

2015•2016  
FACULTY OF BUSINESS ECONOMICS  
*Master of Management*

## Master's thesis

Use of e-mail communication to create a data base of actual or potential customers - the case of online webshops.

Supervisor :  
Prof. dr. Koenraad VANHOOF

Co-supervisor :  
De heer Wouter FAES

Jawad Khalil Moha AL-HANASH

*Thesis presented in fulfillment of the requirements for the degree of Master of Management*

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## Executive Summary

For marketers it would be useful to know exactly when to send a general mail or mail containing special offers and so on thus we create the main question of the problem statement: What is the effect of e-mail advertising on the creation of awareness of sales, products and brands?

We have tried to answer those questions by setting up a web-based system to allow a small retailer company in Jordan to let customers shop online among the products of different customers. The reason for selecting this topic is that many young people in Jordan have long working hours on the job and really do not have many times to shop physically.

The experiment we conducted had two stages. In the first stage our 16 selected customers were observed when surfing to the three websites of the companies and the system registered which items they clicked and thus obviously were interested in., Sales were not reported. In the second stage, four different mails sent with intervals to customer.

For results on the level of shops a more combined marketing approach linking e-mail marketing to some kind of social media marketing may be needed. This still remains to be investigated further The extra sales created in our experiment by the last two of our mails were clearly triggered extra sales for each of the companies, but the success in the sales process may have been largely enhanced by a number of factors we were of course unable to control given the size and organization of our experiment itself: We can also safely say that when more elaborate social media marketing would have been used such as Facebook ads and twitter, the results would have been much more outspoken. For our small shops, the e-mail marketing experiment proves already to be a working instrument and it may well be the best and most elaborate system these shops can be using given their size and number of customers.

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# Chapter 1

## Introduction

In this first chapter we will shortly sketch the problem statement, indicate which research questions we want to tackle and briefly describe the research methodology.

### 1.1. Problem statement

Internet and e-mail communication have become the major way people are communicating with each other. It has thus become for marketers and advertisers the most productive source to attract customer interest, mainly in driving their awareness of new products and brands (Pryianka, 2012). Since the main source of information is not only the commercial source, i.e. the company or organization wanting to contact potential customers, but peers of these customers, the reliability of the information is high in the eyes of customers, certainly when they create information themselves, for instance in blogs and other sources of information, something marketers use to call user generated content (Kaplan and Haenlein, 2008). The internet creates a form of customer socialization it is a source of referrals (O'Connor, 2008).

Even when e-mails are used, that can be more easily tracked down and attributed to companies, the nature of the new technological communication is such that they are consulted more readily and not lost as much as traditional forms of mail advertising (Peterson et al, 1997). Thus e-mail marketing is a source of cheap and efficient communication with large parts of the population, sometimes even generating the possibility to better track demographic characteristics and thus



allowing company marketers to tailor not only the message, but also eventual offers more to the receiver. The possibility of contacting people all over the world makes it a potent marketing tool. Moreover e-mail is not expensive when compared to older forms of communication (Haque and Kathibi, 2012).

The best e-mail communication is entertaining and informative at the same time. Research shows that entertainment e-mails are the most effective ones (containing prizes, lotteries, surprises and so on...) (Jamalzadeh et al, 2012). Yet no research has been done before about which types of informative mails are most useful. For marketers it would be useful to know exactly when to send a general mail or mail containing special offers and so on...

This is where we want to try to find some answers.

## **1.2. Research Questions**

Our major research questions are:

- What is the effect of e-mail advertising on the creation of awareness of products and brands?
- What is the effect of e-mail advertising on the creation of sales of products and brands?
- What is the effect of e-mail advertising offering special deals on the creation of awareness of products and brands?
- What is the effect of e-mail advertising offering special deals on the creation of sales of products and brands?
- Which e-mail advertising, general informative ones or those offering specific deals are thus the most effective ones?

### 1.3. Research Methodology

We have tried to answer those questions by setting up a small experiment in Jordan. Three companies offering electronic devices were prepared to participate in it, but did not have a customer base linked system to send e-mails to customers, thus we set up a small performing system that allowed them to send mails to customers who had clicked on one or more products offered on their website. The setting up of the system took a lot of time but finally was successful indeed. We thus have enlarged the research questions in Chapter 3 somewhat indicating also which type of cheap system could serve the trick.

The system was set up in detail during the summer holidays of 2015 together with a friend more knowledgeable in Management Information Systems. The participating companies were allowed to keep it after the test.

We did not have sufficient time to test the system fully after the month of September-October 2015. Thus we had to integrate the experiment in the testing stage. That is why we have dealt with only 16 customers, which makes our experiment less reliable. Nevertheless we can present some preliminary results.



## Chapter2

### Literature review

In this chapter we will go through the most important scientific literature on e-mail marketing. We will first explain what we understand e-mail communication to be from a commercial point of view. We will then compare e-mail marketing with the traditional mail advertising and look at the effects of it on consumer behavior, more specifically with regard to the way it is influencing existing as well as potential customers.

#### 2.1. Definition and forms of E-mail marketing systems

E-mail marketing is directly marketing a commercial message to a group of people using e-mail, seeks to build a way to make an interactive communication channel through customers in a way that can be engaged with firms, responding to firms' email messages and making purchases (Zhang, 2015).

Any e-mail communication that is meant to build loyalty, trust or brand awareness is thus part of e-mail marketing (Madison Logic, 2014). E-mail marketing can indeed be executed to contact the current customer database.

Broadly, the term is thus usually used to refer to:

- sending e-mail messages with the purpose of enhancing the relationship of a producer or retailer with its current or previous customers to encourage customer loyalty and increase repeat business;
- sending e-mail messages with the purpose of acquiring new customers or convincing current customers to purchase something immediately or in surplus;

- Adding advertisements to e-mail messages sent by other companies to their customers (Madison Logic, 2014).

Literature makes a difference between two different types of e-mail marketing, E-mail newsletters and direct e-mails. The difference is mainly based on the type of e-mail used.

E-mail Newsletters are direct e-mails sent out on a regular basis to a list of subscribers or customers. The primary purpose of an e-mail newsletter is to build upon the relationship of the company with their customers/subscribers and to give customers the feeling of belonging to a preferred group or club of relations(Adams and Cayouette, 2002).

Direct e-mail on the contrary involves sending an e-mail solely to communicate a promotional message, for example an announcement of a special offer or a catalog of products. Companies usually collect a list of customer or prospect e-mail addresses to send direct promotional messages to. They can also rent a list of e-mail addresses from service companies (Phelps, 2004).

## **2.2. E-mail marketing as one of the types of internet marketing**

To understand difference between e-mail marketing and other forms of marketing, we first have to take a look at the types of the Internet marketing.

According to literature, there are several types of the internet marketing. We enumerate them here (Priyanka, 2012):

- Display Advertising: using web banners for banner advertisement on the company's website to increase brand and/or product awareness;

- Search Engine Marketing (SEM): a kind of marketing that tries to promote websites by give them more visibility in search engine result pages (SERPs) through the use of either paid placement, contextual advertising and paid inclusion, or through the use of free search engine optimization techniques;
- Search Engine Optimization (SEO): a method of marketing trying to fit a website or a webpage in search engines using the visibility process through the "natural" or un-paid ("organic" or "algorithmic") search results;
- Social Media Marketing: the benefit of SMM is to create more users that share information through their social network and thus facilitate the company to increase brand awareness and customer reach;
- Email Marketing: as we said before one of the most important types of internet marketing which is directly marketing a commercial message to a group of people using e-mail. It seeks to build a way to establish an interactive communication channel with customers in a way that they can be engaged and interested in firms and their offering;
- Referral Marketing: a form of internet marketing by promoting products or services to new customers through referrals. The most common way used to be word of mouth, but this has been replaced by sharing on social media;
- Affiliate Marketing: officially attach or connect a subsidiary group or a person to an organization practicing marketing for achieving a business for each customer or visitor by the affiliate's own marketing efforts;
- Content Marketing: Content marketing is a form of internet marketing that involves adding, adjusting and freely sharing information content as a means of transformation of awareness into interest (Priyanka, 2012).

### 2.3. Comparing e-mail marketing with traditional mail advertising

When comparing e-mail marketing with traditional advertising, a number of advantages and disadvantages become clear.

E-mail marketing is more common and is being used more by companies than traditional mail advertising nowadays for several reasons, clearly indicating its advantages over traditional mail.

- Email marketing is significantly cheaper and faster than traditional mail, mainly because of the high cost and time required in a traditional mail campaign for producing the artwork, the printing, addressing and mailing
- Through e-mail marketing advertisers can reach substantially larger numbers of e-mail subscribers who have opted in for instance to receive e-mail communications on subjects of interest to them than the numbers that can actively be reached by traditional mail (Morgan, Vorhies and Mason 2009).
- Almost half of the Internet users check or send several e-mails per normal day (Horrigan, 2009).
- Email marketing operates at a higher response rate and higher average order value for e-commerce businesses compared to standard mail.(Morgan and Vorhies, 2009)
- Return on investment of e-mail marketing is immense when calculated accurately. This can be done by tracking the responses to e-mails and linking them to sales results ("track to basket"). E-mail marketing is thus considered to be the most active and effective online marketing tactic second in rank to SERP's only (Priyanka, 2012).

Unfortunately e-mail marketing does not only have advantages. Reports are being published indicating that mid 2008 the delivery rate of e-mail ads was still an important issue for many marketers. Legitimate e-mail servers only registered an average delivery rate of 56 %, whereas 20 % of the messages were either rejected either not delivered due to aging of the e-mail data base. Moreover 8 % of the

messages were filtered and never reached the distant (Rettie, Grandcolas and Deakins 2008).

