



Satakunnan ammattikorkeakoulu
Satakunta University of Applied Sciences

ANH NGUYEN

Big Data Apply on Customer Relationship Management.

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<p>The thesis research about the impact of big data on customer relationship including customer acquisition and retention. From the huge amount of big data, strategies and plan of each customer acquisition and retention are drawn and implemented.</p> <p>To start the thesis, introduction account for background of the thesis. Following the introduction there is a part for purpose and objective of the thesis. It shows the aim of the research through the conceptual framework which consist of the relation of Customer relationship management and data of customers, strategies and plans are result.</p> <p>Furthermore, theory and empirical are state in below of purpose and objective part. In the theory parts, there are definition of customer acquisition and retention relating to how to employ new customers and retain existing customers. The theory figures out specific plans and strategies for both customer acquisition and retention.</p> <p>The empirical part research the management customer relationship on customer data of case company. The system to handle data and the approach of keep good relationship between two is mentioned. The research was qualitative and use questionnaire.</p>		
Key word: Customer Relationship Management, CRM, Big Data		

CONTENTS

1 INTRODUCTION	1
2 PURPOSE AND OBJECTIVE OF RESEARCH	2
2.1 Purpose and objective of research.	2
2.2 Conceptual framework.	4
2.3 Limitation of the research.....	4
3 CUSTOMER RELATIONSHIP MANAGEMENT	5
3.1 Customer acquisition.	5
3.1.1 Acquisition plan.....	6
3.1.2 Portfolio purchasing.....	7
3.1.3 Optimize customer acquisition.	8
3.2 Customer retention.	9
3.2.1 Positive strategy.....	12
3.2.2 Delight customers	12
3.2.3 Add customer-perceived value.	13
3.2.4 Customer communities – customer club.....	15
3.2.5 Sales promotions.....	16
4 BIG DATA AND DATA-DRIVEN.....	16
4.1 Customer-related database	17
4.2 Data integration	19
4.3 Data warehousing.....	20
4.4 Benefit of using customer-related data.....	21
5 BIG DATA ANALYTIC	22
5.1 Analytic for strategy and tactic	23
5.1.1 The customer value.....	24
5.2 Unstructured data.	25
5.3 Structured data.....	26
5.4 Data mining	26
6 RESEARCH METHODOLOGY	28
6.1 Research ethics.....	28
6.2 Case study method.....	29
6.3 Data collection.....	30
6.4 Creating questionnaire.....	31
6.5 Reliability and validity	31
7 RESEARCH FINDINGS	33

7.1 Company' general information	33
7.2 Objective of company in CRM	34
7.3 Collecting and storing customer data	34
7.4 Customer acquisition and retention data	36
7.5 Communication channel and promotions.....	37
8 RECOMMENDATION	38
9 SUMMARY AND CONCLUSION.....	42
REFERENCES.....	43
APPENDICES	

1 INTRODUCTION

The large number of data is generated in every second all around the world and it benefits to different aspects of human. It is called big data which is comprised from various sources. In this thesis, big data will be researched the impact of it on customer relationship. Since customer relationship is one of component contributing success to business and remain their business.

The thesis will introduce customer relationship management which help to boost the level of customer' satisfaction and identifying customer segments suit to company' target. Since, this process is work on customer database, big data is employed to allow company to make their strategies, plan and decision concerning retain and develop value customer. With the advantage of customer relation management and big data, the appropriate strategies would be applied on customer acquisition or retention and development.

Following the theory chapters of customer relationship management and big data, there is a research finding chapter, case company will be introduced and analyzed base on company' information concerning the approach of collecting, managing and developing customer data.

2 PURPOSE AND OBJECTIVE OF RESEARCH

2.1 Purpose and objective of research.

The subject of this thesis is big data applied in customer behavior. This subject is agreed by case company, the owner of companies show issues of her company on keeping good relationship between customer and company that student need to find solution basing on big data for companies on thesis research.

The main purpose of this thesis is to improve and attract customer buying product of company by using the large volume of data in Customer Relationship Management (CRM) strategies. Beside that this thesis gives idea of strategies how to a company acquire new customer, maintain, and develop existing customers on customer-related database will be explain and help the manager of company get to know customer insight as it is the most important of CRM strategies.

The core objective of this thesis is gathering customer data from existing customers to other available different source on market, analyzing data of customer behavior, suggest the solution to case companies. The general of these objectives will be put in theory part of thesis and there are some strategies related to objective will be also included in this part.

The first objective is customer behavior data improving customer acquisition. it builds plan to focus on targets, channels, and offers. Plus, customer retention and development, this stage plays vital role in retaining customer who contribute most of the revenue of business and developing those customers become more loyalty. The second objective is using and developing and managing customer-related data. The researcher will study how to predict customer behavior and minimize risk in future.

The supporting research question:

- What is customer relationship management (CRM)?
- What is customer acquisition?
- What is customer retention and development?

- What is big data?
- How to use big data to reinforce customer relationship?

To be able to answer the questions above, information of thesis will be collected by using secondary information. The second information from literature that deal with the customer relationship management, customer behavior and big data. The theory is gathered from books and internet source such as article, journal, and news. Simultaneously, the questionnaire is sent to manager of companies. The result of questionnaire will give the deeper understanding to case company.

To have a clear view of company 'case. Interview will be implemented with the manager of companies who responsible for the operation of company and have great knowledge of company the most. The interview take place after the questionnaire is conducted, the question for interview will be design base on uncleared answering. The result in both questionnaire and interview will shape an overview about the current situation and give some suggestions and improvement to the company.

2.2 Conceptual framework.

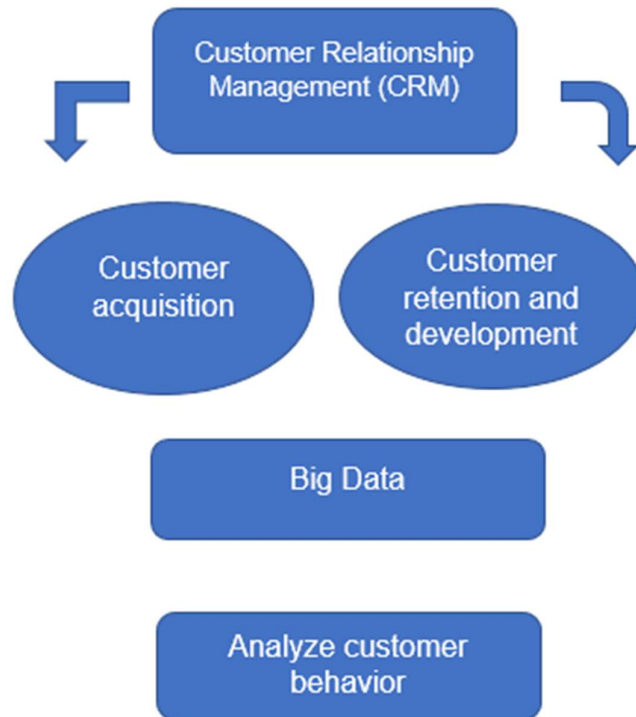


Figure 1 conceptual framework

2.3 Limitation of the research

The limitation of the thesis will be focused on how to manage good and healthy relationship between customer and company. The cores of this relationship concentrate are customer acquisition, customer retention and development. Regarding the big data, customer-related data will be used to be analyzed and predicted which help make decision easier and more accurate. However, this customer data and relationship will be researched on B2C context. This research only focuses on general information what can be found from books and other available source. This study will not provide technical way how to mine data.

