
QR code as a channel tool

Value of the codes in information sharing



Bachelor's thesis

International Business

Valkeakoski 19.11.2012

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Valkeakoski
International Business

Author	Niina Heikkinen	2012
Subject of Bachelor's thesis	QR code as a channel tool	

ABSTRACT

The idea for this thesis was born at the dinner table. The CEO of the commissioning organization Ebax Ltd Tuomo Paakkanen introduced me to QR codes and we started to form a thesis topic out of them. It first came out to be a marketing based research, and on the way modified so many times that it turned out to be something totally different. The reason it formed to be kind of a general analysis of the QR codes as a communication and information sharing tool was that I was not familiar with the topic before and it was hard to form a picture of QR codes in marketing while I had first discover what they are actually for and how they are used today. If the company would ask me now to do a marketing based research, I could be more ready for it.

Ebax Ltd is a company offering services and systems to support QR codes. They call them Key Codes. There is competition in this field but Ebax tries to differ from the competitors by offering services around the Key Codes. These services are such as monitoring the Key Codes, and training for using the systems. The system allows the customers to add and change the information behind every code, and give online data of where the key code has been red the last time and how many times it has been red overall.

The aim for the thesis came out to be a clarification of the current situation of the QR code usage, and gathering opinions from specialist about the usage and future of the QR codes.

Theory came from the sentence "value of the QR codes as a channel tool". Theory consists of channel theory, value theory and introducing the technical part of QR codes.

Method for collecting information through research a interview questions asked in a questionnaire form. The respondents were asked to answer as analytically as possible to the questions.

Main result of the thesis came out to be the lack of knowledge. To increase the awareness of the codes existence some recommendations are given both generally and specially for Ebax Ltd.

Keywords QR codes, Channel tool, Value

Pages 32p. + Appendices 1 p.

Tekijä	Niina Heikkinen	2012
Työn nimi	QR code as a channel tool	

TIIVISTELMÄ

Tämän opinnäytetyön idea kehittyi illallispöydässä. Toimitusjohtaja Tuomo Paakkanen toimeksiantaja yrityksestä Ebax:sta esitteli minulle QR koodit ja aloimme luoda aihetta opinnäytetyölle. Ensin tarkoituksena oli tehdä työ markkinoinnista, mutta työ muovautui niin paljon matkalla että lopputulos oli täysin poikkeava alkuperäisestä suunnitelmasta. Syy siihen,, että työstä tuli loppujen lopuksi yleinen arvio QR koodeista kommunikointi ja informaatio kanavana, oli etten ollut ennestään tuttu aiheen kanssa. Suurin osa ajastani meni yleiseen tutustumiseen QR koodien kanssa, enkä voinut kirjoittaa niiden markkinointi arvosta ilman tätä tietoa. Jos yritys pyytäisi minua nyt tekemään markkinointiin perustuvan tutkimuksen, olisin varmasti paljon valmiimpi.

Ebax Oy tarjoaa palveluita ja järjestelmiä tukemaan QR koodeja. He kutsuvat koodeja nimellä Keycode. Alalla on kilpailua mutta Ebax tavoittelee erottumista kilpailijoista tarjoamalla palveluita koodien ohelle. Nämä palvelut ovat muun muassa: koodien seuranta järjestelmä ja koulutus palvelu järjestelmän käyttämiseen. Palvelu tarjoaa mahdollisuuden kontrolloida koodeja etäisesti ja antaa online informaatiota niiden käytöstä.

Tämän opinnäytetyön tarkoituksena oli saada yleinen käsitys QR koodien käytöstä tällä hetkellä ja antaa mahdollisuus asiantuntijoiden jakaa mielipiteitään QR koodeista ja niiden tulevaisudesta.

Teoria tuli suoraan lauseesta: ”QR koodien arvo kanava työkaluna” Teoria koostuu kanava teoriasta, arvo teoriasta ja yleisestä QR koodien esittelystä.

Tärkein tulos tutkimuksesta oli ihmisten tiedottomuus QR koodien olemassa olost. Jotta koodien olemassaolon tiedostamista voitaisiin lisätä, joitain parannusehdotuksia on esitetty yleisessä ja Ebax:lle suunnatuissa muodossa

Avainsanat QR koodi, Kanava työkalu, Arvo

Sivut 32 s. + liitteet 1 s.

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1 INTRODUCTION

Technology has taken a light year-long step during last few decades. It has brought the communication and information flow millions of times more efficient and a new era of online lifestyle has arrived. Many people are asking: “How did we survive before without our mobile devices?” and “Where would I be without internet?” The tools for communication have changed the world to a lot smaller place, and the development just keeps on continuing.

This thesis will introduce one of the newest ways of communication and information sharing, called QR-code. This small object has recently found its’ way to the public and is just about to bloom in marketing and information sharing. The potentiality this object holds has been recognized in businesses. Through that, the people are seeing these codes in the streets on advertisements, on products and magazines. Since person has recognized this code, it can be seen everywhere and found in most imaginary places and used for multiple purposes.

The commissioning company for this thesis is Ebax. This company offers QR code management systems to businesses. This means that the company sells the package of codes and a web based management tool and the customer creates the code that has been coded to deliver wanted data to the user’s phone or another reading device. Now the company's management is interested to know what has been the key to the success of the code. The research can help them to develop their own marketing and improve the product. If the key characters of the product are identified, more businesses or organizations are willing to use QR-code as their information sharing tool and marketing tool, this would make the demand of QR-codes to increase.

1.1 Research Question

With this background the backbone for the thesis and the research question came out to be the following: What is the value of the QR code as a channel tool? This question has characters from the both sides: public and business/organization. It will answer how the people and business benefit from these codes, and gives useful information to the company, such as: have they been successful in choosing QR-code as their marketing/information-sharing channel? This thesis will also reveal what kinds of people are expected to use this tool and what is the motive for them to read the codes. The main focus is to define the situation the codes are now in. Are they being valued, do they even offer any value, and how and why they are used as a channel tool?

1.2 Objectives

The objectives are created to give sense and body for the thesis. These objectives are: Theory, Research, Analysis and Recommendations. In the theory part, by using reliable sources, the background of the thesis is written. It will go through few most valuable theories for this thesis and helps to understand the whole concept. Research means that the current situation about QR codes usage is being evaluated and the research implemented in practice. After summing up the answers from the research the analysis are presented. In this point the reality of the current situation is based on facts and the assumptions of the current situation is being ousted or supported. Based on the facts the recommendations are created to improve the QR codes usage as a channel tool in future. The aim is to create a clear picture of the mobile code industry and reveal some future expectations for this information channel.

1.3 Methods

To get the answers specialists who are familiar with QR codes are asked to answer 10 questions analytically on an online questionnaire sheet in Webropol. The desired end result is to receive as analytical and as well thought answers as possible.

As mentioned the aim is to create an overall picture of the QR code industry at the moment. For the Ebax the outcome should be a clarification of the current situation in markets and sharing the opinions with specialists working closely with QR codes.

Not only can the thesis offer benefit for the commissioning organization but it may help many companies/organizations just starting to use QR code as their channel to reach the customer. This new way to approach people interests many and not too many researches are done about it yet. The modern topic offers challenges, but in return can give great new ways to think and use the results.

1.4 Commissioning organization Ebax

Ebax Ltd. is company specialized in internet and mobile technology. It was founded in 2005, and works in business to business markets. The activities concentrate particularly on developing knowledge management and innovation services. The customers are mostly on metal-, forest- and technology industries.

The vision for Ebax Ltd is to be the customer's first and best choice in the products and services we provide. Our customers' needs will make our future. Our values are trust, flexibility and expertise.

Ebax Oy Ltd. (2011). *Company information*. Available: <http://ebax.fi/company/>. Last accessed 13.11.2012.

The mission of Ebax Ltd is to help organizations business activities relating to digital assets, practical communities and knowledge management.

Ebax Oy Ltd. (2011). *Company information*. Available: <http://ebax.fi/company/>. Last accessed 13.11.2012.