It's seems moreover popular nowadays to consider the e-mail marketing as spam. Thus companies seeking the use of an e-mail marketing program must make sure that their program does not breach spam laws such as the United States' Controlling the Assault of Non-Solicited Pornography and Marketing Act (CAN-SPAM) (Ftc.gov,2003) and the European Privacy and Electronic Communications Regulations of 2003 nor their Internet service provider's acceptable use policy.

#### **2.4. The effects of e-mail marketing systems on consumer behavior and attitudes**

If we want to talk about e-mail and its effect on consumer behavior and attitude, we first have to look at how communication works in general and how this is affected by the use of modern media.

Communication is considered to be one of the most important bases for social interaction. It represents one of the core modes of setting about human activities. Communication explains ideas, exchanges information and feelings and represents social interaction. Recently dramatic changes have rocked traditional means of communication. The performance of technological discoveries to exchange large amounts of data and information faster and more effectively and the harnessing of this technology in devices for individual use by humans have created not only a growing need, but also a growing use of communication networks (Mihart 2012).

Individual or organizations who want to communicate have to cope with the inefficiencies of human communication. First they have to translate the concepts in a set of symbols that can be transferred to the receiver. In order to understand the



original message this receiver then needs to translate the original concepts into symbols again that can be understood by him or her so that the transfer of the desired message can take place (Blythe, 2006).

Communication effectiveness is thus determined both by understanding the message and getting the desired reaction from the part of the receiver, in response to the message (Popescu, 2002) and is hampered by the coding, sending and receiving of the message. So a lot can go wrong.

This is not different when we talk about internet communication, the emerging source of communication by human beings. It is for marketers and advertisers the most productive source to attract customer interest, mainly in driving their awareness of new products and brands and in creating a communication type which is more reliable than commercial communication as it is partly driven freely by the customers themselves. Moreover the customers will experience the feeling to control part of the communication and check less what is commercial advertising and what is not (Priyanaka, 2012).

This is due to the special nature of internet and social media communication.

The Internet has independent and special characteristics (Peterson et al., 1997), such as:

- The ability to store a huge data in different several locations;
- The availability of powerful and cheap means of searching, organizing, and publicize such Information;
- Reciprocal and the ability to provide information on demand in appropriate time;
- The capability to serve as a transaction medium;
- It has the capability to be used as a physical distribution medium for certain goods (e.g. software);

- Any communication through it is mostly more cheaper and offers a low cost alternative to sellers and marketers.

The most important favorable thing of the internet and of e-mail marketing is that business has the theoretical chance of reaching the whole population they want to communicate with. It on the other hand also gives customers the opportunity of surveying, selecting and exploring products from all over the world and also purchase them (Al Kailani and Kumar, 2011). This “worldwide effect” certainly makes social media and e-mail marketing more popular with many businesses and thus effect customer behavior as one can compare many more alternatives in order to find the most appropriate choice of products.

Yet the wealth of offers can also be a nuisance to customers as processing too much information on many alternatives is not necessarily easy. That is why the fact that the internet and social media stimulate peer communication with friends and communities comes in very handy. The internet creates a form of customer socialization that is new and very important. Consumer decision making processes are becoming more and more influenced by peer internet communication, which replaces part of the word-of-mouth previously used. Thus the mental, affective and connective component of consumer attitudes are positively influenced (Catiolu et al., 2002; Ward, 1974). Trust in peer and community partners creates confidence in offered items and brands more easily. That is also why in many sectors of industry consumer generated content works well as a referral source and thus can be used and exploited in e-mail marketing, for instance in the hospitality business (O’Connor, 2008).

Consumer behavior on the internet is quite different from one person to another one. According to recent studies (Cotte, Chowdbury, Ratenshawar and Ricci, 2006) consumers may use the internet in four different ways. Some customers just explore what is offered in general without specific objectives in mind, others are really

looking for information and want to be better informed, while still others are looking for entertainment more than they would want to shop. Lastly there is a group of people that use the internet mainly for shopping purposes. The authors suggest using these behavioral patterns as the basis for segmentation, but the problem is often that many customers combine different types of internet use behavior and are shoppers and information seekers at the same time for instance.

The problem of segmentation users of e-mail and internet marketing is not easily solved in general. (Ghajarzadeh et al,2010) studied the factors that influence the behavior of consumers on the internet according to the theory that people want to reward themselves for efforts done (gratification theory) and came to the conclusion that only a few factors explain the intensity with which the use of e-mails and internet ads allows these customers to gratify themselves. They are mostly demographic factors (age, gender and location) which allow them to be used for segmentation, but do not explain the needs customers really want to fulfill. The communication pattern itself is also an explaining variable, but cannot be traced back to profiles as such, which renders segmentation difficult indeed.

Haque and Kahtibi (2006) confirm these demographic factors and indicate that age, occupation and income are explaining factors that can be used by internet marketers to segment their market and moreover enable them to send tailored messages to the receivers keeping those factors in mind. They also indicate that e-mail and internet marketing should be both informative and entertaining to become effective for all those demographic categories.

Marketers in companies, online businesses and also government institutions need to try to exploit user information (for instance about their interests, needs and also personal characteristics) in many ways to make the e-mail advertising venture worthwhile (Turow and Hennessy, 2007). The distributive use of e-mail services is one of

the most important accomplishments in business communication in last two decades and is used in other forms as well such as loyalty cards and so on. This specific advantage of e-mail marketing is however rendered more difficult since customers have the option of keeping their personal information secret to a certain extent. Consumers make a trade-off between on the one hand being recognizable and wanting to receive interesting offers via e-mails and other hand keeping some personal data safe and secret (Gordon and Lima-Turner, 1997). Valuation of the usefulness of e-mail marketing should be based on this trade-off.

Previously we have indicated the necessity of offering informative and entertaining information via the internet and via e-mails to have an effective marketing campaign (Haque and Khatibi, 2006). This is a confirmation of a previous study by (Ducoffe ,1995), mentioned in (Jamalzadeh ,2012) indicating that entertainment works as a positive marker in the mind of customers and renders the marketing message more valuable for the customer and brings him or her in a more positive attitude to the internet or e-mail advertising message.

Rovaniemi (2008) also indicated that special offers can be very important in getting the customer to action (that is showing interest or willingness to purchase) when the entertainment value is still partially there. In any case charging money for obtaining the information does not improve the effectiveness of e-mail marketing and internet offerings. So the mails and information provided should mostly remain free of charge.

The pervasive use of e-mail in our society and by businesses has made a big difference in the way people connect and interact with each other and moreover try to retrieve information, also via peer contact. This has opened a new way for businesses to interact with their consumers (O'Connor, 2008) since e-mail gives them the opportunity to present themselves to several target customer segments.

But this can also be a threat to them as they have, as previously indicated be careful not to break any laws. The privacy issue does not always allow them to create a good relationship with their customers via mail. Moreover sharing this private information is a real threat to democracy indeed. So it is only with respect for the data of the customers that an opportunity exists for companies to develop an online relationship with the customers, according to Westell and Wessing (2003) as one of the major factors of success when using e- mail marketing tools (Westell&Wessing, 2003).

A last and important factor that influences e-mail marketing effectiveness is culture. Culture can indeed be considered as one of the critical factors in the success of E-marketing because it influences the presence of a helpful atmosphere and environment for it. The powerful human perception of culture can make the self-service mode of many e-marketing based activities to some extent unattractive in some instances. There are a lot of cultural circumstances that can affect e-marketing. These aspects consist of people's attitude towards e-marketing activities, the importance of trust and security in a society, the lack of social reception for electronic economic activities and customer acceptance and participation in the e-marketing transaction (Phelps, 2004; Hooda and Aggarwal 2012). All these factors may influence customer attitudes towards e-mail marketing and consequently also the consumption process when it is influenced by e-mail activities by marketers.

## Chapter 3

### Methodology

In this chapter we will indicate what the major objectives and questions of the research were and how we tried to cope with them by creating an experiment. We will talk about how we went about and what the major system design elements were, including the data flow diagram and entity relationship diagram. The key element of reporting via the website will be explained in the next chapter.

#### 3.1. Major research questions and set up of the project

This dissertation talks about the setting up of a web-based system to allow a small retailer company in Jordan to let customers shop online among the products of different customers. The reason for selecting this topic is that many young people in Jordan have long working hours on the job and really do not have many times to shop physically. They resort more and more to using online shopping as a way of obtaining products, specifically the more expensive ones, such as cosmetics, electronics, household appliances and multimedia products. Our small retailer is active in this last field of business.

The major questions we want to address are:

- How do we set up such a web-based systems?
- What are the different components of such a system?
- Which is the major software elements used?
- How do we best contact the customers, specifically using e-mail marketing?
- Can we incite customers to refer to other prospects?
- Which results can be expected?

The first three questions are directly related to the Management Information System we need to set up, the last four to the Marketing results that can be expected.

Since the project is real for the small retailer situated in Jordan, the data mentioned here are to be treated with secrecy. Moreover, the retailing company is small, thus the set-up of the system has to be low cost, using simple software methodology,

although in reality many systems already exist that might obtain the same results. Most of them however are too expensive and much too complicated for the situation on hand.

The idea was also to see which type of communication to customers would be the most performing one for our small retailer to obtain the best business results.

### 3.2 Approach

From a more scientific angle, we can thus say that our approach is a project based. This signifies that practically we have tried to prove and indicate the importance of e-mail marketing to contact prospects on the basis of this real life project and to measure via different ways the effects we can expect.