3 CUSTOMER RELATIONSHIP MANAGEMENT

In term of strategy, CRM is considered as “CRM is the core business strategy that internal processes and functions, and external networks, to create and deliver value to targeted customers at a profit. It is grounded on high-quality customer-related data and enable by information technology” (Buttle 2009, 16)

Customer relationship management (CRM) mainly focus on customer value. In other words, it is an important concept in CRM. Customer values contribute to margin or net profit of company. Hence, this customer value is essentially the financial value to the firm. Moreover, the firms use customer value to evaluate marketing effort as the value give manager ideas of evolving customer value that is known as customer lifetime value (CLV). CLV show how much customer bring economic value to firm over his/her entire lifetime. (Kumar, V. & Petersen, JA 2012, 2)

CRM plays important role in involving customer-level information and incorporating the result into the decision-making process of firm to core business process such as production, operations, sales, marketing, and finance among. In that customer-level information and incorporating the result are collected, stored, and analyzed. Indeed, the advantage of CRM provides basic of competitor advantage of a confirm and improving customer satisfaction, and customer loyalty. It leads to company acquire and retain customer, reactivate dormant customers. CRM initiative ca be attribute to customer acquisition and customer retention. (Kumar, V. & Petersen, JA 2012, 3)

3.1 Customer acquisition.

Customer acquisition is one of customer lifecycle presenting the stage of customers in term of relationship with a company. Companies has been trying to develop strategies and process as directing customers to the main three stages. In this part, these stages concentrate on how enhance value of their business and retain then for long time, almost companies try to identify and acquire new customer. (Buttle 2009, 59)

Replacing new customers to the lost customers in any company is the necessary activity that any company always would like to implement. To fulfill this requirement, companies need to consider potential new customers to target and methods to approach their desired customer segments. In the term of acquiring new customers of customer acquisition, the first and the most important task is the new customers have to have a strong likelihood of being profitable over time. In small companies with ambition of growing and expand their business, customer acquisition is as extremely important as customer retention when they launch new products. As they aware of the survival of company depended on customer, a company could be spelled the end for a company if they just have only one customer as their income and other activities of business all rely on this one customer. (Buttle 2009, 59)

3.1.1 Acquisition plan

The goal of customer relationship management (CRM) strategy includes the measure of profitable customer which is acquired. However, customer demand is not always stable, it could shift out of a targeted demographic as their personal circumstances, their progress through family lifecycle and age. Hence, there is no longer need and finding interested in product anymore and they stop being customers of companies. (Buttle 2009, 59)

A customer acquisition plan focuses on number of elements such as targets, channels, and offers. This type of plan needs to be prepared and programmed carefully as it plays vital role in recruiting customers who have small change becoming profitable. There are three most important that the plan has to be answered: “which prospects (new customers) will be targeted?”, “How will these prospects be approached?”, “what offer will be made?”. (Buttle 2009, 59)

New customers who companies would like to employ are divided into two categories, new to the product category and new to company:

Firstly, the new customers in this category are considered B2C context. “These customers have either identified a new need or found a new category of solution for an

existing need” (Buttle 2009, 59). Another words, customer have new different needs beside existing primary demand. Plus, “customer also become new-to-category because they find a new category to replace an existing solution” (Buttle 2009, 59). For adapting and recruiting new customers with their dynamic needs, marketer and researcher of companies need to update current trend of customers and try to delivery to these customer segments in proper way. This approach allows companies access to new customers who adopt established product for new uses. (Buttle 2009, 59)

Secondly, in new-to-company category, customers more tend to switch their current companies to other companies as they find better offers or solutions in different companies. Generally, “New-to-company customers are won from competitors” (Buttle, 2009). Practically, this phenomenon is advantage for new players in developed economies, they would establish operator and create customer-perceived value in one or more of important category to win share of customers in market share. In fact, this category of new customers is very expensive to recruit or even impossible sometime. (Buttle 2009, 60-61)

On another hand, acquiring great customer to increase business upon on building a relationship with current customers that is considered a key of this stage. Since through this stage, company able to connect with existing customers who likely bring profit to companies, it leads to attracting and acquiring new customers. This stage is implemented by focusing on customer satisfaction, as result, it increases score and a customer community. Gradually, it become platforms where customers share their experience, and reference to other or even ambassadors of companies. (Isson, J., & Hwang, M. 2018, 134)

3.1.2 Portfolio purchasing

Since identifying new customer is a difficulty work in markets, the suppliers need to provide promotion to reactive the customers who are considered not choosing these suppliers. These customers belong to group of customers who have not bought product matter of months or even years. In large companies, they compete each other to retain

and acquire customer from their competitor through strategic switching. (Buttle 2009, 61)

Generally, the strategic switching is applied to customers who switch their allegiance to other suppliers to pursuit better deals. In this case, most companies will launch different promotion such as cheque, coupon, or voucher to stimulate customers of other companies buy their products. However, this approach could not keep these customers stay in their company in long term. Companies therefore need to have different appropriate promotion for certain situation. There is another case, customers would be re-freshed as new customer if they have not purchased in certain period. These customers may be treated by a promotion for new customers in purpose of reactivating the customers. (Buttle 2009, 62)

3.1.3 Optimize customer acquisition.

To optimize customer acquisition, listening and understanding to customer is essential part which helps companies implement plans and strategies smoothly. By using tools, technique, and resource that sift through all customer interactions to understand their state of mind. It is typically found from unstructured format such as emails, audio conversation with customer service or sales representatives, survey, text-content. (Isson, J., & Hwang, M. 2018, 112)