Since 2010 Ebax has been specialized in solutions in mobile technology. It launched Ebax Keycode mobile codes, and on side support services. There are many different mobile service providers in markets, from which Ebax tries to differ by adding these additional support systems, such as supporting symbolism on the codes, guiding, and follow-up and reporting services. These services allow the customers to keep on track of the codes usage, modify the information behind them and gather online information about the codes usage.

Example of a customer, who would like to purchase Keycodes from Ebax, is a latest technology company who would like to minimize the errors in the assembling line. By adding codes to parts the assembling would become faster and most importantly the management in charge of ordering could be able to keep on track of the parts consumed and order according the need. This all Ebax can offer to a business. A roll of Keycode stickers which each of them can be monitored separately by web based service system.

Lately company has moved from the technological development to business model and customer solution development. The target areas are such as basic industries, business, real estate management, exhibitions, tourism activities and entertainment industries. Ebax Keycode services are intended from individuals, to small, medium and large businesses and networks. The company has grown in a promising speed and will be expected to growing while mobile technology industry will keep on developing.

For the commissioning organization this thesis has a chance to get gathered information based on other specialists' information about the current usage and future expectations for QR codes. This can create new ideas and so expand the Keycode markets.

1.5 QR-codes

QR-codes have been used since 1990s but they are now about to bloom also in public, since businesses are starting to be aware of the marketing value these small objects hold. Before this QR-codes were only used in automotive industry, shipping slips and receipts. These codes were ideal for the industries for their ability to retain more complicated data than e.g. the normal barcodes or OCR (Optical Character Recognition) slips.

The code is not just for the industrial use any more. In the retail stores they are used to gather customer data by placing them on products and after a period of time the managers are able to predict their future sales by looking at the collected data about the sold products. The marketers have also discovered the codes and are using them as their promotion tools. Codes

can hide for example a discount coupon, bus schedules, and basically any information that can be uploaded to a digital form.

The amount of information the codes are able to gather has grown due the QR codes, which can hold more data than any of the other codes. Also the development of the reading devices has speed up the proliferation of the codes.

The QR is an abbreviation from words Quick Response. This small code was developed by Denso Wave 1994 in Japan under name Denso Wave incorporation, “Code read easily for the reader”

(QR Code.com, 2000, Accessed 8th June 2012
<http://www.qrcode.com/en/index.html>)

More technical and detailed information is being introduced in theory part of this thesis. Also the devices and the programs which enable to read the codes are mentioned.

2 THEORY

This part of the thesis will create the base for understanding the concept of this thesis. It will help the reader to read the research and analytical parts of the thesis when the theories behind them are known.

Theories used in this thesis are chosen so that it will introduce both information sharing (concentrating in channel theory) and the value theories. The research will get theoretical support from both business and customer point of views.

The customer is always first before the marketing strategy is even created. People have physical, social and individual needs, such as food, company and education. The “wants” are created by the society and the culture, and finally the buying power makes them “demands”. When these factors are known, comes the segmentation and targeting the marketing to certain target groups, and at last comes the visual marketing through the sales channels and promotion tools. To reach these demands businesses are forced to concentrate on their marketing strategies and big part of business activity is figuring out how to get the end product to the customer, or even get them aware of the existence of the business and its products. Markets are interaction between consumer and supplier, meaning that businesses offer products according customer demand and need for example for their basic physical and social needs (customer → business), but in addition businesses can create demands by pushing some products to the markets so that the need which was not there before is turn into demand (business → customer). This is being visualized in a following picture:

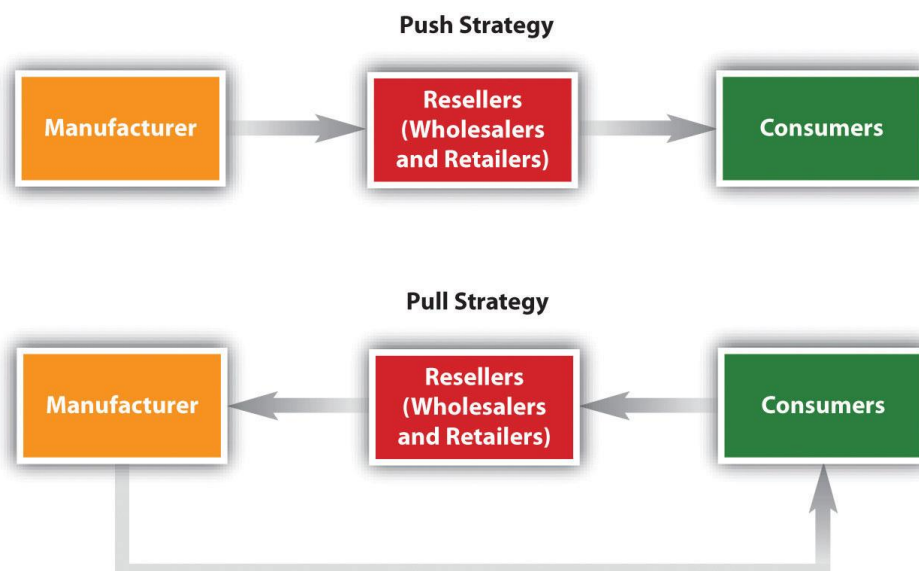


Figure 8.12 A Push versus a Pull Strategy

John F. Tanner Jr. and Mary Anne Raymond, 2012

Accessed 20.9.2012

<http://catalog.flatworldknowledge.com/bookhub/reader/5229?e=fwk-133234-ch12>

(Armstrong Gary, Kotler Philip, Harker Michael, Brennan Ross, 2009, pages 148-162)

The theories are concentrating on the main theories Value and Marketing/Sales Channel. The theories are chosen according the goal of the thesis, which is to reveal the value of the QR code as modern marketing channel tool. Also target market theory is important factor, since mobile codes are targeted still to a narrow consumer group.

In addition more detailed information and technical functions about the QR-codes are presented to give clearer picture about their functions. It is also important to mention the technical devises that are able to read these codes and the programs that allow the people to use the codes in their everyday lives.

2.1 Value Theory

Word value has many different meanings. It can be very personal or just define what an object needs to be able to change owner. Different values are introduced both material and personal sides. For marketing values are important, because consumers usually make their buying decisions based on what they value. Value theory has been brought to this thesis because it will try to discover the value of the QR codes as they are today. There are many shorts of value and the right kind of value that is linked with QR codes will be explained in following paragraphs.

2.1.1 Value

To define value it needs to be observed from philosophical perspective. It does not have a solid form or clear definition, and it can change meaning in different situations. It is part of human nature and functions partly sub-consciously. It is linked to the humanity, which is constantly balancing and considering between good and bad. Human is operating to fulfill the values he/she has (what he/she sees as a good thing). A big part of personality and acts are depending on the person's values, what things he/she sees as important things in his/her life. Values are not the same for everyone and that separates people to individuals, this makes the human race diverse. This can also create conflicts, when the values differ strongly from each other. Religions, as an example, can create different values, or consider some values more valuable than other religions do. This creates conflicts when the other's values are reflected in acts which affect other individual and the opponent can feel his/her values threatened. There are many types of value, but here are three examples, or meaning for the word value:

1. How important is something to the person, or the meaning (e.g. the meaning of life)?

What are the things the person appreciates, cherish, treasures? Such things can be beauty, goodness, truth...etc. These things create the ideas, which are base for the person's behavior.

2. How much does an object cost, money, effort, time...etc.?

What is something worth?

Meaning all the processes, thoughts, workers time, money, all short of resources used which increase the value or worth of the product/service.

3. What is the value of the person, hierarchically?

It relates to the respect towards other person, etc. respect towards elderly people. University graduate is more valued employee, than just high school graduate.

Merriam-Webster Online Dictionary . (2012). *Value*. Available: <http://www.merriam-webster.com/thesaurus/value>. Last accessed 24.7.2012.

Wikipedia. (2012). *Value Theory*. Available: http://en.wikipedia.org/wiki/Value_theory. Last accessed 18.7.2012.