The project was executed during the summer holidays of 2015, when the author returned to Jordan for a short period of six weeks and set up the system for a friend who owns the retail business. Some of the data base data were already previously present in the retail shop (the customer interest data were created in a simple spreadsheet that was integrated in the data base now). The results are obtained in the months of August and September 2015 between the end of Ramadan and the start of the New Hegira year. It was developed then because developing from Belgium would have been very inconvenient. The development required intricate collaboration between the author of the dissertation and the retailer.

Moreover our approach is experimental. We have used several types of e-mail contact with the prospective customers to investigate which one is the most useful one. We used a simple e-mail and an e-mail explaining more in detail what would happen and inciting them to use referrals to other prospective customers. We wanted to see which one would be most useful and compared the obtained results.

In order to make this project worthwhile, the system architecture and measurement systems are essential. We briefly describe them underneath.

### 3.2.1 System architecture

We build a system connecting several companies with special offers (sales) to several customers. This system can be considered as a very equal copy to Retail Company which tries to build data about current customers and prospects and their preferences for the sales companies connected to it. The system looks as depicted in (Figure 1).

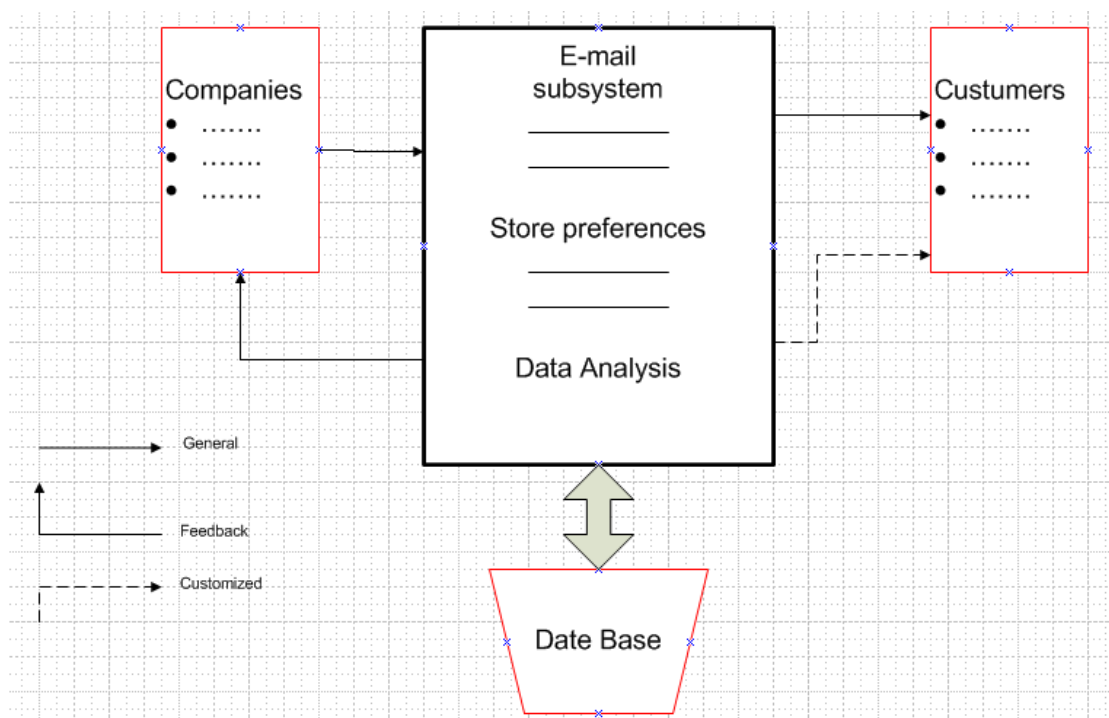


Figure 1: System architecture

Source: Own development



The database connects the companies (the suppliers of our retailer) with the customers of the retail system and uses e-mails to contact them trying to convince them to purchase something immediately or to refer to other prospects. The activities of the customers in the system are registered and then analyzed to measure the effects correctly in terms of interests, referrals and so on. Ultimately the thus collected database can be used to see whether viable segments can be detected on the market (customization part of the analysis).

In our project we had the collaboration of three companies (suppliers of the retailer) and fifteen contacts (prospects) were connected to each other through E-mail campaigns. The collaborating companies send general ads via our system architecture to selected customers.

### **3.2.2 Measurement of effects: methods used**

The measurement of the effects and the feedback (amongst others on potential segmentation strategies) thus generated in our experiment to the three collaborating companies was generated in our data base using three very inexpensive different analytical tools: Google analytics, Cognos and Pivot table. In a second stage we tried on the basis of the generated data to customize the ads more that were sending to the customers.

The three analytical tools are shortly described below. We used all three to have some verification and control of the generated data by comparing the results.

Google Analyst: is a free service offered by Google. It generates detailed statistics about the visitors to a website. GA (Google Analytics) can track visitors from all different sources, including search engines, advertising displays, pay-per-click networks and e-mail marketing actions. If your website sells products or services

online, you can use Google Analytics e-commerce reporting to track sales activity and performance. The e-commerce reports show you your site's transactions, revenue, and many other commerce-related metrics.

Cognos: is IBM's business intelligence (BI) and performance management software suite. The software is designed to enable business users without technical knowledge to extract corporate data, analyze them and create reports about it. Cognos is composed of nearly three dozen software products. Because Cognos is built on open standards, the software products can be used with relational and multidimensional data sources from multiple vendors, including Microsoft, NCR Teradata.

Excel pivot table is a program tool that allows you to reorganize and summarize selected columns and rows of data in a spreadsheet or database table to obtain a desired report. A pivot table doesn't actually change the spreadsheet or database itself. In database lingo, to pivot is to turn the data (see slice and dice) to view it from different perspectives. A pivot table is especially useful with large amounts of data. For example, a company might list monthly sales totals for a large number of merchandise items in an Excel spreadsheet. If the owner wanted for instance to know which items are sold better in a particular quarter, it would be very time-consuming to look through pages and pages of figures to find the information. A pivot table would allow the owner to quickly reorganize the data and create a summary for each item for the quarter in question.

A pivot table is thus a data summarization tool found in data visualization programs such as spreadsheets or business intelligence software. Among other functions, pivot-table tools can automatically sort, count, total or give the average of the data stored in one table or spreadsheet. It displays the results in a second table (called a

"pivot table") showing the summarized data. Pivot tables are also useful for quickly creating unweighted cross tabulations. The user sets up and changes the summary's structure by dragging and dropping fields graphically. This "rotation" or pivoting of the summary table gives the concept its name.

Together they form the Business Intelligence platform we used to generate data about customers and their reactions. Business Intelligence is indeed a broad category of applications and technologies for gathering, storing, analyzing, and providing access to data to help clients make better business decisions. It refers to skills, technologies, applications and practices used to help a business acquire a better understanding of its commercial context. Business intelligence may also refer to the collected information itself. It includes database and application technologies, as well as analysis practices. BI is thus a broad term for software reporting tools that will use the same databases as the ERP software to generate customizable reports for administrators and other decision makers. Basically, an ERP gets data into the system, while BI gets it out.

### 3.2.3. Customer data collected

We wanted in the short period to collect as much data as possible of the following list:

- Name and contact details to allow you to directly market to them and make personalized ads. Maybe we also need to contact them later if problems arise or complaints about late delivery have to be handled or if extra offers can be made.
- Profile: age, gender, profession, income, hobbies, and so on:

This information is harder to obtain, but can be useful for a more detailed and advanced marketing strategy. Once you have the info about a number of customers, you can build a clearer picture of who exactly your target customer is. It allows you to better focus your advertising and marketing efforts, as well as affiliate opportunities and sponsorships. If you know for instance that your target customer goes to the gym three times a week, it opens up a new place to advertise, a new line of gym-related products and an opportunity to do a deal with the local gym to offer discounted membership if they shop with you X number of times. Knowing the age of the customers and their profession (and so an idea of their income) helps with pricing strategy. The better and more detailed picture you have of your target customer, the more you can tailor and develop products to please them.

### **3.3. Data flow and Entity Relationship Diagram**

To make things more clear we also add in this chapter the major flow diagrams that explain how the system we developed works: the data flow diagram and the entity relationship diagram.

#### ***3.3.1. The Data flow diagram***

The data flow diagram is explained in (Figure 2).

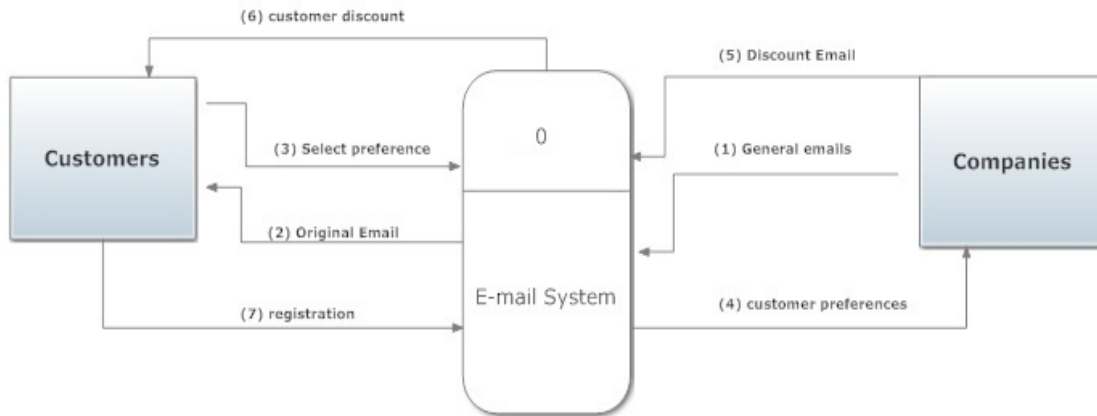


Figure 2: Data Flow diagram

Source Own development

The Data Flow Diagram (DFD) above illustrates the flow of data among external entities. First companies send general e-mails including general products and offers to the e-mail system. They are collected, organized and resend to the retail customers.

