is charged if the account is closed before the contract period is ended.

Chargeback Fees: This fee is charged if a customer wants a refund and wants to withdraw their money then the merchant account provider will charge a fee usually between 5 to 10 pounds on each withdrawal.

A merchant account acts as a go-between your gateway (Credit card processor) and your business account, the money comes to this account and passes to your business account and if there are chargebacks or user cancellations the transaction money is taken from your business account and from the merchant account gets out.

2.1.5 Payment Method

The payment method on an online shopping site the process is almost the same as the physical shopping site, like in shops people come select items or products and pay cash on the counter, in online shopping site customer visits the website select item and put in the basket (THE CART) and finally checkout using credit card.

Once customer checks out his credit card is needed to be verified, this is checking whether credit card is valid and that there is money in the account and also that there is no fraud case. The checking of the credit card can be

done by using a payment processing method; there are two types of payment processing methods

- Payment Processor
- Payment Gateways

Payment Gateway

This method involves checking credit card information in real time as the transaction is taking place, The gateway service is provided by different companies like LinkPoint, Authorize Net etc. The gateway processor verifies the credit card information in real time and completes the whole process (acceptation or rejection) of payment within second and traction results are displayed to customers. The process works like this.

- After customer has decided the item he wants to purchase he clicks the BUY button on the webpage.
- Once the customer is finish with shopping, he clicks on the checkout button which takes the customer to a secure form where his personal information is entered including the credit card information.
- The credit card information is send to the payment gateway.
- The gateway processor sends the transaction data to merchant's bank, which then passes the information to Credit card interchange.
- The credit card interchange then sends the data to credit card issuer for verification.
- The issuer then verifies the data and sends the result to credit card exchange whether the information is valid or not.

- The credit card exchange then sends the acceptance or denial information to merchant's bank processor.
- The transaction results send by the merchants bank processor are passed to payment gateway.
- The payment gate way then send the denial or acceptance information to the merchant who then display the confirmation or rejection of purchase on the webpage.
- If transaction is successful the merchant account is debited and customers is credited (this process is done in real time).

The whole process is depicted in the figure below

Advantages

- This method provides professional solution as all the transaction is done in real time.
- Transaction result can be displayed on the webpage that is acceptance or denial
- The process is invisible to the customer.
- The funds are directly deposited in the merchant's bank account. And merchant don't have to worry about fund deposition as the whole process is automatic. This is because the fraud is detected before the product is shipped.
- Some service provider provide fraud protection as well, this protects the merchant and the actual card holder to become the victim of fraud.

- Transaction fee and service charges are less than of payment processor.

Disadvantages

- This mode of payment processing required a merchant account
- Cost of setup is high than payment processor.

Payment Processor

This method is also called delayed response as the transaction is not completed in real time. When the user is ready to checkout he is redirected to payment processor service provider, such as PayPal, Verisign PayFlow link etc and these providers then handles the transaction for the merchants.

The customer is informed about the completion of transaction once he is finish checkout but in actual the process is of verification is started at this time. The credit card is processed and transaction approval or decline results are informed to the merchant who is then responsible to inform the customer about the transaction approval or rejection through email. The process works like this:

- After customer has decided the item he wants to purchase he clicks the BUY button on the webpage.
- Once the customer is finish with shopping, he click on the checkout button which takes the customer to a secure form on a third party website where his personal information is taken, once user finish checkout he is shown transaction is complete

- The user part is now done, the user thinks that transaction is complete but in actual the information is send to payment processor that then communicates with the banks to authorize the credit card.
- This process can take minutes or up to a days
- If transaction is denied the merchant are notified through an email, if transaction is successful the cash is deposited to merchants account. Other wise merchant has to inform the customer that the transaction is denied.

Advantages

- No merchant account is required as third party processor will handle the transaction and will deposit the money to your account
- Cost less to setup then process gateways.
- Transaction fee and process charges are less then process gateways.