Moreover, there are six steps of acquiring new customer strategy. The strategy requires company need to identify targets by understanding markets, audiences, and competitive environments. First step out of six is setting up targets including review available data and conduct assessments, developing plans of demand on service based on current awareness, usage, and demographics, identifying the gap between projected demand and target for growth. Secondly, developing current and prospective customer related to demographic measures, awareness, knowledge, interest and attitudes toward proposed messaging, media habits. Thirdly, having good knowledge of competitive ability by conducting assessment and examination competitor strategies. Marketer of company recognize weakness and strength of competitors. Fourth, at this step, manager

focus on the available resources and scalability or current customer acquisition strategies and tactics. Fifth and sixth are targeting prospects that look like the best customer and monitoring success ratios (website of EurekaFact)

3.2 Customer retention.

Like customer acquisition focusing on customers, customer retention and development strategy are not only concentrating on particular customer segment but increasing the value of those retained customer. “Customer retention is the number of customers doing business with a firm at the end of a financial year expressed as percentage of those who were active customer at the beginning of the year” (Buttle 2009, 85)

Customer retention is an important role of customer relationship management concept as it has been building and maintaining profitable customer relationship by satisfying customers which are more likely to be loyal customers and give the company a large share of their business. (Kotler, P., Armstrong, G. & Opresnik, M. O. 2018, 38)

There are two elements that manager of companies should keep on mind that the defection and migration of customer behaviors as it is sometime not clear to companies notice whether individual has defected. This issue therefore leads to the discussion and way of managing customer retention or value retention. (Buttle 2009, 85). As mentioned above, companies are not really loss their customers as customers change their buying behavior, it is great contribution of changing customer value than defection. In the sale, profitability, and value, improving customer retention play a vital role to enhance these elements of business. Reinforcing relationship between companies and customers and creating customer value are one of the main solutions of bring benefit to above business activities. (Buttle 2009, 87)

It is pressed that improving customer retention is a necessary step that company would take care seriously as it maintains relationship with value-adding customers. It is ensured by the efforts on customer retention and this sensitive to sale portability and value issues. (Daniel Catalan-Matamoro 2012, 8)

Research of customer retention mainly focus on investigating the effect various on customer retention, which is influences on firm's performance and estimating and predicting customer retention decisions of both customers and company prospective by building econometric and statistical models. (Kumar, V. & Petersen, J. A. 2012, 65).

There are 4 strong economic arguments in customer retention which are increasing purchase as tenure grows, lower customer management cost over time, customer referral, premium price.

Firstly, increasing purchase as tenure grows: the level of customer enjoys the product through cross-selling effort is gone through the proven and satisfactory relationship during period of using product. It leads to their trust, commitment or on their spending grow.

Secondly, lower customer management cost over time: this allows company access method of reducing cost of ongoing relationship maintenance such as selling a service. Eventually, these maintenance costs could be significantly reduced or eliminated period by period.

Thirdly, customer referrals: this type of customer willing to commit to preference and utter positive word - of - mouth, they could influence people's belief, feelings and behavior surrounding them. Plus, this likely acquires new and freshly enthused customers.

Lastly, premium price: Company could be rewarded by amount they have been paying for company. As result customer establish long relationship with company and less responsive to price appeals offered by competitor (Daniel Catalan-Matamoros 2012, 9)

Reducing risk and uncertainty of customer is the core purpose of increasing purchase as tenure grow. Besides that, companies create satisfactory and trust grow would influence customer's commitment on spending to companies. Leading to companies could yields more from their cross-selling. Lower management cost in companies is essential which companies could generate more profit. From creating satisfactory relationship, customers will be more likely continue purchasing company's product with higher

prices as reward their suppliers. Furthermore, these types of customer less response to offer by competitors. Beside eliminating risk, uncertainty of customers and management cost, expanding image of brand through customer committing their purchase by preferred supplied. These customers more likely utter positive word-of -mouth and they could fluence on behavior and belief of other. The power of word of mouth is more likely acquire new customer, refresh enthusiasm by experience. (Buttle 2009, 88)

Due to retaining customers, companies need to make decision of which customers are retained. These customers could be high valued customers, inspirations, benchmarks. The decision depends on the level of customer' commitment with companies, this help managers could make plan on which group of customers, companies should hardly invest in. For example, a company might consider a considerable amount of investing in highly significant customer who are not committed. Otherwhile, they would not invest so much in highly committed customers as they more tend to impervious to the appeals competitors. (Buttle 2009, 88)

Relating to decision of managers on current customers, the managers need to focus on issues after customers has been acquired, repurchasing of recently acquired in the future and the lifetime duration of customer. There are issue include questions which need to be answered carefully as it creates profit to companies through comprehensive understanding of how to model customer retention (Kumar, V. & Petersen, J. A. 2012, 67)

Moreover, focusing on customers who have high future lifetime value potential than longer tenure customer which is companies are implementing. As they are aware of future revenue stream and profitability are on way of increasing thank to retention rate rise over time and defection can be prevented in the early stages of relationship. (Buttele 2009, 89)

3.2.1 Positive strategy

The most common strategies implemented in many companies and banks are negative and positive strategy. However, positive are using more than negative as it does not bring feeling of being trap to customers. The first task of companies when they implement positive strategy is to make sure the expectation and well need. This is the fundamental principle of customer management including understanding customer and make sure satisfaction and retention. Additionally, it is not only building solid long relationship with customer but also serve them better than customers are severed by competitors. Also, diving into customer insight is essential point to satisfy, pleasant and delight to customer, it responsible for showing the commitment, building trust to delight customers. (Buttele 2009, 90)

3.2.2 Delight customers

Delight customers are composed when companies could meet expectations of customers and have appropriate performance. Inspire customer expectations attributes is not equally important, it significantly influence the satisfactory to customer. Attribute' customer expectation could be service responsiveness, price stability, product quality. (Buttele 2009, 92)

The purpose of companies is to deliver what they can promise and then delivering more than what they promise to form delight customers. Delight customer act as partner to company even though they do not make repeat purchase, they are willing spread good word about their experience to other. (Kotler, P., Armstrong, G. & Opresnik, M. O. 2018, 39)

As doing unexpected things to customers, it would create a positive emotional reaction. Beside that companies could prepare what customer may require in the future. To ensure customer delight, identifying upcoming needs and problems of customers is necessary. This method could help companies reach customer's satisfaction and get to know their unmet needs, it leads to solution would be figured out, unresolved issues

would be resolved. From that, the provision would exceed customer expectation. Implementing customer Feedback not only allow managers know customer's point of view on branches but also, problems and upcoming requirements reveal. (website of Customer Think)