These e-mails will help the retail company to determine customer's preferences. These are analyzed and the segmentation feedback is end to the companies (suppliers). These companies will study the customer preferences to determine which products to make discounts and offers, and then resend a discount E-mail to the e-mail system.

The retailer will notify to each customer which the new discounts are and which offers are made according to the retailers' and the prospective customer's interests, which will increase their awareness about the offers of the products they like most. The retail website will also spread info to others customers on the basis of referrals

and on the basis of info on new customers who register to receive e-mails via the retailer about the supplier companies and their products.

This is indicated in a more detailed Data Flow Diagram, we indicate in (Figure 3).

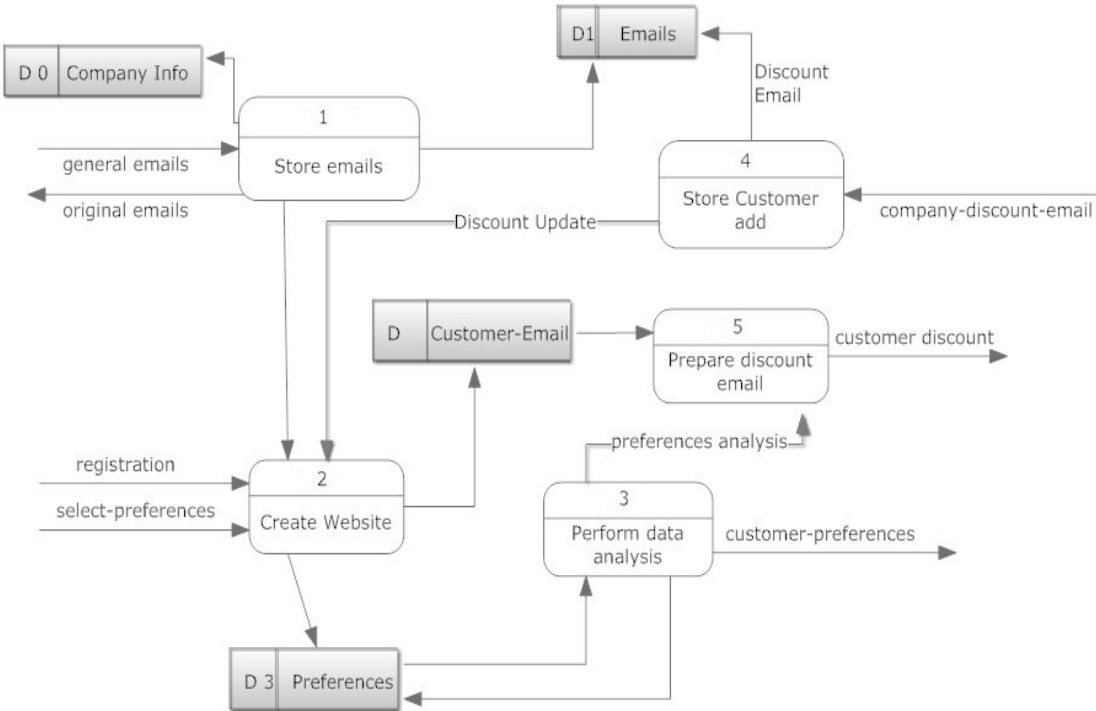
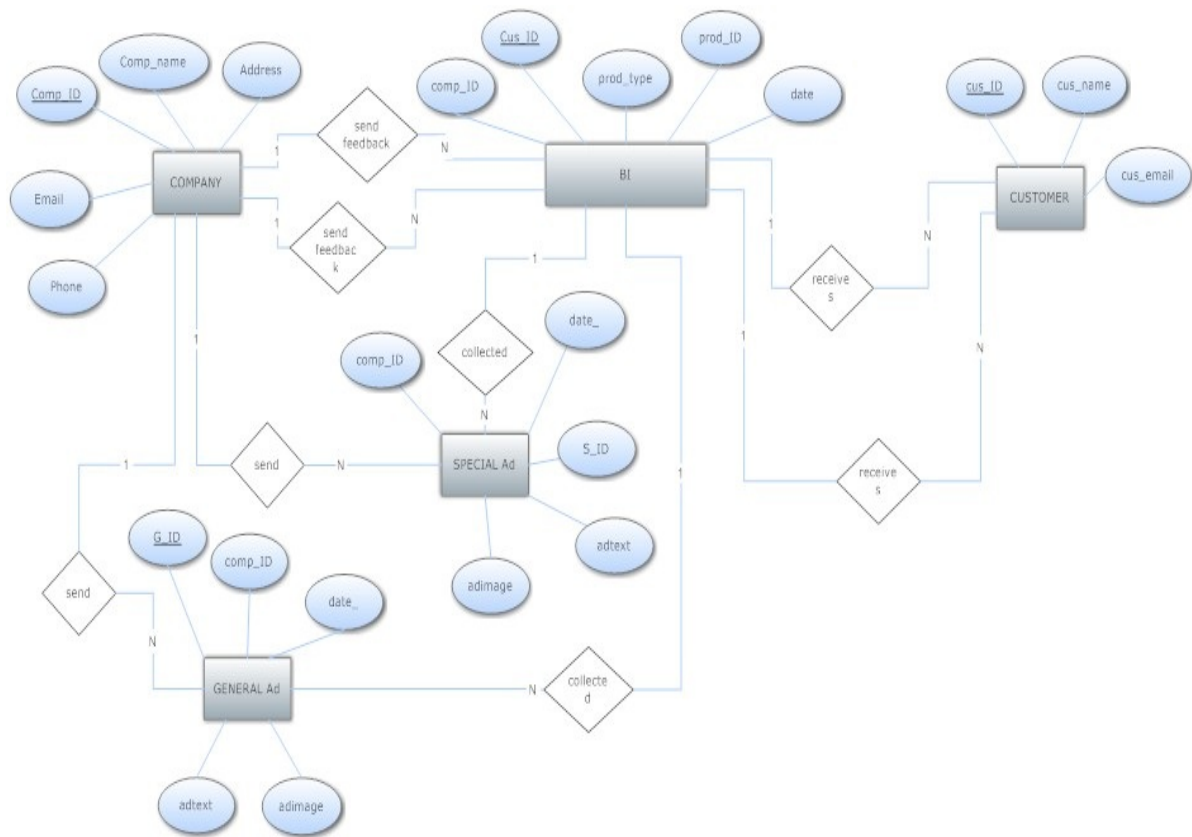


Figure 3: Detailed Data Flow Diagram

Source: Own development

3.3.2. The Entity Relationship Diagram

An entity relationship diagram (ERD) is diagram that pictorially represents entities, the relationships between them and the attributes used to describe them. It is also called an entity-relationship model. The ERM for our retail model is depicted in (Figure 4).



**Figure 4: Entity relationship Diagram**

Source: Own development

## Chapter 4

### View on the website and database

In this chapter we will shortly indicate how the website looked like and which data could be generated using it. Although not directly necessary for the analysis of the data, it gives a fair view of how the retail company could work easily and effectively with the system created as such. The results of the first e-mail campaigns will be indicated in the next chapter.

#### 4.1. Website and e-mail campaigns

(Figure 5) indicates the home page of the retailer. There are four main categories of products. They are in fact links connected to huge and secure databases of the suppliers that will register every click the customer makes. Each main category will take customer to a page containing more details about the products such as model names, brands, prices and the company that sell this products. At the bottom of the page there is link for new customers to register their names and E-mail addresses, which will help in acquiring more contacts and info to increase the database of contacts and make the E-mail campaigns more popular and reachable.