Disadvantages

- Delay in transaction process to complete
- Credit card is checked for authorization after the user is informed that transaction is complete.
- Customers are redirected to third party website such as PAYPAL etc for checkout process and to finish transaction, this losses the uniqueness of branding as customers sees that he is being redirected and this causes the flow to break.
- Customers are informed later whether the transaction is accepted or denied, and if denied then customer can get irritated.

3. Initial Requirement

3.1 The Users

The concept of this project is to design a website mall which can serve two types of customers one will be the shop owners who would like to open a shop in our virtual mall and second will be the customers who will purchase items from those shops. An Administrator will be the one who will administer the mall, the shop owners and the customers. Therefore our design should cater to these types of users, this includes the ADMINISTRATOR who will be looking after the whole site, The SHOP owner who will be managing a shop in the Mall, and the CUSTOMER who will be purchasing the products.

3.1.1 Administrator

Administrator will be user who will have full access to the MALL, he can be said as a super user, all the requests to open a shop will be sent to the administrator and then admin will decide whether to accept the request or reject it.

Admin will also be responsible for managing the categories or subcategories of shops, he can add, remove or update them as required without affecting the shop owners. Admin will also look after feedback sent and can reply to them or remove them. The Use case diagram below shows what actions admin can perform in the system.

3.1.2 Shop Owner

If a user wants to open a shop in the mall, he will fill in the form and send it to the administrator. If his request is approved by the administrator and is granted space in the mall, he will become the shop owner.

The responsibilities of shop owner is to manage the shop, he can add remove categories, design a catalogue and can remove, add or update item in the catalogue. He can also generate several reports regarding the sales and inventory that will keep him up to date f the business. A shop owner can remove the shop anytime he wants. The Use case diagram below shows what action shop owner can perform on the system.

3. 1. 3 Mall Customer

Mall customers will be the users who will purchase products from the mall; they can browse the mall search shops, products within different shops and can compare prices. After they have decided what they want to buy, they can add the items to the shopping cart and can checkout at any stage during there stay on the virtual mall, when checking out customer can login and all this information will be updated in the checkout form.

A customer can login any time to view his order status or he can change his personal details like shipping address and other information. The Use case diagram below shows what action mall customer can perform on the system.

3. 2 Mall Interface

An initial study was done on what interface will be created for the Mall, these interface includes.

3. 2. 1 Admin Interface

ADMINISTRATOR ADMIN: This interface will only be available to administrator and let user administer the site from accepting shop request to generating reports and modifying site contents.

3. 2. 2 Shop Owner Interface

CATALOGUE CREATOR: A catalogue creator interface will be available to shop owners where shop owners can add, remove or update items by category. These items will be added to the catalogue accessible by the customers.

SHOP OWNER ADMIN: This page will be available only to shop owner from there he can perform the administration of this shop, this include link to catalogue creator, report generator and information updaters.

3. 2. 3 Customer Interface

CATALOGUE : For every shop a catalogue will be created from where customer can find item information and price.

PRODUCT SEARCH : A search page will be build where customer can search for products this page will fetch the results from the data base and display them on the search page.

SHOP SEARCH: This feature will allow customers to search for shops by categories

SHOPPING BASKET: A shopping basket will be created which will be linked with the BUY button and when a customer hits the buy button the selected item will be added to the basked, the customer can view this basket to update or remove items.

CHECKOUT FORM: A form will be created that will take customer information and send it to processor gateway for verification and save the transaction data in the database.

3. 2. 4 Miscellaneous

LOGIN INTERFACE: A login interface will be provided where administrator, shop owner and customers (optional) can login; the user will be directed to the page his user type belongs to.

REGISTRATION PAGE: This page will let user to register with the site either as a customer or shop owner.

4. Technology Available for Development

Now day's different technologies are available for developing software and website. Few of them are open source and do not add cost in development. For building our website we require to choose technology for Backend and Front end development.

4. 1 Backend

Backend is where the Website data will be stored, this data can be of the customer, shop owner or can be site contents. For an ecommerce application databases are the foundation, all the information comes from the database and all the information will go to the data base. There are several databases technologies available like MSACCESS, MSSQL and MYSQL.