Customer satisfaction contributes to customer delight elements as companies could achieve it when the expectation of customer is reached, or the performance of companies go beyond it. Company must do all way to keep important customer satisfied according to the greater customer loyalty depend on customer satisfaction. (Kotler, P., Armstrong, G. & Opresnik, M. O. 2018, 39)

For generating customer satisfaction, Noriaki Kono developed a product quality model including three form of quality. The two first forms obviously meet the demand of customers, the basic qualities are basic requirement of customer related to main function of product such as engine of car, screen of laptop and so on and linear qualities which is customer wants. For example, fuel saving, reduced noise levels. while the third form help company manage to get more attention to customer that surprise, delight and excite customers. Unlike basic and linear strategy, attractive qualities often difficulty to identify in market research. (Buttele 2009, 92)

3.2.3 Add customer-perceived value.

“Customer perceived value is the customer's valuation of the difference between all the benefit and all the cost of marketing offer relative to those of competing offer”. (Kotler, P., Armstrong, G. & Opresnik, M. O. 2018, 38). This type of customer does not care of amount of cost, they even have a thought that paying more to get more. (Kotler, P., Armstrong, G. & Opresnik, M. O. 2018, 38)

In fact, that the expectation of customer would be driven up easily when competitors strive to offer better value. To be avoid loss customers to competitors, companies must look for a way to keep their delight customers in way of pleasantly surprise customers.

Customer could experience additional value when they use and buy products or services. This idea helps companies bring new different experiences to customer combine to no more costs is added to supplier. This value-adding approach have three common form: loyalty scheme, customer communities and sales promotions. (Buttele 2009, 94)

Basically, loyal scheme reward customers who spend their money on company's product and have long history. In other words, "A loyalty scheme is a customer management program that offers delayed or immediate incremental reward to customers for their cumulative patronage" (Buttele 2009, 94). The reward of this program would be increase follow the amount of customer's spending. This program become popular in significant industries from service to product. It is used in service such as hotels, bus, airline, restaurants and so on. As reward would be counted on time and amount of spending that customers use or buy products, there are arrange of ways to collect this issue. Magnetic stripe cards, this type of card carried a lot of transaction and personal data, that is easy to companies collect data and behavior of customers and make analysis on them. This information of customers can be warehouse and subject to data mining which would be insight customer buying behavior later on. Role of card is considered of membership card, one customer buy product or using service, certain percentage of bill or times will be exchanged to point in card. These points would be redeemed for gift or free of charge for next time of using service. (Buttle 2009, 97)

In loyalty program, customer earn their point on membership card bring many advantages to different dimensions of companies. First, annual reward customer who use product or service in given period, it would encourage customer stay with suppliers longer and consider not find an alternative. Base on collected points of customers, manager could easier to track and analyze customer behaviors as mentioned above. However, during time of implementing this program, companies need to consider competitor' promotion in order to know what they are doing, and companies would have proper view of cost-effective in industry, they are belonging to. Also, companies could design loyalty program tiers, it depends on value, customer add to business, they will be reward in different things. Moreover, game, ethical reward are good way to make customer feel like they are getting something extra and excited whenever they are buying products or using a service. (websibe of Commbbox)

This such program can enhance and strengthen a customer's brand experience. customers could be offered functionalities such as they could personalize their choice, receive special offer with normal price or even free and they could be prioritized. Moreover, the program is considered as a tool of developing of strong bond with customers. (Kotler, P., Armstrong, G. & Opresnik, M. O. 2018, 40)

Furthermore, the additional value is added to customer would deliver some pre-redemption psychological, and material benefits. First of all, customer would feel sense of being value and belonging, it leads to customer would consider of their choice are worth. When redemption happen, customers receive not only material, but also psychology, this stage can enhance customer' overall sense of well-being and emotional attachment. These senses and thoughts of customer would bring them to the committing with companies and build strong relationship. Additionally, through this program, companies could show the appreciates to their customers. There are many types of reward, money, vouchers, or products. (Buttle 2009, 97)

3.2.4 Customer communities – customer club

Other success approach of promoting customer retention is customer club. The clubs are created by many organizations with purpose of learning more about customer behaviors, developing customize offers of service or product to customers. Simultaneously, customer could get benefit and value from what they experience product or service. The distinctions of customer' data of each club would be different; manager could get more data from customer of the club leading to the availability of customer data. Customers attend to clubs would receive significant benefit from organizations, they would be alerted whenever new and improved product, discount or special offers are launched. The notifications would be sent to customer by emails, messages, or posts (Buttle 2009,98).

Customer club is defined as communication channel between customers and organizations. That is easily to contact customers directly on a regular basic and offer them a benefit package with high-perceived value. Leading to increasing customer' loyalty. This method brings the hospitality of company to customer' life and it also express

caring way of company to customers or membership that they are important and special. (Investigating the effective factors in retention of customer club members as a marketing activity (case study: Saderat's bank customer club, 2)

3.2.5 Sales promotions

Sale promotion is used widely in companies and shops, also this is applied to customer acquisition to require new customer coming to companies. Regarding customer retention, sale promotion encourages customer repeat purchase. This type of promotion, customer could use vouchers from rewarding of previous purchasing or program. The given amount on vouchers gives customers amount of discount off exactly on it. Beside that other type of sale promotion such as rebate, patronage awards, premium of continuous purchase, collect schemes, self-liquidating premium. Promotion need to be unique, innovative and designed to stand up to customer expectation as customer' purchasing decision depend on these factors. (Buttle 2009, 98)

4 BIG DATA AND DATA-DRIVEN

The connection between devices and sensor technologies are rising that create data stream in way too large to handle by common software solution. As result of big data analytics has been using to impact the way companies do business effectively. As big data enable companies to access real-time and accurate data. Hence, it helps business make right decision at right time and reduce risk. Big data is composed from various distinct sources, such as e-commerce, catalogs, surveillance cameras, internet surfing, forum etc. The data from these sources are unstructured data. (logistics 4.0. Applications, Trends and Challenges, 64)

The massive volume of data allows businesses address their problems which they would have been able to tackle before and predict and minimize risk in future. The accurate decisions are made basing on data-driven insights and big data to increase profits. (logistics 4.0. Applications, Trends and Challenges, 64)

In CRM planning, data base is the core where company gather information to store, analyze and make decisions based on the result of data analysis from which data can be collected (Kumar, V. & Petersen, JA 2012)

4.1 Customer-related database

The purpose of customer-related database is to enhance, analyze, acquire, distribute and critical to CRM performance. This type of data allows strategic CRM focused on winning and keeping profitable customer and identified which customer to target. Plus, customer-related database has mission of delivering excellent service, marketing campaign and track sales opportunities. (Buttle 2009, 289)