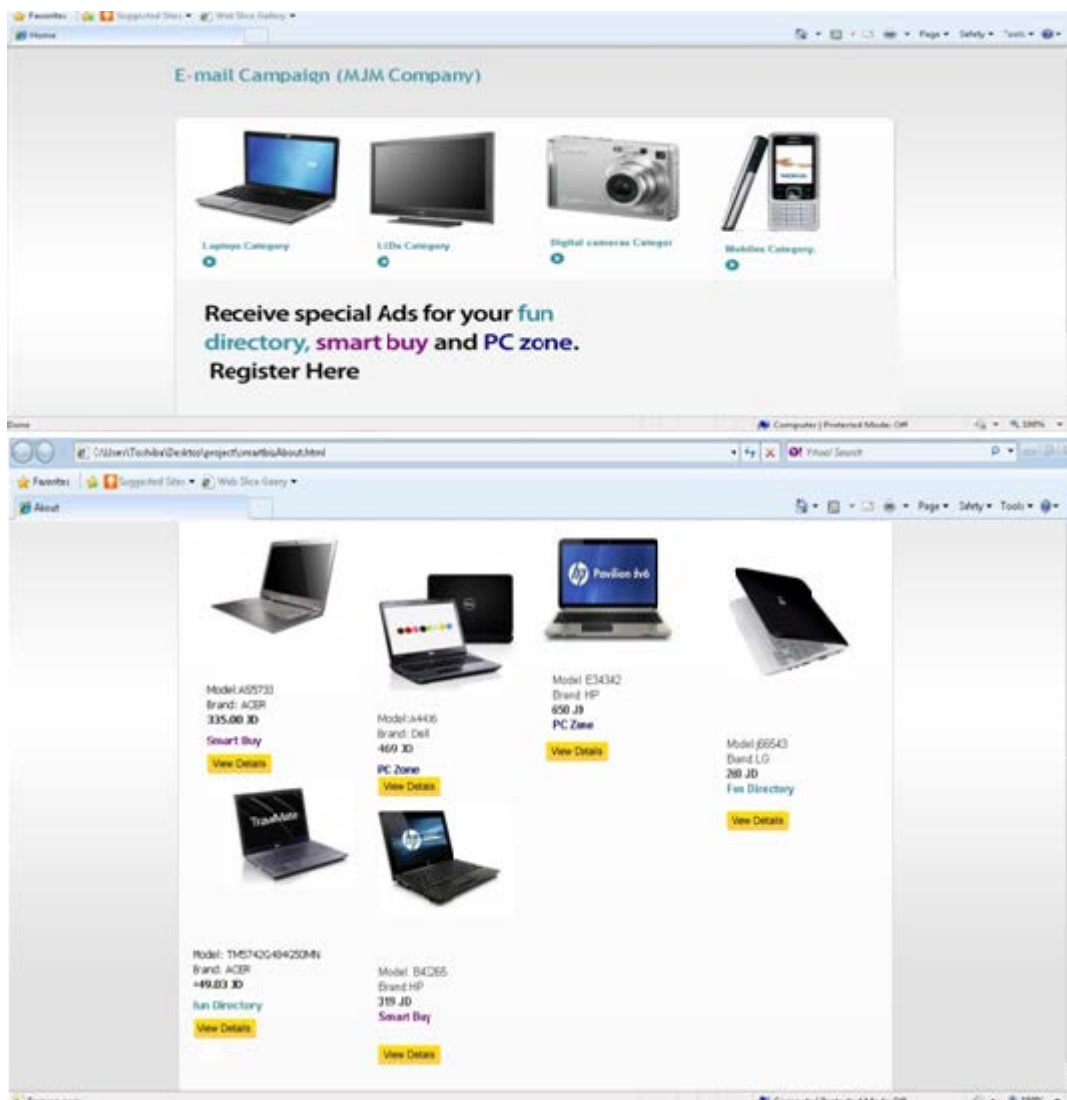


Figure 5: Homepage and second page per product category of the retailer

If customer clicks the laptop category for example, a collection of laptops details will be shown such as laptop model, brand, price and the companies (suppliers) that sell or offer this product. By clicking on any of these laptops they have, the customers are helping the retailer to start collecting data about your interests because every click a customer makes on any of these laptops will be registered by the database which helps the retailer later to determine what exactly the customer is looking for. It allows the retailer to send the e-mails the suppliers want the customers to receive. You can see that in (Figure 6).

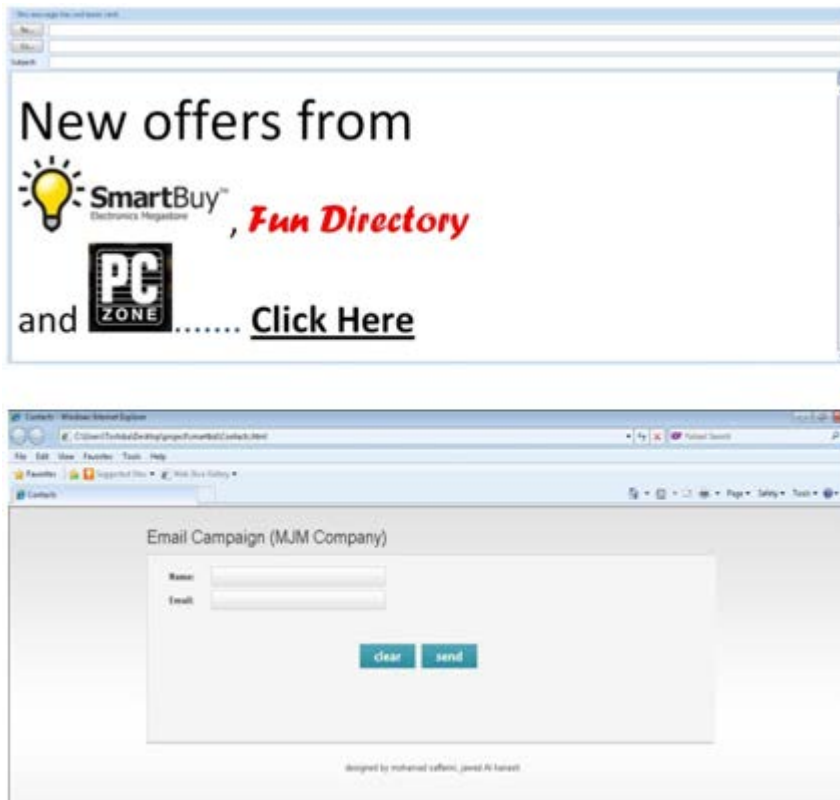


Figure 6: Webpage that links to suppliers and their e-mails

#### 4.2 Collected customer data

In this section we indicate how the developed retailing system creates data about the customers in several screenshots developed by the retailing table system. Customer data identification is shown in (Figure 7), the companies (suppliers) that want to cooperate are identified in (Figure 8). The more companies cooperate, the more competition in the retail product data base will exist. (Figure 9) gives an

indication of the products offered and different companies offering them. It is the retail offering to customers.

Enter SQL, PL/SQL and SQL\*Plus statements. Clear

```
select *
from customers
```

Execute Load Script Save Script Cancel

CUSTOMER_ID	EMAIL
saed tilawi	saed223@hotmail.com
majd yousef	majd_d22@hotmail.com
firas bar	firas.bar@hotmail.com
rami jalal	rami_j_89@hotmail.com
aya darwesh	aya_d33@hotmail.com
mina sami	m.s.1988@hotmail.com
salma yousef	sal.yousef89@hotmail.com
amjd fared	amjd.f88@hotmail.com
nour sami	nour.sami.22@hotmail.com
tarek yousef	t.yousef@hotmail.com
laith qsus	laitqsus@yahoo.com
mohamad haslamon	moe_89@windowslive
aseel barouq	aseel.barouq@gmail.com
abdelleh zoubi	abo_salt00@hotmail.com
hanin yousef	h.shaban@hotmail.com

Figure7:Customer data identification

SQL\*Plus Logout Preferences Help

Workspace History

Connected as SCOTT@orcl

Enter SQL, PL/SQL and SQL\*Plus statements. Clear

```
select *
from companies
```

Execute Load Script Save Script Cancel

COMPANY_ID	COMPANY_NAME
111	smart buy
112	fun direcotry
113	PC zone

Clear

Copyright (c) 2003, 2006, Oracle. All Rights Reserved. Workspace | History | Logout | Preferences | Help

Figure8:Company supplier identification

Enter SQL, PL/SQL and SQL\*Plus statements.

```
select *
from products
```

Execute Load Script Save Script Cancel

PRODUCT_TYPE	PRODUCT_ID	COMPANY_NAME
laptop	acer	smart buy
laptop	HP	smart buy
laptop	LG	smart buy
laptop	Dell	smart buy
laptop	acer	fun directory
laptop	HP	fun directory
laptop	LG	fun directory
laptop	Dell	fun directory
laptop	acer	PC zone
laptop	HP	PC zone
laptop	LG	PC zone
laptop	dell	PC zone
LCD	Samsung	smart buy
LCD	LG	smart buy
LCD	Panasonic	smart buy
LCD	Samsung	fun directory

Figure 9: Product offering: competition among suppliers of the retailer

If a customer clicks a product, the database creates on his/her ID a list indicating what could have interested him or her, as in (Figure 10). In this Figure we see that ancient customer interest data from the spreadsheets of the retailer were also integrated in the system (see dates).

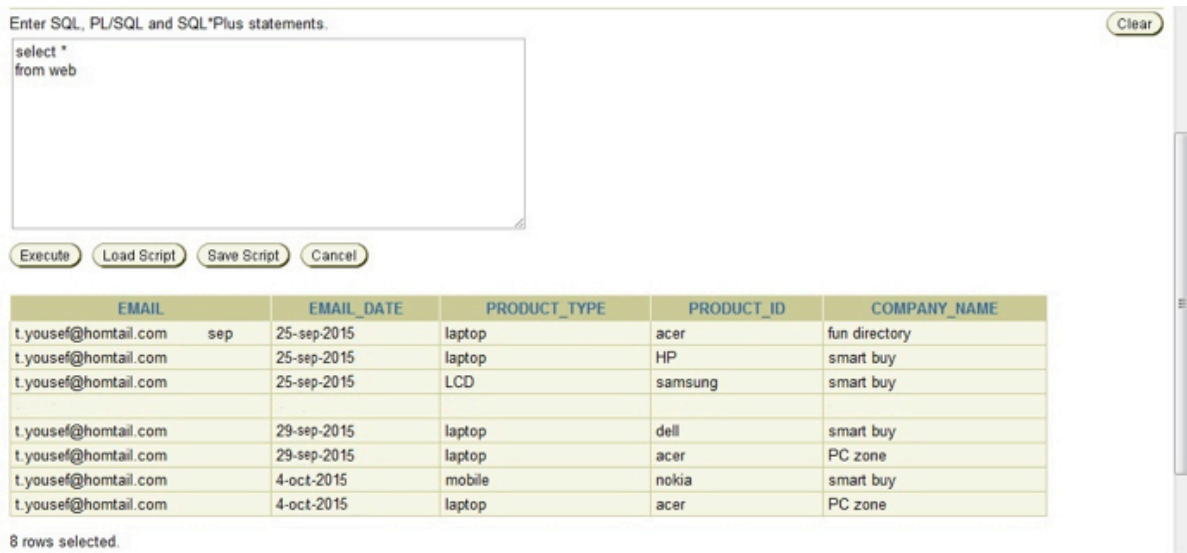


Figure 10: Customer click history

Finally, the data pivot table looked like in (Figure 11).