Suomisanakirja. (2012). *Arvo*. Available: <http://suomisanakirja.fi/arvo>. Last accessed 18.7.2012.

2.1.2 Customer Value

Personality and values affect the persons buying behavior. Because such of variety of products today many can find completely or at least some criteria fulfilling products. People share common values and ideas and are affected by others opinions. This creates a group which values the same type of products and businesses are easier to target on specific markets. There is also segmentation within segments, because individual values can slightly differ from each other. For example a person wants to buy food which is made in Finland (segment), but the other demands the food to be Finnish and locally produced food (segment within segment). Customer value is something the customer expects the product to be and will not settle for less. It consists of function and emotion of the customer. The customer demands are usually high enough for the business to fulfill, but if the company succeeds to create something better the customer was expecting the value is higher than expected. This customer is more likely using the same products/services also in future. In business it means how much benefit the customer gains from the product/service related to the cost of the product/service.

Customer value has usually also emotional characters. These emotions form in customers minds by the time and the negativity/positivity depends on the businesses performance. Positive emotions are gained with a high customer satisfaction. This customer is expected to relate strongly to the products/services which business offers. If the emotions are negative towards the business the customer most likely wants nothing to do with the company.

Bloomberg L.P.. (2012). *Customer Value*. Last accessed 8.8.2012. Available:

<http://bx.businessweek.com/customer-value/>

Conjecture Corporation. (2003). *What Is Customer Value?* Last accessed 9.8.2012 Available:

<http://www.wisegeek.com/what-is-customer-value.htm>.

(Armstrong Gary, Kotler Philip, Harker Michael, Brennan Ross, 2009, page 16-17)

2.2 Target Markets

To succeed in today's markets companies need segmentation and targeting. It is waste of time and money to try to be a little bit everywhere and for everybody. Instead it is more likely the company to be noticed if all its capacity is focused on one market group, one group of certain criteria filling people. To define this group company needs to run a careful customer analysis. In reality companies can have many segments, but they all have the basic need the same, e.g. a yoghurt company does not start to make tennis balls because they find a niche in that market, but they can make yoghurts to appeal for example to different age groups.

When the target market has been found in does not mean always that the product or service is the only one on that specific market. Usually there are competitors, and if there is none at first there will be some in future. For this reason it is important to find unique ways to promote, approach and appeal to customers. Market positioning means finding the place in the markets, where there is a just a perfect place for company and its product/service. The customer wants always more even if they are already happy with what was before, the new product/service entering the market has to offer more value to the customer than the other similar product/service.

After the marketing strategy has been created the company can start concentrating on more technical details. How to get the product or service delivered to the earlier created position in the market. Using tactical ways and tools to get the wanted attention in the markets is called a marketing mix. This involves defining the four Ps: Product, Price, Place and Promotion. Shortly it means that the strategy is being created to able the most efficient Promotion of the product, at the right time and place. The success comes among a detailed planning and the error correction ability. The more time has been used in planning details, more likely the marketing will create the wanted results in sales. After this point the background work stops and the company is ready for the visible performing at the markets.

(Armstrong Gary, Kotler Philip, Harker Michael, Brennan Ross, 2009, pages 54-55)

2.3 Channel Theory

Today markets expect high variety of choices and market has come so close to the people, that they can make purchases even when they are jogging outside. Things are not the same they used to be; black and white TV does not anymore market just one product at afternoon hours and shops do not have just one type of milk on their shelves. Thinking of the variety of products today is dizzying, but people are so used to it that only the absence of the commercialism would be noticed. Marketing channels have made this kind of markets possible.

Today's customer wants the buying experience to be simple, quick, and seamless. The businesses come and find the customers, and not the other way around. Customer just makes the choices and businesses concentrate to do their best to find the tricks to get the customers to buy their products from the ocean of competing suppliers. Shortly, the companies that can make themselves stand out in the customers' eyes win. In this the channels are in central role.

Everything starts from the customer. The target groups and their values affect the way the channels form. If ecological goods are entering the markets they are more likely to be sold in retail stores which have an ecological atmosphere and appeal to users interested in this kind of products. If the customer wants to buy local food, then distribution channel is quite short and the sales channel close to the market where it is sold. The numbers of intermediaries in the channel are usually hidden from the customer, but can be seen reflected straight to the selling price and so can affect the buying decisions of the customers.

Theory of the marketing channel can be broad and it has different varieties. Channels exist between the customer and business, but they exist from the beginning of the supply chain until the end user. The supply chain consists of upstream and downstream partners; all the partners below the company are called the company's marketing channel. There are also marketing channels between businesses. This theory of the marketing channels concentrates particularly on Business to Consumer (B2C) markets.

(Gary Armstrong, Philip Kotler, Michael Harker, Ross Brennan, 2009, pages 336-337)

2.3.1 Definition of Marketing Channels

Defining marketing channel can be confusing. For the manufacturer it can mean technical movement of the product when it is reaching the customer or simply just a coalition of need of a customer and businesses' right approach. Mr. Rosebloom has defined marketing channel in his book (page 10) in a following way: "The external contractual organization that management operates to achieve its' distribution objectives". This means that company has the markets ready and they are expecting to distribute certain number of their product, but to reach those markets the company needs an

external “contractual organization”. It can be a retail store or any organization in between the producer and the ultimate user.

(Rosebloom, 2006, page 10-11)

The following picture shows typical channels in business-to-consumer markets. The channels are simplified and showing the theory of the channels in very basic level. It may not be the case in reality but the idea is the same even in complex marketing channels.

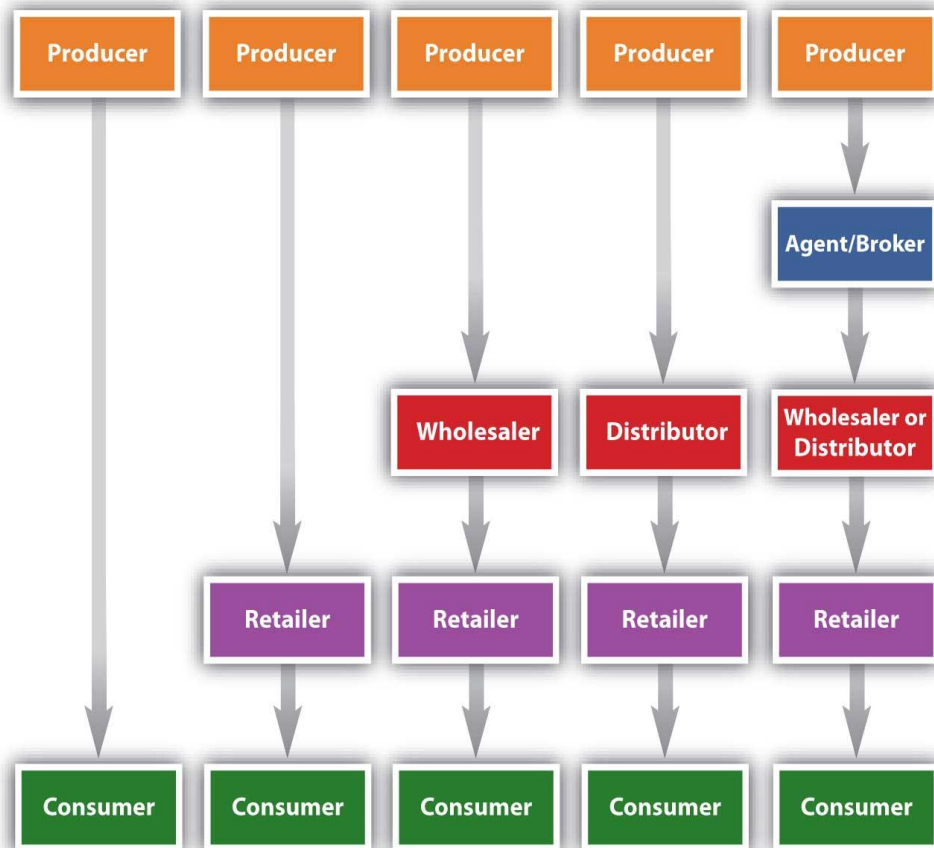


Figure 8.4 Typical Channels in Business-to-Consumer (B2C) Markets
John F. Tanner Jr. and Mary Anne Raymond, 2012

Accessed: 28.7.2012

<http://catalog.flatworldknowledge.com/bookhub/reader/5229?e=fwk-133234-ch12>

As seen in this picture, the shortest marketing channel is between a producer and a consumer. This is called a direct channel. All the other marketing channels consist of one or more intermediaries, such as retailers, wholesalers, distributors, or agents. These channels are called indirect channels. Usually the companies have many marketing channels in use. They can be reached directly via internet, but at the same time they have their products at retailers’ shelves. This logically increases the markets and effectiveness. The direct channels are usually small or medium size companies, because when the demand rises the capacity might not be enough to reach the demand, or the customer support is too much to handle. E.g. Coca-cola would not be able to sell at such high volume with just a direct sales channel, but needs millions of retail stores to cover up the

demand. The key to this all is that the marketing channels are chosen carefully. Actually, the type of the customer should determinate the whole marketing channel.