Customer database is sources that help CRM create sophisticated software and analytical tools which construct the relationship with customers through evaluating the outcome. Right information determines the appropriate of specific solution or reformations for business operations (Dyche 2006, 127)

The term of customer-related data is understanding as two deliberate expression, data for customer and data about customer. Data for customers is searchable data available for customers and partner through portal and it is usually secured and protected by password. These data are about product and solution to service issue. Meanwhile, data about customer is both available in information system, functional area within company such as accounts, logistic, service and so on (Buttle 2009, 289)

Customer-related data include number of customer's brief by capturing data in different function perspective which could be realized to be used in term of data about customers. These data are collected through campaign, event, information which customer provide to serve for delivering and billing. It depends on purposes of business; the manager would have different ways of maintaining customer-related data. Since customers have numerous ways to choose and decide which product fit for themselves, and to be easy to analyze and forecast for future' sale, data probably contain past, present or potential opportunities. (Buttle 2009, 290)

Moreover, customer database allows company implement customer appraisal, this method takes responsible of figuring out prospect customer, how to tailor products based on customer's need and profit of company. It helps manager have perceptions of customer' demand leading to company would have way to improve product and service (Dyche 2006, 126)

Additionally, it does not just contain data related to customer, companies also research and store data of competitors which allow companies to develop, maintain customer relationship. The action of maintain competitor's data also contribute to enhance competitive ability of companies. Moreover, customer-related data have two categories, structure data and unstructured data. (Buttle 2009, 290)

The functions of database in customer relationship management (CRM) are used in three forms such as strategic, operational, and analytical. Customer-related data are important element of strategic CRM helping identify which customers for acquisition, retention, and development, and create appropriate value proposition and experience offering to customers, operations of business daily such as selling, marketing and customer service are using customer-related data as well. Furthermore, customer-related data serve in Analytical CRM support activities of operational CRM, this help to enhance the value to create for customers. It depends on the perspective of CRM decision; completely different set of information would be used for different purposes across sales, marketing, and service. (Buttle 2009)

The amount of information can be sourced internationally and externally, and it is available upon on the degree of customer contact that the company has. Besides that, companies could get customer data through purchasing, partners agents and distributor. Companies have internal data in various function area during operation of companies. Marketing areas include data of customer segmentation, customer acquisition channel, marketing campaign, and so on. Records of customer purchasing history which contain buyers' name and contact details, account numbers, frequency and monetary value, potential customers (prospects), competitor product and pricing, and customer requirement and preferences, these data serve sales activities. As noted, internal

customer data are not enough to be used for different CRM purpose. Therefore, significant companies choose importing external data which include market research companies and corporate database companies to enhance the customer record. Familiarly, external data is divided into three small groups, compiled list data, census data, modelled data. These three groups are accessed by numerous sourced. (Buttle 2009)

4.2 Data integration

Integrating data is considered extremely important in CRM project. It implements and support to centralize database by software and system which are allow companies to integrate database from different mainframe (legacy). Also, middleware help integrate data from diverse sources, this class of software's responsible is link different parts of system and help them communicate with each other. However, sometimes, implementing connect and arrange data become significant challenge and hurdle of many companies before they use the combination data for marketing, sale, or service environment. (Buttle 2009, 296)

Relating to predict customer behavior in future to figure out appropriate plans, text analytics combine to predictive analytics, unstructured text like emails, chat bots, voicemail transcripts, and social media activities. These types of text are transformed into actionable intelligence to address problem of companies could face in future (Isson, J., & Hwang, M. 2018, 55)

Since history' integration of customer with business are the most important as integrated data create single view of customer. (figure 2). companies would be highly cost and even loss customer as they do not have good experience of using product or service if companies fail in integrating data. (Buttle 2009, 296)

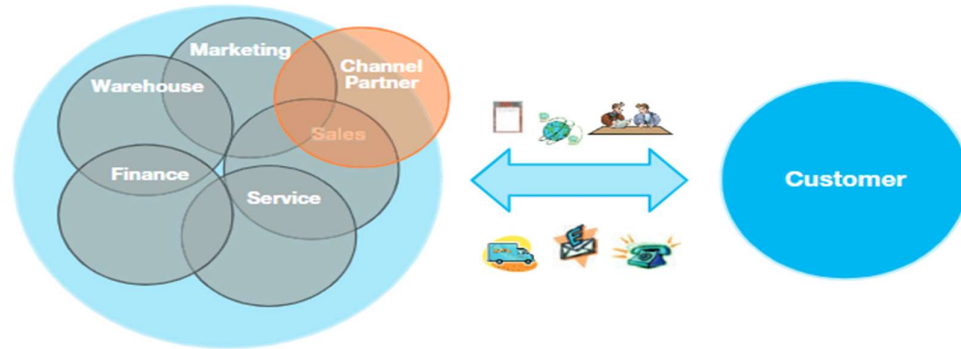


Figure 2: Single view of customer (Buttle 2009, 296)

4.3 Data warehousing

Data warehousing is a necessary solution for an increasingly data. Huge amount of data is stored and arranged large amount of operational, historical, and other customer-related data. As data are imported from other source and there are significant analytical front-end features which allow companies could analyst and predict upon statistical processes. Like physical warehouse, warehouse of data arranges, and groups data follow its feature, type, and function. There are four group of data are stored in warehouse, according to Watson: subject-oriented is essential and specific subjects would be organized such as customers and products rather than process of certain area in business. Integrated where data are extracted and transformed from several sources. Time-variant is simply data are organized by different period of time. Non-volatile help data less momentary change cause of warehouse upload bulk of transactional and other data at same time but in unreal time. (Buttle 2009, 305)

The aim of data warehouse manager is to define, develop and manage the data platform. Traditionally, data warehousing stores, marts data. However, the new technology of warehousing enables bold the role of storing data by considering new technologies such as Hadoop, in-memory computing, and data federation. These flatform support the ability to analyze real-time data feeds (Schmarzo, B., & Schmarzo, B. 2013, 40-41)

4.4 Benefit of using customer-related data.

Analysis of customer-related data is the most crucial process that contribute significant success to companies. It helps transform customer-related data into actionable insight. This process insists upon data acquisition, data analysis, data preparation, data enhancement where it provides users not only a deeper insight into number perspective of customer, serving cost but also improve key CRM such as customer value, customer satisfaction and even lower cost-to-sever. (Buttle 2009, 311)

Using technologies to get customer insight will significantly enhance performance, products, improve productions, outcome, accuracy, and optimization. Take advantage of customer-related data could to new solutions of complex problems which would meet in the future.