	A	B	C	D	E	F	G	H	I
1		customer name	company name	product type	product ID	price	email date	time	
2		abdelleh zoubi	smart buy	digital camera	sony	120	25-sep-15	9:13 PM	
3		abdelleh zoubi	Fun directory	digital camera	nikon	180	25-sep-15	9:19 PM	
4		abdelleh zoubi	fun directory	mobile	nokia	210	29-sep-15	8:33 PM	
5		abdelleh zoubi	smart buy	LCD	LG	230	4-oct-15	8:12 PM	
6		abdelleh zoubi	smart buy	digital camera	canon	190	4-oct-15	8:18 PM	
7		aseel baroq	PC Zone	laptop	dell	300	25-sep-15	5:45 PM	
8		aseel baroq	smart buy	laptop	HP	470	25-sep-15	5:55 PM	
9		aseel baroq	PC Zone	laptop	HP	420	29-sep-15	4:49 PM	
10		aseel baroq	Fun directory	laptop	dell	233	4-oct-15	6:17 PM	
11		aya darwesh	Fun directory	LCD	LG	433	25-sep-15	10:35 AM	
12		aya darwesh	Fun directory	LCD	samsung	510	25-sep-15	10:46 AM	
13		aya darwesh	smart buy	mobile	LG	170	29-sep-15	11:14 AM	
14		aya darwesh	smart buy	LCD	panasonic	489	4-oct-15	1:00 PM	
15		aya darwesh	Fun directory	LCD	samsung	410	4-oct-15	1:19 PM	
16		firas bar	PC Zone	laptop	dell	233	25-oct-15	8:11 PM	
17		firas bar	PC Zone	laptop	HP	345	25-sep-15	8:30 PM	
18		firas bar	Fun directory	laptop	dell	434	29-sep-15	8:12 PM	
19		firas bar	PC Zone	laptop	HP	190	29-sep-15	8:24 PM	
20		firas bar	Fun directory	mobile	nokia	237	4-oct-15	5:12 PM	
21		firas bar	Fun directory	laptop	dell	330	4-oct-15	6:12 PM	
22		hanin yousef	smart buy	digital camera	nikon	233	25-sep-15	3:45 PM	
23		hanin yousef	smart buy	digital camera	canon	240	25-sep-15	4:00 PM	
24		hanin yousef	Fun directory	digital camera	sony	210	25-sep-15	4:12 PM	
25		hanin yousef	Fun directory	digital camera	nikon	233	4-oct-15	4:16 PM	

Figure 11: Pivot customer table

The previous spread sheet shows the customer name, company name, product type, product ID, price, E-mail date and time. The spreadsheet is ordered according to customer name, E-mail date and time ascending which make data clear and organized so we can know which E-mail opened first and when. The data that were

present were integrated as a test and thus the picture includes these older data before e-mail tests were carried out.

Pivot tables are also created for types of products and company suppliers. Examples are shown in (Figures 12 &13). These tables indicate the number of clicks per product and company. They are linked to the customer data, so that companies can send specific offers via e-mail to customers.

29	smart buy	digital camera	canon	2		1	3
30			nikon	1		1	2
31			sony	2			2
32		digital camera Total			5	2	7
33		laptop	acer			1	1
34			dell	1	1		2
35			HP	2			2
36		laptop Total			3	2	5
37		LCD	LG	1		2	3
38			panasonic			1	1
39			samsung	2			2
40		LCD Total			3	3	6
41		mobile	iphone		1		1
42			LG		1	1	2
43			nokia		1	1	2
44	sony ericsson		1		2	3	
45	mobile Total			1	3	4	
46	smart buy Total			12	5	9	26

Figure12:Pivot table for products

4	customer name	company nar	product type	product ID	Total
5	abdelleh zoubi	Fun directory	digital camera	nikon	1
6			digital camera Total		1
7			mobile	nokia	1
8			mobile Total		1
9		Fun directory Total		2	
10		smart buy	digital camera	canon	1
11				sony	1
12			digital camera Total		2
13	LCD		LG	1	
14	LCD Total		1		
15	smart buy Total		3		
16	abdelleh zoubi Total		5		

Figure 13: Pivot table for companies



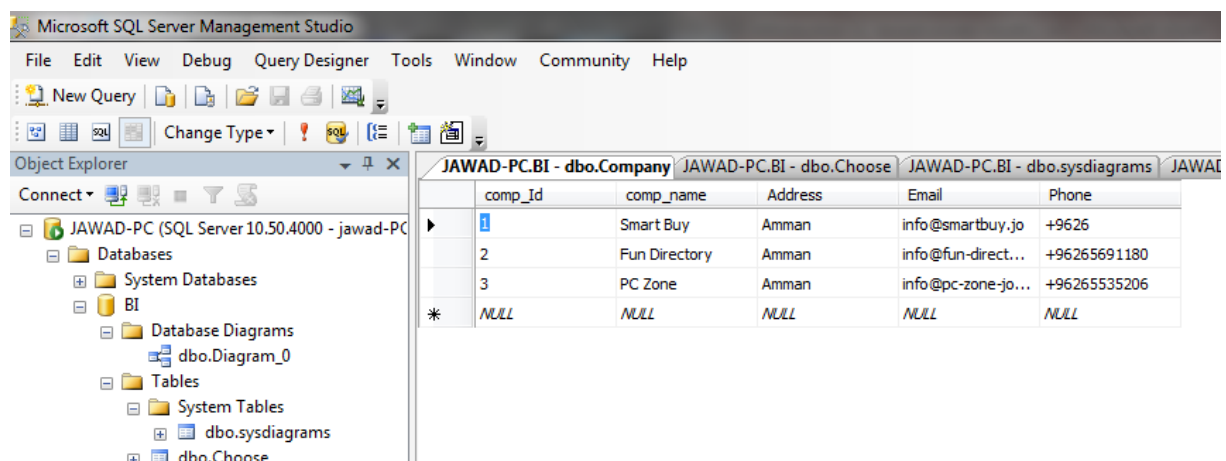
## Chapter 5

### Results of the Experiment and Findings

In this chapter we will shortly give an overview of the major results of the experiment we developed through this e-mail marketing system. We will indicate the practical usefulness of the developed small computer system, the reaction of the first group of customers and the results of the different types of e-mails send to them.

#### 5.1. Usefulness of the system

Three companies were convinced to participate in the experiment. They were selected in the middle of September 2015 and the system was installed on their websites end of September 2015. This was done during our last stay in Amman while studying in Belgium. All three are small shops selling electronic appliances and multimedia products. We choose to have only companies in the same sector to be able to compare the results better. They are shown in (Figure 14).



The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer on the left shows the database structure for 'JAWAD-PC (SQL Server 10.50.4000 - jawad-PC)'. The main window displays a table named 'JAWAD-PC.BI - dbo.Company' with the following data:

comp_Id	comp_name	Address	Email	Phone
1	Smart Buy	Amman	info@smartbuy.jo	+9626
2	Fun Directory	Amman	info@fun-direct...	+96265691180
3	PC Zone	Amman	info@pc-zone-jo...	+96265535206
*	NULL	NULL	NULL	NULL

Figure 14: Participating companies

These companies did not have to pay anything for the system and were allowed to keep it after the experiment. Normally such a system would have cist something



around 5000 JD (around 6500 dollars) in terms of time spend on the development and testing. But the normal sales price would have been lower since it is a system that can be used by smaller shops in general.

We asked the companies whether they knew personally some customers to participate customer side in the experiment. Finally we took five or six of their well-known SQL customers in the same age group (under 30 years of age) to participate. They were linked to the system by the three companies just as in reality when they addressed the website of the companies. By doing they were connected immediately to the system when clicking the company product list.

Sixteen customers participated, but the company owners had to contact more than 50 of them in total before having this small group willing to participate. The reason is that in Jordan for this type of products customers like to shop personally and have much personal advice of the salespeople. Moreover there are many of these shops in Amman so that online shopping is less interesting for the customers. Initially we have planned to conduct our experiment (see next section) with more customers, but due to time restrictions this was defiantly not possible.

The sixteen customers are identified in (Figure 15).

Cus_Id	Cus_Name	Cus_Email
1	Ali Muhammad	Ali_Muhammad...
2	Fadi Ahmad	Fadi_Ahmad@ho...
3	Rola Ahmad	Rola_Ahmad@g...
4	Samer Mustafa	Samer_Mustafa...
5	Majd Hasan	Majd_Hasan@g...
6	Samar Muhannad	Samar_Muhanna...
7	Muhammad Maher	Muhammad_Mah...
8	Farah Rami	Farah_Rami@ya...
9	Noor Bilal	Noor_Bilal@yah...
10	Ola Sami	Ola_Sami@gmail...
11	Dareen Khalil	Dareen_Khalil@...
12	Dalia Tareq	Dalia_Tareq@ya...
13	Sawsan Murad	Sawsan_Murad...
14	Soma Ali	Soma_Ali@gmail...
15	Sara Yusif	Sara_Yusif@gm...
16	Rawan Muhammad	Rawan_Muham...
*	NULL	NULL

Figure 15: Participating Customers

At the end of the experiment both companies and customers were asked whether they found the system was working well. They were all very satisfied of the features and the working of the experiment. All company owners said they would be willing to buy the system when offered at a price and were sure that the link to their small websites and product lists would boost business in the future. They were particularly pleasantly surprised by the features the system offers such as list per product clicked linked to customer identification, registration of effects of ads and so on...