(John F. Tanner Jr. and Mary Anne Raymond, 2012, chapter 8)

Members of the marketing channel play different roles. They work so that they benefit from each other and aim towards common good. The parties do what they have specialized in and do their best in it. This situation happens for example between a manufacturer and a retail store. The manufacturer makes the product and promotes the product with advertising and the retail store answers the customers' questions and closes the sales. This type of dependence on one another is not usually paid too much attention on, and it can create too independent actions by the parties and lead to conflicts. In all marketing channels a channel management should be taken into action to create smooth and co-operative channels all the way to the end user.

(Gary Armstrong, Philip Kotler, Michael Harker, Ross Brennan, 2009, 337-340)

The overall view of the marketing channels may not usually be the ideal scenario when talking about QR codes. The codes are usually used at the more precise points along the marketing channel. One of the cases when QR code can be actually the whole chain between supplier and consumer is when the QR code is used as a direct purchasing tool. For example customer wants to order a custom made bike from the manufacturer and has an advertisement of the manufacturer where there is a direct link in QR code form to the company's websites where there are possibility to design a type of bike customer wants. This is for the companies who produce products and services to a very narrow target markets or even individuals. For the mass producers which do not customize their products for individual users channels are usually longer. In these cases QR codes are usually used as channel tools or informational channels. QR codes can have many innovative ways as a channel tool; in following paragraphs some of these options are being introduced.

2.3.2 Definition of Sales Channels

Today sales channels offer possibility to shop almost anywhere. Public is expecting to have the basic and familiar channels like a television, a radio, and an internet but as extra they want to carry their smart devices with them while they are on the route. This is mostly because of the social media, which able the people to be online and reachable at all time. QR codes can work as sales channels for example when the purchases are made online.

The difference between marketing and sales channel is that the sales channel means that last link in marketing channel between the consumer and the business. Meaning the link where the actual exchange of the goods is made. This can mean retail store, wholesaler etc.

WebFinance (2012). *Sales channel*. Last accessed 26.07.2012
<http://www.businessdictionary.com/definition/sales-channel.html>.

2.3.3 Communication and promotion channel tools

After defining the target markets channels become to a central role. Finding the link between the supplier and consumer in business to business, or business to consumer markets and reaching the potential customers is the key to success. An innovative usage of channel tools is helping to deliver the message to reach the potential customers. The tools used in business-to-consumer markets vary more than the business-to-business channel tools. In b-to-c markets there large number of different target groups so naturally there needs to be many different channel tools. Some of the promotion and channel tools are introduced at below:

Radio: Older, but still a relevant tool to reach customers. It is important that company's target group is listening at that moment when the commercial has been sent out. This kind of target group could be for example the adults driving home at 4pm listening at attest news channel on radio.

Newspaper: The type of newspaper defines whether to use it to reach potential customers or not.

Television: Expensive but effective marketing channel. Again choosing the right channel and time is the key to reach the right customers.

Mobile marketing: Developing and super powerful channel tool. Many people access web sites through their mobile devices, so it is important to modify the pages fit the mobile device so they are easy to access.

Billboard: Creates visibility but does not usually work alone. It needs to be the reminder and support for the main marketing tool.

Flyers: When used correctly this tool is offering great value to the overall promotion, maybe offering some coupons etc. If not used efficient enough this tool can be a complete flop and waste of money.

Magazine: Offers very precise targeting on the wanted target group. For example golf club does not have to advertise in sports magazine, but they have a large variety of different golf magazines targeting just on the correct group of people.

Internet: The super tool of today. The advertisements placed for example in social media internet pages can be modified so that they only appear to a certain type of user, according their sex, age, interests, etc.

It is not usually just one tool which is used by the company, but they use many different tools to create more diverse visibility. It is the blend and the balance between the used channel/promotion tools which make a successful marketing mix.

Campbell Stephen, 2011, Promotion Channel Business Strategies, Accessed 19.9.2012

<http://www.youtube.com/watch?v=6jzNiKUbtRY>

2.3.4 QR-code as a Channel Tool

As mentioned before, today's customers are expecting to have many different channels in use. The doors have opened to marketers and people with the social networking and the whole online lifestyle. QR code is interesting for its characters as channel for customer to reach the company or retailer, and a marketing tool for mass markets. It is 24/7 marketing tool for the businesses and as mobile as the customers. The customer is able to get e.g. contact information or more detailed product information, and so be connected to the original production company. Code can be also an attractive secret for the mass markets to uncover, like the following picture where a simple advertisement catches the eye and does not give much answers, but leaves question marks to customers' heads and a will to uncover the secret behind the code becomes irresistible. Even though the advertisement is placed so that it is available for big markets, only the customers who feel connected and value the brand will read this advertisement with their smartphones. So even when the promotion and marketing is available for big groups of people, there are carefully chosen segments and target markets on the background. There is one rule for the RQ-code marketing: the reward from reading the code must be worth the trouble. If the code just has some additional information with what the customer does nothing with, some of the value the customer has towards the company might disappear.



LSJ Media, 2011, Ralph Lauren code, accessed 19.7.2012

<http://lsjmedia.wordpress.com/2011/09/26/the-next-best-thing-for-marketing-qr-codes-3/>,

QR codes have become useful tools for giving additional information about the products or quick ways to access websites. This kind of usage has grown and the codes can be seen at least at the bottom of the poster or on bus stops timetables. There are also interesting catches for promoting products, for example discount coupons only for those who read the code and so on. There are some limitations where and when the codes can be used. In fast moving vehicles or TV commercial codes the codes can be useless, because the users are unable to consider whether they want to read

the code or not. Also airplanes can be meaningless place to put QR codes with URLs inside, because the people are not able to access the web. The place should be chosen so that the target group are most likely visiting there or other way ends up seeing the code. The object should be at one place and not moving. If the person decides to read the code the code should have such size it is readable. If the code directs the user to URL the website should be mobile fitted, since in almost every case the commercial codes are being read with a mobile phone or a similar device.

Razoo. 2012, *8 ways not to use QR codes*.

Last accessed 20.9.2012. Available:

<http://social.razoo.com/2012/08/8-ways-not-to-use-qr-codes/>.

Because QR code is a relatively new tool in the markets, the target group is limited to the people who are able and willing to read those codes. On the other hand this can be a huge benefit, because this group of people can feel themselves privileged to be able to access something unique, something the others are not able to reach in any other ways. These a few hooks QR codes can offer to the public marketing.