The main purpose of analysis of customer-related data is to focus on developing center of customer which give companies advantage in competing competitors in same field and keep profitable customers by creating and delivering better value. Through analyzing customer-related data can answer could point out solution and answer for question related to satisfaction of customer, their experience with companies' production or service, and the strength and weakness of competitor as well. (Buttle 2009, 312)

Using customer-related database allows managers answer questions of different strategies and tactics which help them achieve long-term goals and goals alternatively. The appropriate answers are drawn on difference form of customer-related data. Also, it relates to build loyalty/ satisfaction, revenue, reducing costs. (Buttle 2009, 312).

With customer database, company would have strategy and how CRM fits in their operation to determine focusing on right segment of customer, improve service of serving customers, using cost more efficiency. Plus, objectives of customer knowledge are focused on to enhance market share in a particular market through understanding customer knowledge management do with information in database, this tool is applied to determine which product should be developed. (Freeland 2003, 77)

As analyzing customer-related closely connect to warehouse of data where contain number source of data. Plus, various source such as CRM system, the Enterprise Resource System (ERS) which user can get descriptive reports such as data mining, Online Analytical Processing (OLAP). To delivering insight whether in sales, marketing, service or management, device would take responsible to do this job. (Buttle 2009, 312).

5 BIG DATA ANALYTIC

Thank to big data analytic companies enable to improve reliability of their strategic and operational resource planning. Any decision is made from using big data regarding to long-term future of the companies basing on predictive character of big data. This character is driven by modelling algorithms and advanced regression. Hence, it allows companies to reduce risk and predict the future of any dimension of business. Additionally, the utilization of big data analytics optimized operation level of companies become more responsive, adaptive, and flexible. (Buttle 2009, 80)

Customer relationship management strategies have been revolution by big data and technologies, this revolution enabled companies cope with the greater customer demands in list below: Personalization and mass customization, aggressive marketing through push notifications enabled by big data insights, real-time decision marking for greater customer experience, anticipatory delivery services. (Buttle 2009, 80)

Customer service is a crucial factor in achieving a competitive advantage, this evidence is found from the survey of Deloitte. In fact, that haft of logistic companies realizes the value of customer enhanced by using Big Data analytics. Those value of customers are generated by data extracted from distribution networks and data mining of shipment records. (Logistics 4.0. Applications, Trends and Challenges, 82)

Apart from enhancing value of customers, big data analytics merge different data source together and extract customer value insight including service quality, customer

satisfaction, identifying element that keep a customer loyal. (Logistics 4.0. Applications, Trends and Challenges, 82)

5.1 Analytic for strategy and tactic

The aim of CRM strategy and tactic is to achieve a long-term goal through plan of action and carry out to achieve desired goal. There are three broads of strategic goal: Building revenue, reducing costs, or enhancing customer loyalty/ satisfaction. Specifically, CRM program help to build revenue by aiming at valued customers, creating a ringfence relationship to generate more sale leads. (Buttle 2009, 313)

Besides that, the strategies require new customers and opportunities. While tactics implementing build loyalty customers and enhance satisfaction of customers when they use companies' products and reducing cost. However, strategies and tactics would be different which is up to each type of analysis. Deciding approach to implementing the plan and provide offer to customers, the marketer also continue answering question like the types of offer, form, the best offer and so on. (Buttle 2009, 313)

The answers would give marketer a good insight into customer base on customer-related data, this will create different form of report. Plus, to build, test and apply predictive models at the level of the unique customer, there is involvement of the availability of appropriate historical data. (Buttle 2009, 313)

To enhance customer relationship, employees who work in customer service process need to be trained and aware customer' behavior, what customer need and wants. This leads to increase customer equity by every engagement with customer. Regarding boost the revenue of company as high as possible and highest return on investment, there are strategies through value CRM created by customer database. The strategies include customer, channels, and brand (Rowley 2004, 150)

5.1.1 The customer value.

Business object and operations determine targeted customers which company desire and aim at. Before applying to CRM application, customer segment must be analyzed and identified to ensure customer groups could bring target profit to company and whether capacity of company could serve individual customer and their specific needs. Beside that communication method is concentrated as this could improve and handle customer relationship. (Newby, Nguyen & Sherif 2007, 106)

The concern of customer perceive value play vital role in predicting customers and achieving some sustainable competitive advantage. The success of customer value is showed by the trade-off between benefit and satisfaction. In other words, customer received and knowledge the evaluation of company' products, performances and service to achieve the expected goal. Moreover, there is customer contribution value include customer lifetime value and consumer profitability analysis (Farkas, V. J. (Ed.) 2010, 100)

The analysis of customer lifetime value CLV mainly focuses on three phrases: customer acquisition, customer retention, and customer development. As each phrase have different process and concentrate on different aspects of customer, leading to the type of analysis of each different phrase strategies will be quite different. For example, customer acquisition, qualifying and identifying new potential customers play the most important role, it is therefore qualification process design score with evaluate prospects with the higher score is the better prospects. By scoring, sales managers could create report and following up the best lead in either scored manually or automatically. While analysis of customer acquisition demand answering question of looking for highest future potential lifetime value of customers and how to develop strategies of customer management, and how to serve customer with the lowest cost.

It is obviously that the right data need to be available for analysis and could be used to answer question of customer retention. Retaining customer have the greatest future lifetime value is to boost profitability of companies up as companies probably need to know gross margin earn from what customer will buy in future, cost of serving customers. To know which product and demand of customers, forecasting future sale is

one of solution, analysts could use number of available sources and analytical procedure such as intention-to-buy surveys which is analyzed by quantitative method, time-series analysis of historical sales data using moving average and qualitative methods like sales team estimate. (Buttle 2009, 314)

5.2 Unstructured data.

The volume of unstructured data is huge, and it is known as term of big data and the analytic of this type of data are evolving and using popularly in many companies. This type of data reside in social media repositories. As mentioned above, it is not in any form which could either textual or non-textual, for instance, PDF files, handwritten notes, image, audio, spreadsheets, and many more which can contain information. Even though data are in multiple unstructured form, these information to companies is quite vital and necessary and they try to take full advantage of it. However, among several form of unstructured data, the most advanced form is text analytics which is transformed an extracted relevant information into structured data. Inspire text are not in appreciate form or even multiple languages in same stream, there are number of text mining tools that can help. (Buttle 2009, 317)