The customers were not negatively influenced by the online shopping features and several e-mails they received and said they would now for more products be willing to shop online, not only high luxury items and items for which the number of shops is too little to really shop personally. The system clearly proved to work flawlessly.

## **5.2. The results of the experiment**

### **5.2.1. Description of the experiment**

The experiment we conducted had two stages. In the first stage our 16 selected customers were observed when surfing to the three websites of the companies and the system registered which items they clicked and thus obviously were interested in. Sales were not reported.

In the second stage, four different mails sent with intervals to customers:

- Mail 1 was a general mail containing no specific offer, but acknowledging the visit of the customer to the website, thanking them and indicating that some alternative products existed for the ones they had looked at on the websites.
- Mail 2 was a general ad mail containing a rebate offer of 10 % on any purchase if the customers visited the website again.

- Mail 3 was a more specific advertising mail containing an invitation to look at the special offers on the website specifically made for the November 2015 sale period in Jordan. It mentioned specifically items previously clicked by the customers in the first stage and close alternatives of them and thus proven to be of interest to them.
- Mail 4 contained a more enlarged offer to customers. It followed shortly after Mail 3 towards the end of the November sales period and contained not only a list of the special offers still on sale, specifically the ones on items of interest to customers, but also an extra rebate on any purchase of 10 % of the value, provided the item was not figuring in the items on sale.

We did not give an example of those mails as they were written in Arabic language and this would be of little interest to the reader of this dissertation.

The results monitored were the number of clicks per item after stage one and each of the different mails and the number of online sales effectuated. The computer system allowed monitoring this easily. (Figure 16) for instance indicates the number of clicks per item after stage 1 for a number of the products (we only show the first page in increasing order of number of clicks and the items not clicked on with a zero were not reported). It gives an idea of which items are of most interest to customers. In this figure the name of the shops is not mentioned anymore for reasons of secrecy.

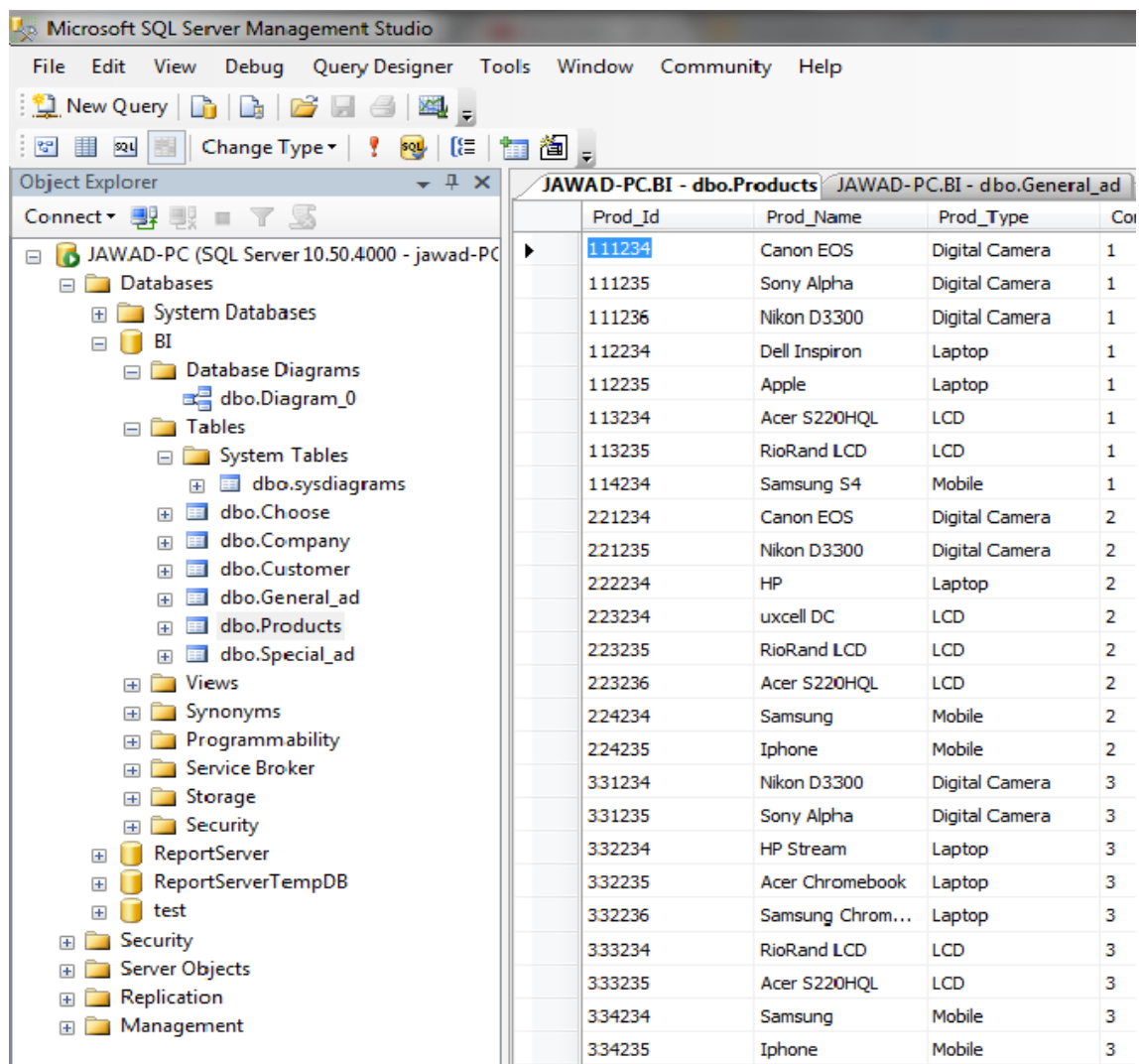


Figure 16: Monitoring of the number of clicks per item

Initially we intended to rehearse this procedure a number of times with more customers, but due to time restrictions (the sales period in Jordan ended in November and the next one is only in February after the deadline of the dissertation) this proved not to be possible.

### 5.2.2. Results

The first stage yielded as a result that the maximum number of clicks for any item of any of the companies was five. Most items were not clicked and seemed to be viewed on the websites, but not generating much interest at all with the sixteen customers.

In the second stage we looked at the number of further investigations of items after each of the mails was send and the sales volume. The number of looks at the product description, the specifications and the offer made is shown in (Figure 17)(first page after sending of mail 4 only).

The number of sales was reported by the sales system of the companies itself and was reported to us by their managers. It cannot be shown here.

The result of each mail represent in (Table 1) for the 25 items most frequently clicked items of the three companies combined. The cut off level of the cumulative number of clicks after Mail 4 we used was 3. All other items only got 0, 1 or 2 cumulative clicks after 4 Mails.

The totals after each mail are indeed the cumulated number of clicks and sales realized in which the doubles were discarded (the same people clicked sometimes on the same items, as was expected because ads were specifically tied to their clicking behavior). We have also omitted the item names and the company identification for reasons of secrecy. (Table 1) represents the final result of this short experiment.