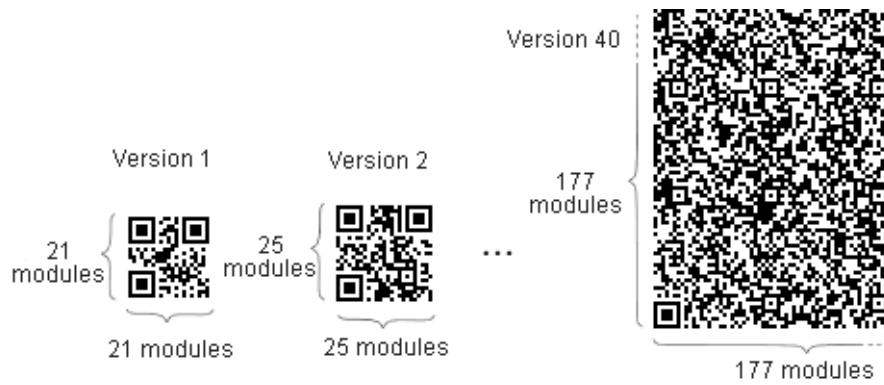
GRcodesinmarketing.net, accessed 20.07.2012

2.4 Technical information about QR-codes

The QR-code holds data in a square box, which looks like a pixel mess. The code looks like this because of the small squares placed inside the box. The QR-code can be recognized easiest from its “square within squares” patterns in three corners of the code. These squares or “pixel mess” are called modules. The code is two dimensional (2D) and it is called a matrix type. The 2D means that the code contains data both vertically and horizontally. The dark coloured modules are organized on the light coloured board so that when read the code gives the determined end result. For example by reading the code with a smart phone the user can be directed to URL address or a business card is being delivered, etc. For its 2D form the QR-code is able to contain much more data than simple bar codes. The advantage of the code is its size, which is small and easy to place anywhere. Even the code is small it can hold great amounts of information. There are of course some limitations to the size, and the more data it contains the more modules it contains. The rule is that the code needs to be readable with the reading machine, such as a Smartphone.

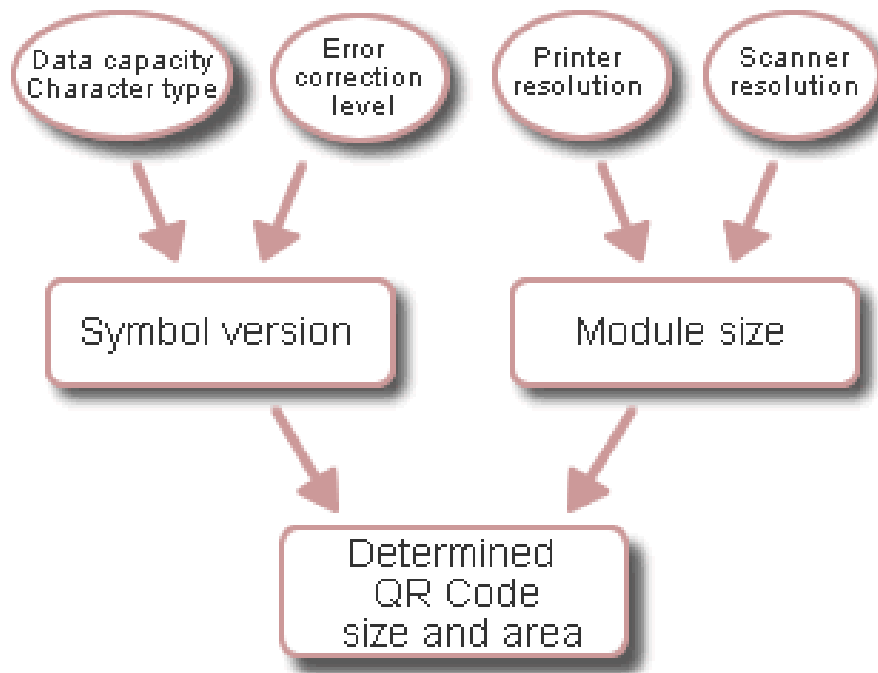
Webscan Inc., 1995, Webscan Barcode Verifiers, Accessed 12.7.2012
<http://www.webscaninc.com/qr-code-introduction>

The size of the QR code is determined by the amount of data wanted to attach into the code. There are 40 different versions of the code, from 21x21 modules to 177x177.



Symbol version, QRCode.com 2000, Accessed 9/7/2012
<http://www.qrcode.com/en/qrgene2.html>,

The size is also determined by the printer quality (the smaller the code the better printer is needed) and the error correction level the code holds. The error correction level means that the code is still able to function even if it is damaged. The more complex the QR code, the smaller the error correction level. The following picture will demonstrate what determinates the size and area of the code.



QR Code Size Decision Factor, QRCode.com 2000, Accessed 9.7.2012
<http://www.qrcode.com/en/qrgene1.html>

The code requires a quiet zone around it. This means that at least the width of four modules should be print free around the code. This able the code to stand out from the back ground and the code becomes easily readable.

Quiet zone, QRCode.com 2000, Accessed 9.7.2012
<http://www.qrcode.com/en/qrgene4.html>

2.5 Applications and tools used to read QR-codes

Basic idea of code is that it holds information and shares it when read with a right device. In stores the products are coded most commonly with a barcode and need a certain kind of core reader to be able to identify the products. The more advanced way of reading codes is with a smart device, such as smartphone or tablet. With those the QR codes can be read on the street, magazines, posters, etc. without depending where you read the code. QR code is not tied to a certain place or country, but codes can be read internationally. The reading happens by taking a picture of the QR code. However, just taking the picture does not direct the smart device to the coded end result, but needs a program which can be installed to the device. These programs are usually free and can be downloaded from internet directly to the smart device. There are also scanners, actual code reading devices to read these codes, e.g. train tickets are read with a scanner to speed up the process and minimize the errors. At least 53 different mobile phone, and similar device, brands have the capability to read the codes. Only rule is that the device must have a camera and a possibility to download the reading program. Reading QR-codes have been made easy for the public, so the usage and the visibility have increased due the businesses growing awareness of their marketing value.

Mobile-Barcodes.com. (Year not known). *QR-code Readers*. Accessed 2.8.2012

Available:<http://www.mobile-barcodes.com/qr-code-software/#nokia-reader>.

3 RESEARCH

This part of the thesis contains analyzing the current situation of QR codes. The analysis of the current situation in QR usage is based on experiences, opinions, and current studies about their usage.

The participants for the research were introduced by the commissioner. The people were chosen by their expertise in QR codes, or their work was closely related to QR codes. The research was implemented via online survey due to time management and long distance issues. The same questions were asked from all participants to ensure the equality in the answers.

3.1 Current situation

The current situation is analysed so that the expectations for future and possible recommendations for future can be presented and compared to the existing situation. This part will answer to the question: “where are we now?”

QR codes have been used since 1990’s, but only for industrial purposes, and only in those industries where codes needed to hold greater amounts of information than just simple bar codes are able to hold. This small user group was keeping the code for themselves, hidden from the public for a long time. Now the development of smartphones has created opportunities for the public to read these codes too, and a new way of information sharing has been created. The marketing value of these codes has been noticed, and as a proof of that the public is now able to find these codes in various places and see them as a part of street view. The number of the codes is increasing continuously which can be a proof that the QR code is actually a successful and effective channel in information sharing.

Without a great number of studies and proofs that these codes do work, businesses are willing to take a chance and use these codes as their channel to reach the customers. The risks are low because the codes are relatively cheap to create and attach to the posters or magazines, or anywhere the people are able to read them. For providing just additional information codes can be cheaply printed in labels of the products, because they all have the same information which is easy to manage. In case when more complex information is added to the codes, or if the material behind the codes needs to be monitored or managed continuously, the codes can become more expensive due the increase in work hours. If simplified, the code itself does not cost a penny, but all the external and additional services are the actual causes of the costs.

3.1.1 QR-code as a Channel Tool today

Still on the streets, if random people are asked to explain what a QR code is, they have quite little knowledge. But if just asking “have you seen this?” and showing a picture of QR code many people do recognize and tell that they have seen it many times, but do not know what it is for. The knowledge and awareness is increasing and not anymore the technological gurus are the ones using these codes. More than half the mobile phones sold today are able to read codes. Therefore it must be that the users are not just young, trendy and up-to-date people, as a proof of that QR codes can be found from supermarkets’ brochure linking to a website “what to eat today with your family?” as a matter of fact many times the codes seem to advertise ways to make everyday lives for adults easier. Children are not expected to use smart devices, so the target age is measured by the age that people have buying power of their own. In addition the older generation has just learned to use regular mobile phones, so they are not expected to buy expensive smart devices and start reading any type of codes. By this rough narrowing of the target group QR codes can be stated to be a channel tool between business, and young adults and adults.