Unstructured data specific to individual customers bring numerous benefits to predictive model as it might improve the accuracy of this model. Since data contain customer's experiences in texts of customers, it allows analyst to get to know the customer's decision to continue the business or churn. Plus, text analytic is a way of identifying the root causes of problem or faults from customer's complaint or customer service. Apart from solving problem and improving customer's experience, there is trend analytic which is illustrated through charts and compare the most frequent entity surface for specific duration of time. Lastly, getting to know what customer feel and have point of view on brand, product, service of company. This point is one of importance of CRM helping manager of companies could have appreciate approach to improve their image in customer' eyes. (Buttle 2009, 317)

5.3 Structured data

Unlike unstructured data, data of the structured data are kept in relational data base and each type of data is stored and grouped in categories for example, product types, genders, or countries, this is one of the fundamental of structured data. This is called categorical data and it have two sub-categories are nominal data, ordinal data. Interval, and ratio scales are continuous data. Understanding the hierarchy of different data type is requirement to the managers and data analysts because it determines the performance of analysis on data. (Buttle 2009, 321)

Data does not arrange in order will be group in nominal data, which is usually used to classify, identify, or categorize such as genders, unique customer number and email addresses. While ordinal data rank variable being measured and allow analysts know that “an observed case has more or less of some characteristic than another observer case” (Buttle 2009, 322). Another words, the variable would be compared base on standard or regular scale, from that, the manager could know the rank of certain list or group. Associating with ordinal measure, interval data perform the order of magnitude. This interval data rank not only the order but also the different, it even work on measuring attitudes and opinions and have no fixed zero point. For instance, of using interval data are the Celsius and Fahrenheit temperature scale. Lastly, ratio data is combination of nominal, ordinal and interval measure as it allows to classify object, rank them, and compare differences. (Buttle 2009, 322)

5.4 Data mining

Data mining (DM) is filtering process assisted by computer, this process analysis enormous set of data and extracting the meaning of the data. Data mining tool allow company to make proactive, knowledge driving decisions and answer business questions which consume too much time to resolve. Plus, DM help to predict behavior and future trends. Mainly, DM mine and collect database for hidden partners, predictive information which is lies outside expert’s expectations. (Sturdy, G. 2012, 155)

Generally, DM use statistical algorithms to discover correlations and patterns in data and previously unknown useful patterns in structured data and finding out interesting, unexpected, or valuable structure in larges dataset. As function of discovering sophisticated data, DM tool is divided into two main classes:

Firstly, model building: high level global descriptive summary of dataset is built including regression models, cluster decomposition and Bayesian network. Secondly, Pattern discovery: the overall shape of data is described; the data is described with an anomalously high density. Pattern and mass of irrelevant data are usually embedded together. (Sturdy, G. 2012, 156)

Regarding prediction, data mining provides the forecast the relating to what will possibly happen to business activities in future. For example, the number of customers next month or year, whether a customer will refer a friend. Another useful function of data mining is affinity grouping, which use to find association between data. This procedure help companies to have cross-selling and cross-sectional opportunities, or plan store layouts where associated items are placed close to each other. (Buttle 2009, 328)

Thank to DM, company could get big picture of the business helping analyst see broader trends base on aggregated data. Plus, company notice more complex relationship between different attributes of dimension in short time that human eye cannot discover. Therefore, DM is a part of a large process called knowledge discovery which responsible for describing the step of ensuring meaningful result, eliminating the need to know the business, understanding data, or being aware of general statistical methods. (Sturdy, G. 2012, 158)

For predicting customer behavior, DM allow company to find way to do this and enable to understand various customer segments. The exercise is implemented through credit cards issued to customers, POS system. The detail of customer include customer transaction is performed basket analysis, the knowledge from this method can improve stocking, store layout strategies, and promotions. (Sturdy, G. 2012, 160)

The process of data mining consists four phrases in sequence: data selection, variable/feature selection and filtering, knowledgeable extraction, and evaluation and interpretation. Phases 1: Starting with cleaning data, eliminating incorrect, invalid, or unknown data, the tool would be chosen depending on data quality. Phases 2: Filtering information from big amount if data to selecting informative information and reduce the data size. The selected data would be chosen according to some problem-solving criteria. Phases 3: Tackling problem by analyzing unknown patterns, the relationship between different variable, or predict unknown instance to the define classes. These techniques relate to classification, clustering, prediction, and association rules or market basket analysis. Phases 4: Useful knowledge can be obtained and use in this phase (Farkas, V. J. Ed. 2010, 99-100)

6 RESEARCH METHODOLOGY

6.1 Research ethics

Research ethics refer high standard which researcher need to be ensure this when they conduct a research in the way of respect and honors the ethic procedures and principle. The standard is responsible for providing guideline which educate and monitors researcher what is right and wrong and what is good and bad. (Website of Run Run Shaw Library)

In this thesis, research ethics will be applied under Economic and Social Research Council (ESRC) framework. This framework includes six key principles for ethical research. These principles mainly focus on benefit of society, individual and minimize risk and harm, researcher should be respected the rights and dignity of individual and groups, transparency, and integrity when research is conducted, participating voluntarily and appropriately informed, clear define line of responsibility and accountability and the independency research should be maintained and need to be explicit. (website of Economic and Social Research Council)

The most concern of ethic in this thesis is confidentiality and anonymity, the information of company would be protected. The thesis will just only use information which related to the topic and issues. Otherwise, data of company, which is not server for the purpose of topic, it will not be put in the research. Respecting self-determination, respondent of manger in questionnaire and interview is requirement, she would decide what information would be provided. Also, the right of attend the interview and answer the question are voluntary.

The questionnaire also needs to be followed the standard of ethical research known as ethical question. The questions in interview with the owner of company would be designed to respect the confidential information of company. Avoid asking questions could harm and offensive to any individual or image of company.

6.2 Case study method

As research methodology, case study can include qualitative and quantitative methods. Qualitative and quantitative research are both used in deductive methods. However, these researchers are opposite. Qualitative research is to collect and analyze non-numerical data. Whereas quantitative research involves numerical data which make prediction, test causal relationship. Additionally, quantitative is used to descript overall summary of study variable, investigate relationship between study variable and systematically examine whether there is a cause – and - effect relationship between variables. (website of Scribbr)

Qualitative research is to understand the concept, experiences, and opinions. This method uses to understand experience of people, test the theory in practice which tend to extend understanding from theory and emphasize different aim and perspective. Since the theory is applied to practice, this research is referred as deduction. Qualitative research tests the how true the theory through hypothesis. (website of Scribbr)

Research method of case study in this thesis will be both quantitative and qualitative methods. As the thesis start with s proposed theory, which is tested by empirical observation, applied theory on case company as theory-driven approach. From these approaches to theory, the thesis generally applies deductive approach.