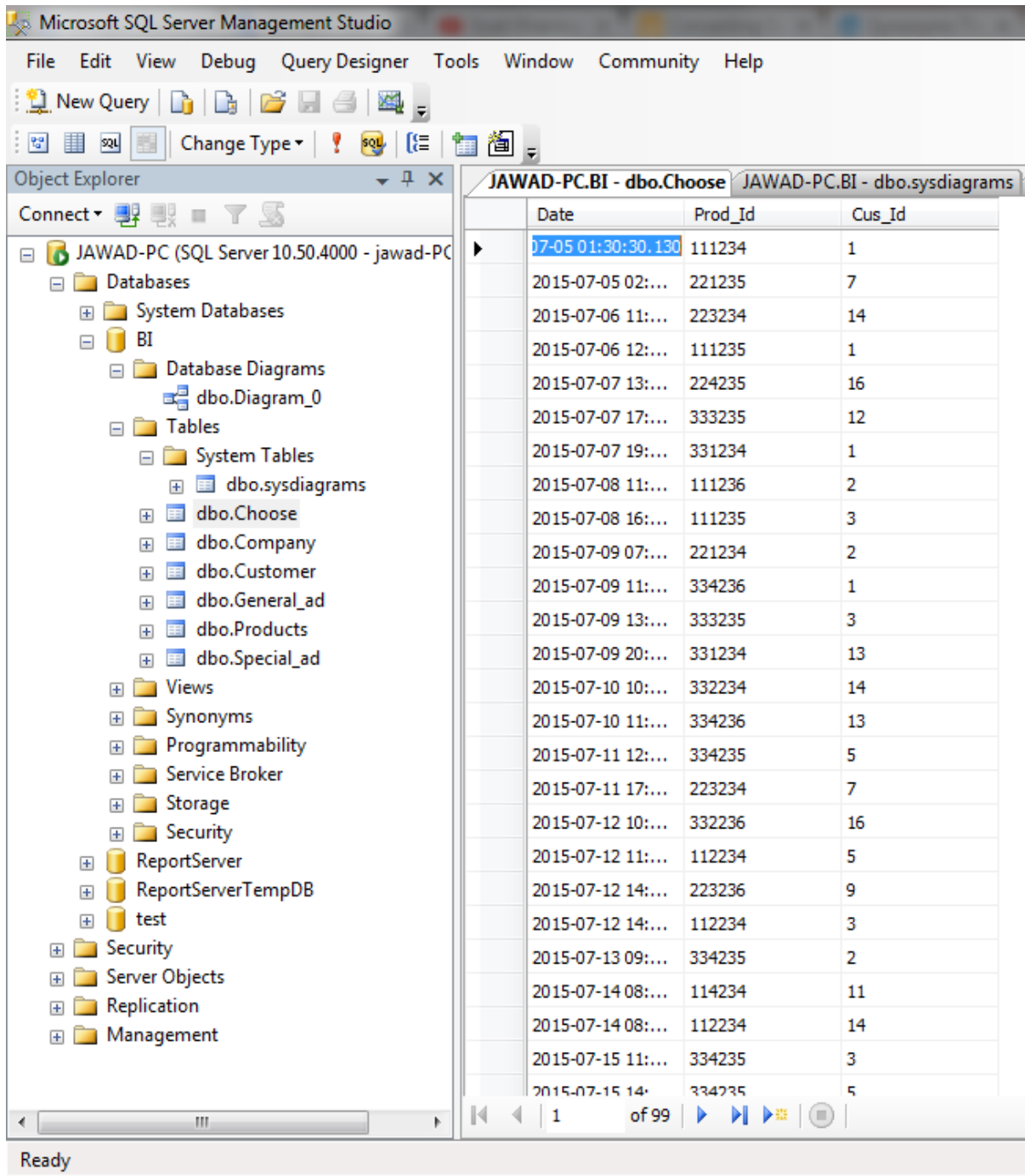


Figure 17: Example of number of clicks per item after mail 4 (first page only)

Table 1: Cumulative number of clicks and sales after each the four mails

Item	Mail 1 Cum. Clicks	Mail 1 Cum. Sales	Mail 2 Cum. Clicks	Mail 2 Cum. Sales	Mail 3 Cum. Clicks	Mail 3 Cum. Sales	Mail 4 Cum. Clicks	Mail 4 Cum. Sales
A	3	0	3	1	6	3	11	6
B	2	0	3	0	4	2	7	4
C	4	0	4	0	8	3	14	5
D	0	0	0	0	1	0	3	1
E	5	0	6	1	11	2	16	5
F	3	0	4	0	7	1	12	3
G	1	0	2	0	2	0	3	0
H	1	0	2	1	4	2	5	2
I	1	0	1	0	4	0	5	0
J	0	0	0	0	3	0	4	0
K	1	0	1	0	2	0	3	0
L	0	0	1	0	3	0	3	0
M	3	0	4	0	9	2	13	3
N	3	0	4	0	10	2	14	3
O	4	0	4	0	9	4	13	5
P	1	0	2	0	4	1	5	1
Q	2	0	3	0	5	1	7	1
R	2	0	3	0	10	2	16	4
S	1	0	1	0	3	1	6	2
T	1	0	1	0	3	0	9	1
U	0	0	0	0	1	0	4	0
V	2	0	3	0	7	1	10	2
W	2	0	3	1	7	1	11	2
X	3	0	3	0	9	2	14	2
Y	0	0	1	0	2	0	3	0
....								
....								

The results are very clear indeed.

A simple visit to the websites of the companies involved lead to very limited direct interest of our 16 test customers in most products offered by them and no single sale, as we mentioned at the start of this paragraph. That we can safely conclude that the e-mail marketing which occurred in the second stage of the experiment is the root cause of the sales later obtained.

Yet those sales did not come about simply and some conclusions can be drawn from the results after the different mails. Mail 1 which was only a general advertising mail yielded very little result: only a few of the test persons clicked on some of the 25 top products and no sales resulted at all. These only picked up after Mail 2 was send with a general rebate offer, but again the effect was limited: a few clicks more and only 4 products were sold only once. Apparently the general rebate did not generate much interest in the different offers and by accident some products were bought.

Sales thus only really took off after Mail 3 and 4 with specific offers for specific products (in the case of Mail 4 in combination with a general rebate for the other products of the offering) sent to the respondents. Of course in these cases the special offers concerned products the test consumers had already clicked on before and thus had generated most of their interest, but the difference in cumulative number of clicks and sales is so large that we also must conclude that specific offers by themselves were part or even most of the trigger of this success.

Mail 3 was in our eyes more successful than Mail 4. Most of the cumulative effect in number of clicks and sales can be attributed to it. Mail 4 added somewhat more, but only where the number of cumulative clicks got a second substantial increase (in case most of the products for which Mail 4 created a cumulative number of clicks over 10 of the 16 customers – this is in 11 cases out of the 25 items), the number of sales also increased somewhat. This leads in our view to the conclusion that the



general rebate again created extra interest, but that the specific sales offer during the sales period itself was more instrumental in generating also these new sales. Clearly e-mail marketing can be used to increase traffic and sales via websites. But not all mails are equally interesting and effective in doing so.

Mails one and two created interest by drawing attention to the companies offering and giving customer some general benefit (a general rebate) only. They did not stimulate many sales at all and were probably more instrumental in generating interest towards the company than towards the products. Yet in this market clearly sales are due to the interest of customers in specific products they are looking for. Therefore Mails 3 and 4 that tied specific offers to specific products the customers had previously already shown interest in were much more effective.

Thus e-mail marketing using specific offers based on the website visiting history of the potential customers is clearly a potent weapon in generating on-line sales for our three companies. This is the case even using a very simple experiment with a very simple system using standard software in a combined way as we did. It certainly would have been the case when a more elaborate online marketing system would have been used. This corroborates most of the previous research on e-mail marketing and must be considered as our major finding.

Moreover specific types of mail can be used linked to the specific stage the customer buying process is situated in: mails containing general offers and information can only reinforce the first stages of this process (from attention and awareness to interest and liking), but cannot influence the follow-up stages (from liking or conviction to purchase). For this second part of the customer buying process more specific e-mail offers are needed indeed.

Finally a combination of the first mails with some kind of social media process would have been more effective and might have limited the e-mail marketing effort to one mail (Mails 3 or 4) only. We think this certainly the case because our results are scattered randomly over products offered by the three shops involved in the experiment. Some kind of loyalty or preference for the distributor shop itself could not be concluded. That is why we did not talk about the different companies anymore. In order to create preference for a shop and a product the combination of social media and e-mail marketing may be needed. But further research needs to verify this statement.



## Chapter 6

### Limitations and suggestions for further research

This chapter will indicate the major findings of our experiment state some of the important limitations of our study and make some suggestions for further research ventures.

#### 6.1. Major findings

E-mail marketing seems according to our small experiment to be an important marketing tool in generating interest and sales via websites of even smaller shops. Repeated mails are needed and more specifically mails tied to the specific interests of the customer, which in our experiment was generated through the linking of the special offer mails to the previous clicking history of the customer. This is due to the fact that such mails are more tied to the later stages of the customer buying process, namely the part which goes from liking or conviction to preference and buying. More general mails can only stimulate awareness and attention and maybe generate some liking for a product or shop.

We believe however that our results have to be explained on the level of products and not on the level of shops as the more successful products were scattered randomly over the three participating shops or suppliers. For results on the level of shops a more combined marketing approach linking e-mail marketing to some kind of social media marketing may be needed. This still remains to be investigated further.

## 6.2. Limitations

In spite of the conclusions stated in the previous section, we have to be careful however to generalize the results.

The extra sales created in our experiment by the last two of our mails were clearly triggered extra sales for each of the companies, but the success in the sales process may have been largely enhanced by a number of factors we were of course unable to control given the size and organization of our experiment itself:

- We only conducted the experiment once. The results may be just a lucky shot themselves and we did not have neither the time or the resources to repeat the experiment for the same products in the same area to be sure about the results;
- The number of customers is very low (only 16) so that any other sample could have given somewhat different results;
- We also did not use any other combination of offers or contents for the e-mails send to the customers;
- The fact that the November sale season was happening in Jordan right at that moment we send the mails might have made customers more receptive for special offers in general for all kinds of products and thus also for the products offered by the three companies;
- Electronic products and appliances may be specific products for which customers are always looking for special rebates and prices thus increasing the e-mail marketing effect noticed;
- Jordan belongs to the Middle East culture where price sensitivity and negotiations in trade deals with individual customers are part of normal business life, thus inciting more interest of prospective customers in such special deals.

We can also safely say that when more elaborate social media marketing would have been used such as Facebook ads and twitter, the results would have been

much more outspoken. For our small shops, the e-mail marketing experiment proves already to be a working instrument and it may well be the best and most elaborate system these shops can be using given their size and number of customers.

### **6.3 Suggestions for further research**

Based on what we have stated above some suggestions for further research can be done.

Firstly, a repetition of the research results over a larger scale sample of customers (at least tenfold would be needed) would be very welcome to verify our results.

Secondly, the next step in the research should be to test the effects of e-mail marketing more thoroughly by looking at different types of products, such as fashion, perfumes, household appliances and gifts for instance. If the results remain fairly comparable with ours, somewhat more robust conclusions could be drawn.

In third instance, repeating this and likewise experiments in other periods of the year and thus encompassing other offers than just special price offers, is needed to capture the power of e-mail marketing in more detail in specific circumstances and thus indicate when exactly what kind of mails would best be suited to achieve optimum sales results. Moreover, this experiment should be undertaken in different cultures at least to see whether specific factors can influence the results in a more than average way.

Finally, the role of e-mail marketing in combination with social media marketing of a larger scale (using Facebook, Twitter, Instagram or YouTube) is needed to investigate how the best sequence of tools to be used can be determined yielding maximum sales results.



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