QR codes are a great channel tool because the people are by their own will reading the codes, unlike text messaging advertisements to customers’ phones, when it can annoy and give a feeling of pushing or even a privacy insult for a person. QR code could be described as a half way meeting point between business and customer. When as other mobile advertising can be too pushy. This creates a huge advantage to monitor the success of the advertising campaign and creating attachment of the customers.

3.1.2 Different ways to exploit QR codes

QR codes are rarely used alone. They are in many cases attached to the places where there is at least some information already and the code is just placed to a corner where people are able to read it if they got interested about the company or they want additional information. These types of codes are boring, because people are not too interested in technical details or manufacturer’s websites, where they tell that what a lovely company they have. The codes need to have catch in them, something that make people want to read the code. Typical examples are discount coupons or other similar benefits for the customer.

The ways of using the codes is limited by imagination. There are few places left where people have not been able to place the codes on. By now people have been able to cut hair so that there is a QR code in person’s head, tattooing cows with codes, using codes in video games, and shopping by just reading codes of the products that one wants to purchase.

For businesses QR codes offer great benefit, which other mass market channel tools rarely offer. The businesses are able to detect the usage of the codes and so give valuable data, for example where the codes are red and how many times one code has been scanned. This however does not apply to the cases when the person has made his/her own codes. The trac-

ing of the codes usage is possible if there is a program which has a control over the codes. This advantage can offer online data for the business for example whether their marketing campaign is successful or not, or they are able to find the niches in which area is supporting the most this shorts of campaign.

For individuals QR codes can be a handy communication tool. One might like to have their personal profile carried with him/her on t-shirt and letting others read the code, or other just would like to have shortcuts to their favorite websites. Creating a code is free and easy; there are many websites which offer this opportunity. There a person writes down the limited quantity of data, for example a URL address and the “machine” will create a QR code.

3.1.3 QR-codes in Finland

Japan and United States have been ahead for a while when it comes to using QR codes. Finland is still taking baby steps compared to other world. One reason could be the Finnish style of adopting new things, slowly, carefully and prudently. Reading QR codes is increasing, but still many people just pass by the codes and slowly starting to get used to have strange pixel mess at the corner of posters, milk cans or bus stops. The public needs to be offered support or guidance for using these codes, otherwise the adopting the codes can be long process or even lead to a failure, because people just simply stop caring about them. So far the situation is looking good, but some argue that the QR codes will be passing phenomena, and it will be if the people are unaware of their existence, and the codes will not be strongly attached to the everyday lives of the people.

Mediatoimisto Voitto. (2012). *QR koodeja, trailereita, Google-hakuja, vai täsmätekstareita? Mobiilin monet mahdollisuudet.*

Available:

<http://www.mediatoimistovoitto.fi/sivut/ajankohtaista/?item=1332931831>.

Last accessed 16.10.2012.

3.2 Expectations

The current situation analysis is not based on the research and so the facts presented are just on assumptions. The next chapter ANALYSIS will support or overturn the claims of the RESEARCH chapter.

The research has been implemented to support the expectations. The aim is to support the hypothesis and create a clear picture of the current situation of QR code usage. For getting as accurate and realistic scene of the current situation in reality the specialist are questioned with the following questions:

1. What opportunities does the QR code offer to the businesses and the public?

- 2.** On what the success of QR codes is based on?
- 3.** How you expect the demand of QR codes to develop in future?
- 4.** What kinds of people are expected to use the code?
- 5.** What sort of businesses use QR codes and for what reason?
- 6.** What motivates the customers to read the codes?
- 7.** What is the negative side of QR codes (functional, usage...etc)?
- 8.** What is the ideal scene in using QR codes (something where to aim)?
- 9.** How you comment criticism about QR code being just a passing phenomena/trend?
- 10.** What is the future for QR codes in communication?

The analyses of the questions are presented in following chapter.

4 ANALYSIS

The answers gathered from the research are being analysed in this section. The answers were given in a written form 6 respondents who are familiar with QR codes and are closely engaged to them through their work. The analysis gives a summary of the all answers and does not analyze each answer separately. In case there is a point quoted directly from the respondent the person is being named in following way: Respondent 1, RESP 2, RESP 3...etc.

The analyses of the answers are done based on the questions. Some of the questions in the questionnaire were similar and so they were combined under one paragraph. The analyses are expected to correspond to the current situation expectations in research chapter.

4.1 Opportunities the QR codes offer

QR codes are not being praised for nothing. It is what it promises to be: a Quick Response and that mission it fulfils 100%. The code itself is the simplest possible, but the benefits are much greater. All of the respondents had the same answer under the question: "What opportunities does the QR code offer to the businesses and the public?" They answered that the greatest opportunity both for public and business use is the quick access to desired information.

For businesses the quick access allows them to speed up a production line, offer better customer service, and deliver information quickly. According to RESP 1 the codes might be even able to save lives by offering medical devices updates quickly.

Usually in businesses there are also web based programs for controlling and updating the codes, and that has been seen as strength by RESP 2.

For the public codes can offer a quick access to various virtual destinations. The inconvenience of typing down the URL has disappeared. People are able to read a code and they are thrown to the wanted website in seconds.

One of the opportunities QR codes also offer is the ability to develop. More innovative ways can be developed according a RESP 3. The innovation is the key element that makes QR codes so protean. The opportunity of using imagination gives a huge advantage against other channel, communication, information and marketing tools.

The people who work with the codes have a strong faith to them. The opportunities the codes offer are relevant, but the businesses relying on old ways have very different opinion about the codes that those who work closely with the codes. The challenge is to make this kind of businesses to see how usable the codes can be. However it is not only the businesses, but the mass markets, the people need a wakeup call to the reality of the codes which can make their lives even easier.

4.2 The success of QR codes

Worldwide QR codes have been used in marketing and information sharing for some time and with successful results. The forerunners in the code usage are Japan and Korea and lately USA has followed these two. In Finland the phenomena is relatively new, but the signs of the success can be found already. What is behind this success?

The respondents had variety of different answers, but rather than arguing against each other, the answers created a sum of different aspects behind the success of QR codes. The main factor for the success was claimed to be simple and easy usage of the codes. Other important factor behind the success was mentioned to be the cost effectiveness. Codes are almost completely free and the turnover generated by them can be many hundred percent greater than the costs of the codes. They can also save money by easing up the information flow, and saving time and effort. The example set by RESP 4 demonstrates this situation: Comparing the paper formed competition coupons or flyers to web pages in internet which offer competition coupons in electric form. The efficiency in electric form coupons are inevitable in comparison with paper coupons which needs to be printed, delivered physically, and after handle the answers individually. The electric for coupons are also not bound to a certain place and time so the outcome can be more diverse because it is not only the people who happen to be at one place at the certain time to fill out the coupons. This does not only apply to paper vs. codes, but almost anything physical can be added behind the codes and so they make certain things easier and quicker for businesses and the public. The codes are standardised so that all the devices are able to read all the QR codes and so can be used widely.

There was also completely different opinion among the respondents. RESP 3 claims that the QR codes have not been a success. "The codes as they are at the moment are not able to succeed widely. If the technology will develop and the code scanner programs are automatically attached to the reading devices the demand will increase and the success will be based on content and usability" This opinion can be a proof of the situation where QR codes are at the moment: The codes are known to exist, but a major part of the population thinks it is too much effort to learn about them, use them, or there are not enough good in it for us. This might be a result of ignorance or the people who are unable to see the benefits just do not find them relevant and valuable. A person, who is not interested in technology, does not have time management issues, or all information he/she needs is the news from television is not expected to ever gain interest towards QR codes.