- *MSACCESS is Microsoft database that can run on windows based servers. It is used for small scale ecommerce website, it is easy to develop database using MSACCES for developing low traffic site. It is a file based database and the problem with file based database is that if a data base crash all the data is lost.*
- *MS SQL SERVER is also Microsoft based database server which has wide support, it has powerful enhanced feature like stored procedure.*

It is very fast and stable. A free Express developer edition is available to create local database for development and testing.

- *MYSQL SERVER is an open source database, it also has extremely huge support community, the version 5 has enhanced feature that can be used to create enterprise level databases. It is super fast and stable as compare to other databases. MYSQL is also multi platform so that it can be deployed on any web server running on either windows or Linux*

It is important that data base should be build correctly as application will run on top of it and after launch of website if a serious flaw is found then it's hard to fix the problem as data base structure has to be changes that can shake the foundation of the application. So it's necessary that through time should be spend in designing of database. Few factors were conceders while choosing the database. These factors involve:

- **Stability:** The database should be stable and should not crash as this can make the site down which can cause potential loos to business.
- **Scalability:** data base should be scalable to handle large amount of data and can be extended if necessary once build.
- **Speed:** Speed is once of the important factor, the database should be able to retrieve information on fast rate so that customers or users don't have to wait for the data to be fetched; the data based should be able to optimize queries.

- Referential integrity: This concept involves that data base should be developed in such way that inconsistent data should not be saved in tables.

4.2 Frontend

Front end is what the user will see on the webpage, this user can be a customer or the Mall administrator or shop owner. The front ends code brings the information back from the backend and display to the user or take the information from the user and send it to back end for processing or storage. We require a scripting language that can be used to develop font end. There are different scripting languages available for writing server side scripts like ASP, JSP and PHP etc.

ASP: Active Server pages ASP is Microsoft developed scripting language used to create dynamic WebPages, it is used by many web hosting companies and lots of material and books are available, the disadvantage of using ASP is that the code can be writing by using only VBScripts as Microsoft bounds that, and writing code in VBScripts has its own limitation.

JSP: Java Server pages is another technology of creating dynamic WebPages, it is based on JAVA programming language to design server side code. The JSP code is incorporated in HTML files by using special tags to write dynamic contents. The JSP source code is executed from the server on JSP Servlet Engine; this Engine then generates the HTML and sends the output to client browser.

The advantage of using JSP over ASP is that ASP is based on Microsoft .NET architecture and can only run on Microsoft platforms where as JSP is Cross

platform and can be run on any platform like Linux and windows. Another advantage of Using JSP is that beside its Object oriented, it can be used with different technologies like, Extended java beans (EJB), SERVALETS and AJAX to make site more interactive.

PHP: PHP is one of the widely used server side scripting language, by using PHP dynamic websites can be created which provide interaction of user with the website. PHP is cross platform language that is PHP scripted running from Linux web server can be executed on windows machine and vice versa. The language is open source and is available without any cost, beside open source it has huge development community with can be contacted for help if required. The language is fast, stable and secure.

5. Selected Technology

5.1 Backend

Backend will be developed using MySQL 5.0. The reason for using MySQL is that it is open source and will not add cost in development, beside that it have extremely wide support and a huge developer community from where great help can be obtain. Other reason is that it is expected that the site will have heavy traffic and fast stable and secure database server is required and MSSQL is the only open source database that can be relied upon.

The 5.0 version of MySQL also includes the stored procedure call, a stored procedure call can save the query data that is frequently used so that that data does not need to be fetch from table again and again, and it's a sort of caching. Beside that MySQL has built in security feature and as MySQL database is not a file that's why it can't be copied from the server, MySQL is also multi platform and can be deployed on any server.

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5. 2 Front End

JSP will be used to develop the front end scripts as we have previous background of JAVA and JSP is based on java and is easier to learn and to develop and it is more versatile and different technologies will be used like SERVALETS and AJAX to make the shopping experience more interactive and as AJAX function can be executed on user browser therefore carefully writing the function can decrease the bandwidth usage hence making the website much fast.

6. Cost Involved

Building and making the ecommerce site functional require cost, this involves the cost of software's that will be need to d