4.3 People and businesses

This paragraph will answer to a question “Who are expected to exploit the codes and who are the ones who read them?” The hypothesis for this was that young adults and young are the major users of kind of mobile devices which are able to read the codes, and so they are the major users of QR codes. The businesses are a different category, where the QR codes have been used for multiple purposes for a longer time.

According to the respondents the target group varied from people who have interest towards technical devices, to people who use the codes in their work. Clearly the major target group came out to be the young adults who are able to use the kind of mobile devices which able them to read the codes. The answers created an image of a young person who is constantly on the move and uses latest technology to support the time management. According to RESP 1 while the devices which enable the reading of the codes to become more common more people are reading the codes, and in future the target group will include users from all age groups. According to RESP 4 at the moment users are people who purchase smart devices. Importance of mobile device + QR code will increase as a “tool” in different industries.

In the business side of view the QR code markets can vary and be anything between metal and service industries and more. There are fewer types of business where QR codes are unusable than the ones where it could be helpful. The respondents’ answers varied also strongly and there were no closely corresponding answers. Some mentioned business areas were: small product sales businesses, and internet service businesses. There could not be drawn a line whether QR codes are more suitable for service or product sales industries.

4.4 Motivation for reading the codes

There needs to be a reason behind every scan, something that raises the interest or need to read the code. The respondents pointed out that there is not going to be any scans if there is nothing interesting or beneficial behind the code. This kind of situations can be an offer for a shopper to get 15% off in the shop by reading the code, in the production lines the scanning the code could tell where the certain part will belong inside the end product, or give information, such as who is the material supplier and where it has been handled before. The end result of the scanning needs and is expected to be positive and good.

The motivation needs to be strong for those who are just learning to use mobile devices for scanning the codes. Firstly the person needs to find out what QR codes are, then he/she needs a device, and last to learn the usage of the program which enables the scanning. For going through this process the motivation needs to be greater than for those who are already familiar with the codes. If the first scan ends up to be disappointment, the user is most likely less motivated to read the codes again.

4.5 Negative side of the codes

Nothing is perfect, and there is always something that people are being annoyed by. Some say that it is not right to hide discount coupons behind the codes, because it is not fair for those who have not money to buy expensive devices which are able to read the codes, and some even claim that it is too much work to open the application and read the code. Among these all claims few major flaws or troubles in QR codes are presented below. The main point to notice is that the code itself does not have issues mentioned, but environmental issues are the ones which affect to the usage of the code.

One of the biggest downsides in QR code usage is that the public is unaware of the existence of the code. It is hard to train the mass of people to read the codes and it takes time for everyone to learn about them. Because reading the QR code is not a necessity and people do survive without them, they are not motivated necessarily to find out what are they. As the result the codes might just become a part of the street view, and so forgotten. There have been claims that codes would be just passing phenomena, but all the respondents assure that this is just a sceptic talk and does not have any proves to be the reality. They believe the codes are going to stay in one form or another.

In everyday lives QR codes are used but it is still more comfortable to give the tangible business card than send an electric version. The problem is that the trust for technical devices is not yet full. There is fear, for example in this business card-case, that the receiver might not be too familiar with using the codes in digital form or it might be too big bother for him/her to look for it from the mobile device, or the worse it might just mysteriously disappear. People need tangible things to help them believe that this something in their hands does exist. So if the data matters a lot and it has great value, it could be preferred to be handed over physically, but in such cases where people are reading the codes to receive something that makes their everyday lives easier is welcome and does not cause fear or lost of trust towards technology and intangible data.

4.6 Ideal scenario in QR code usage

In the questionnaire the respondents were asked their opinion of the ideal situation in QR code usage. The question was understood in different ways and the ideas were related to each respondent's own work with QR codes. For this reason it was hard to gather a common idea of codes' ideal usage. The answers came out to be following:

- helping everyday lives of people and the codes are used daily in cases where the things could be done in simpler way
- if the codes have benefits behind them their idea and purpose is fulfilled
- the ideal usage of the codes would be in targets which update more often, have different format than the one the code is attached to or there is a lot of information

The answers did not offer anything that would differ from the current situation, so it can be expected that the ideal scenario is already here. However, there needs to be always something to develop but the change is today included in every successful scenario and as the previous goals are reached more challenges occur. As the conclusion: there cannot be ideal scenario, the ready world is an abstract and surreal concept.

4.7 Future of QR codes

At the moment it is hard to make sure statements about the future of the codes. As looking at the present development and assuming the same growth will continue, the future will look bright. The speed of technical development is way ahead of time but the adoption of the new technologies by the public and businesses is the one which takes the major time and effort. The constant adoption of new ways to do things, and learning the ways to use new high technology are the slowing factors in any technology and so also in QR code usage. The slow process needs to be gone through to be able to keep up in today's business environment.

The respondents agreed that the demand of the codes will increase. The codes as they are and where they are used currently might change a little, but everyone agreed that there will be development in future. There was a clear opinion of that the codes are still child's shoes and have a great potentiality to offer something greater than occasional scanning of the codes. According to RESP 4 the development will take direction towards after-sales services. This kind of services could be an additional order, checking in or registering through the code for example guards and medical services. The respondent also mentioned that the development of the new ways to exploit QR codes is limited by the imagination.

QR codes are not alone; there is competition on their field. Respondents did not agree whether this will have an effect on the development of the codes or not. NFC (Near field communication) which enables the same results than QR codes but does not require the camera to take pictures is the biggest competitor. The biggest problems for NFC codes are their more expensive production. For the moment the QR codes have the upper hand and their usage will increase if the networks and mobile devices are kept updated and spread out for bigger masses of people.

In the future QR code is seen to be an efficient communication tool by the respondents. The usage will be based on delivering information, but the ways this is done will vary even more in future. It will become a commonly known way to access web-based locations such as URLs. The transmission of the information is made so easy that the respondents agree that the codes must be a successful method in information sharing in future. The codes are getting more common internationally and offer great opportunities to ease also international communication.

4.8 Value of QR codes

By summarizing the ANALYSIS chapter, the value of the QR codes can be defined. What exactly does the codes offer to the businesses and public and what are the most valuable characters and ways to use the code?

Value builds up through fulfilling expectations and exceeding them. The QR codes are what they are promised to be. No less or more than a quick access to information. The additional services, functions, or ways to use the codes add value and build commitment. Those who have found a code a first time, read it and it has took them to a useful destination value codes more than the ones who after reading the code are gaining nothing out of it. Clearly the main factors behind customer value are quick access and useful information, or something good behind the codes.

In comparison between other information sources, codes are cheap to produce, easy to use, and the information behind the codes can be monitored. These benefits offer a great value to their users and in some cases can replace other communication tools. However, the codes are mainly used as the additional information source supporting the main information channel.

The main benefits the QR codes offer are the ones that make it a valued communication and information-sharing tool. These benefits are:

- simple and standardised idea
- quick and easy to access web based locations
- the information behind the codes can be monitored
- the codes can be read world wide
- online data of the codes usage
- cheap to produce
- is not tied to place and time

Even though the codes and their usage are increasing the value of the codes is still a question mark for the public. The problem is that the values the codes hold is not noticed because people do not know what to expect. So before there is any customer value there needs to be knowledge and that is something that a large amount of people does not have yet.

As a channel tool the codes are becoming more valuable. The time management is the main issue of today's world and any way possible we can pinch some time and make our lives easier is more than welcome. The codes are connecting people and the businesses online 24/7. The customers can connect with businesses anytime just by reading the code and at the same moment the business gets a direct feedback of the usage of the code.

It is not only the business to customer markets which benefit from the codes, but the businesses themselves are using them to be able to speed up some of the processes. For example assembling lines, and handling large numbers of products.

5 RECOMMENDATIONS

By analysing the results of the research some issues appeared. This part will try to offer ideas to improve these issues. The recommendations are based on imagination and expectations. They are meant to wake conversation and think about the issues, and to work as a solutions from word to word. Also some recommendations for new innovative ways to use the codes are offered at the end.

When talking about QR codes in business to customer markets clearly the biggest issue came out to be the people's unawareness of the benefits the codes offer. People do recognise the code, but many do not have the knowledge or enough motivation to read or learn to use them. The reason for this is that the codes are not a necessity and many companies or people would do perfectly without them. They are used just an additional information package, or quick access to information which could be found also by using internet. It is a time the companies for the mass markets to make couple of big campaigns using the codes in a central role. This makes sure the interest towards the codes is created. At the same time this is happening the public would be offered a face to face support on the streets, malls, shops...etc. The codes for these kinds of campaigns should have massive benefits for the customers and keep providing codes frequently after the most visual part of the campaign. Of course this is a big scale mission and is not expected to happen. How can then a small business or an individual wake the interest of others to read the codes. By increasing the importance of the code in the advertisement and not just placing it in the corner of the flyer can create an immediate response. By making the code the main part of the advertisement and not revealing what it holds behind can create a motivation to scan the code. This point the information behind the code needs to be good and benefit the reader. Usage should base on secrets behind the code, something desirable. Not just long list of useless information which nobody is interested about.

The bigger the code is the better. By using colours, big posters, and places where the advertisements stand out the number of scans will increase. The code itself is not pretty, but by adding colours, text, and pictures the code can be made more attractive. Pointing out that everything else is ADDED around the code not the way it is done now: adding the code in the corner of the poster or in bottle label in smallest print possible. Reading should be fun for the user and receiving end result should be even funnier.

In businesses the case is expected to be the same than in mass markets. The things are got too used to do in a certain way and changing them is too much work and time to waist. Companies such as Ebax Ltd could offer operational benefits the codes offer to the customers and plan the implementation to suit the organization so the amount of companies using the codes could increase.

5.1 Recommendations to Ebax Ltd

The recommendations presented earlier are dealing with the general issues of the QR codes. In this paragraph the improvement recommendations are directed to Ebax Ltd. The aim was to create a clear picture of the current situation of QR codes for Ebax, and this was done based on the specialists answers. This part will be based on the issues also discovered from the analysis but will concentrate just on what Ebax Ltd can do on their part to improve the issues.

First the issue of increasing the number of the QR code users. The more the businesses use the codes the more all people become aware of them. This can be obviously done by increasing the sales. These following recommendations are based on increasing the sales and expanding the range of products and services.

By targeting the bigger companies large amounts of people would become familiar with the codes. The codes could help the companies to handle bigger amounts of stuff in a more efficient way. The codes have been used for this purpose before anybody outside the factories knew about QR codes. What Ebax could offer is the management tools to control the information the codes hold. The system could be improved so that it would be able to control all the QR codes at the same time. It could also give online data about the moves of the objects where the QR codes are placed on. This kind of system could help for example the post office to sort the mail or keep track of all of the letters and packages. The system does already exist in post but the information cannot be managed on the way. It could also help the international mail system if there would be a standardized codes which can function in every country, also the sender and the receiver would know where the post is moving even before it reaches Finland's borders.

To be able to access the management system quickly Ebax could offer a system called master code. Behind this code there would be the management system for all of the other codes. The system would not deal with the codes individually but would give a clear web based system where the codes could be placed for example on a map and from there each of their information could be accessed. This could be an extra feature offered to the managers of the businesses. For example a success of a marketing campaign could be easily monitored with this tool.

The markets at the moment for Ebax are concentrated on metal-, forest-, and technology industries. By adding visibility other companies such as marketing and promotion businesses could become aware of the benefits the codes offer and Ebax would be able to expand the markets. Visibility could be added by increasing the marketing in the best way the Key Code professional knows: By using the Key Codes. There could be a person hired for this position who would be in charge of increasing the visibility. Ebax could also be part of the campaigning for increasing the knowledge of the people. If not physically, then through sponsorships, training ...etc.

It was agreed that in the future the codes will be around in one form or another. There is a possibility that for example NFC codes will take some place in markets next to QR codes. For this reason it would be recommended for Ebax to consider taking other tools in use beside the Keycodes. At the moment while QR codes are taking time to be adopted in use the other codes do not play a vital role in Ebax sales, but can be something to consider for future.

6 CONCLUSION

Since 1990' QR code has been a functional tool for holding data in two dimensional form, which enables a greater amount of information stored inside than in regular barcodes. The codes have been used in industries, but have lately become a part of a street view, since the value of the codes as a channel tool has been recognized. They are a great channel to reach mass markets and also to share information to many people online. The QR is abbreviation of the words Quick Response. The code is what it promises to be, a quick access to web locations or other digital formed information.

For the thesis the aim was to create a picture of the current QR code markets. Also the specialists were offered a chance to share their own opinions about QR codes through an online questionnaire. According to research the greatest problem came out to be the peoples' unawareness of the codes existence. The people who were expected unaware about the codes are adults and older generations. The target group for QR codes was defined to be the young and the young adults. In businesses the situation was described to be different, especially in technology-, forest-, and metal industries. The target businesses in most cases came out to be small and medium size product sellers and internet service businesses.

This thesis has answered to the research question "What is the value of the QR code as a channel tool?" It has pointed out the most valuable characters of the codes both in business-to-customer and business-to-business markets. Also some issues related to QR codes came out through the research. At the end some recommendations were offered for improving the general situation and a way the Ebox Ltd. would be able to help these issues from their side.

The reliability of the results has some issues. First issue is that the answers in research have been received from people who are closely working with the codes and so are more familiar with them than the general public. For this reason the answers might not be accurate reflection of the real situation. Second the number of respondents was small and it is hard to draw a general picture of the situation with QR codes with such a small sample.

The future for QR codes looks bright, if reflecting to the growth numbers of today to the future, and expecting that the same growth will continue. There is competition in QR code field, but for the moment they are the most used information sharing tool among the other codes. One of the biggest advantages, among the ability to store large number of data, is the cost effectiveness. The codes are cheap to produce and the return they might cause for example after a marketing campaign is much greater than the resources used to create them. The one thing all the respondents agreed on was that the codes are here to stay in one form or another.

6.1 My thesis process

After this project I feel relieved. It has been a long journey and not always so smooth and easy going. As a writer I have noticed some weaknesses and strengths in myself. The biggest issue I have had is the mind vs. paper. There are a lot of things in my head and sometimes crystal clear, it just seems impossible to put the thoughts on a paper and in form that it would make sense. My biggest strength I believe is my ability to write “scientific text” from the observer’s point of view without involving too much of my opinions in the text. The topic has been interesting and modern and fun to work with, but I believe some background knowledge about the codes before starting the project could have been useful. I could have done better in some parts, but by the time limitations and other issues along the way I have a feeling that I did my best and gave all the time and effort I was able to put in.

I will stand behind what I have stated in this thesis and the quotations from the respondents have not been modified so that the content would have changed. Also none of the sources were used without referencing.

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QUESTIONNAIRE

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Value of QR code as a channel tool

First of all, thank you for your participation.

Please take your time to answer these following questions. If possible, kindly give your answers using as analyzing and as broad approach as possible.

Delphi method will be used for this research, meaning after answering the following questions the answers from every participant will be shared anonymously. This is done so that the second round the participants will answer they would have a same trend in their answers.

The answers will be published anonymously. This questionnaire is done for thesis "Value of QR codes as a channel tool" done by Niina Heikkinen, from Hämeen Ammattikorkeakoulu Valkeakoski

Voit vastata kysymyksiin myös suomeksi.

1. What opportunities does the QR code offer to the businesses and the public?
2. On what the success of QR codes is based on?
3. How you expect the demand of QR codes to develop in future?
4. What kinds of people are expected to use the code?
5. What short of businesses use QR codes and for what reason?
6. What motivates the customers to read the codes?
7. What is the negative side of QR codes (functional, usage...etc)?
8. What is the ideal scene in using QR codes (something where to aim)?
9. How you comment criticism about QR code being just a passing phenomena/trend?
10. What is the future for QR codes in communication?