As case study in this thesis use explanatory research which focus on studying a situation and relationship between big data and customer behavior and give the causal relationship. Therefore, the researcher has chosen the case company to support the methodology.

This thesis will include interview with owner of company. interview way of collect data and extend the understanding of subject and theme, it is qualitative. Also, the analyzing will base on qualitative evaluation.

6.3 Data collection.

The answers are found through the process of collecting information from all the relevant sources. Data collection has two methods are secondary and primary methods. Secondary data is usually from published books, newspapers, magazines, journals, online portal etc. This type of data is use as reference of theory part in this thesis as it is important role in term of increasing level of research validity and reliability. (website of Business Research Methodology)

Primary data include quantitative and qualitative. Quantitative collect and analyze data via questionnaires, methods of correlation and regression, mean, mode and median and other. Qualitative relate to level of understanding and this method include interviews, questionnaires with open-end question on focused groups, observation, case studies. (website of Business Research Methodology)

Firstly, the theory will take the data from books which is found on e-book and Samk's library combine to some sources from website. Additionally, the theory part will be divided into three main themes, Customer Relationship Management, Big data and how analyze Customer behavior from Big data, the secondary data will be used to

support to answer the problem's question of thesis. Secondly, questionnaire and interview will be conducted to collect data for this research. The roles of questionnaire and interview are to collect data to be well prepared to analyze the research and to know fully the phenomenon of case company. The process of collecting data will start from conducting questionnaire to interview. Therefore, the questions of interview will be designed on phenomenon from questionnaire in advance.

6.4 Creating questionnaire.

Questionnaire is series of questions to gathering information. This way data can be collected quickly, and it is useful to send to hundreds of people, targeted groups. Through the questionnaire, researchers can measure the behavior, preferences, attitude, opinions and intentions of relatively large number of subjects. Opened questions are used in conducting survey, this types of questions helps researchers to collect both qualitative and quantitative data. Thank to it optional answer in series of questions, information can be easily converted into quantitative data and standardized. Moreover, the answers could be checked for reliability as all respondents are asked exactly same questions. To opened questions, respondents could give their opinion, express their own words. From this way, research can take as much as detail from answers and find out why a person holds a certain attitude (Website of Simply Psychology)

The aim of questionnaire is to make sure all the purpose of research and it needs to be clear short to be allowed respondent easily to answer and get the point of questions. The structure of questionnaire is followed the theme of theory in three parts, customer relationship management, big data and analyze customer behavior data. The questions will be in opened questions. The questions will be sent to the manager of companies to answer.

6.5 Reliability and validity

The quality of research is evaluated by reliability and validity. Even though they mean different things, these two means of measuring are close and correlate to each other. if measuring is valid, it is usually also reliable.

Reliability is the consistency of a method measure on something more than two time, the research still achieves the same result on the same object, circumstances. Research reliability can be divided into four groups:

Test-retest reliability is the same tests with same participation of the same sample group are conducted in certain time to measure the reliability. Parallel form reliability is the phenomena is conducted with same sample group via more than one assessment method. Inter-rater reliability is the different assessor will give the measure of set of results by using the same method. Internal consistency reliability is the extent of the different within a test items which have the same construct produce similar result is accessed. (Website of Business Research Methodology)

Validity is how well an instrument as measuring right concepts, elements for the research that need to be measured. Validity supports the reliability as measures need to be reliable. Research reliability include two group: External validity and internal validity

External validity measures the generalization of a finding research where the framework needs to present in exact groups and valid in similar type of situation. (Kananen 2010, 128 - 129). Internal validity means measuring the right things which is the main purpose of a research. (Kananen 2010, 128 - 129)

Reliability and validity in this thesis are taken for an important role as it show how the theory could applied and improve the situation of relationship between company and customer by using large amount of data from different source and strategies of customer relationship management.

To make the study is reliability and validity, the information for theory will use the secondary data such as books, e-article and website related to CRM, Big Data. Beside that this thesis use the primary data from questionnaire and interviews with case company.

7 RESEARCH FINDINGS

7.1 Company' general information

Anh Em limited is a trading company selling helmet and water paint. It was established in January of 2012 with its location in Ho Chi Minh city, Vietnam. The product of company is widely provided to almost all province of Vietnam from the north to the south. Since the demand of using helmet of commuters, this company offer product of helmet to different customer groups from children to adult with number of sizes, designs, and colors. Furthermore, company provide water painting to construction such as houses and building as demand of innovation and decoration increase every single year.

Even though the company provide their product across Vietnam, the main market of company focus on Ho Chi Minh city where the demand of this area is more various and has a lot of sales. The company's revenue in 2020 was over 5 million VN Dong, and operating profit was 1 million VN Dong. The size of company is small with over 10 employees are working.

The core competitive advantage of company is offering quality product with reasonable price. Beside the quality of product, company also focuses on up-to-date product to catch-up trend and needs of customer. For example, partem or shape of helmets is changed depending on season of year or events. Familiarly, trended color of water painting is always available at showroom or storage.

Even though Anh Em have operated since 2012, CRM have just employed since beginning of 2018 as the manager of this company realize the benefit of this application. This system manages store data of customer, the data is provided by customer though process of buying. Company either collect data by asking people when they come to showroom, store to buy product or customer leave their information on website when they order product they want to buy.

Information of customer is collected include customer' full name, date of birth, place of birth, address, alternative contracts (optional), occupation. Moreover, now of taking information from customer, the system will record the time customer order and buy products. In other word, the system will obtain touch point whether person-to-person or through a website.

Simultaneously, employees who in charge of interacting to customers will be ensure that will be aware of strategy and CRM subject in general. Training session are taken place to get them involved in the whole process, they will be trained to know how to collect and store data. Plus, up-to-date customer data is necessary to company so employee in customer service team also need to be made sure that they could do this task.

7.2 Objective of company in CRM

To manage customer relationship well and earn profit as high as possible, the company focus on both employing new customers and remaining and developing current customer become loyal customers. The aim of company is to bring satisfaction and good experience to customers. In term of taking care customers, Anh Em company concentrate on improving customer service and ensure giving customers well satisfied.

Regarding improvement of serving customers and quality of product, company recording all customer feedback and complaint. This point make company boost customer satisfaction. In order to solve customer's problem or request, the system need to be design in way allowing employee access all customer information in time, it leads to company could ensure customer feedbacks are dealt. Plus, employee use database of customer to integrate to customers and maintain good relationship between two sides.

7.3 Collecting and storing customer data

According to questionnaire and interview with manager of company, the company collect customer's information by different sources and methods. The most common way which company usually use to gather data is asking information of customer directly,

indirectly tracking customer via social media pages such as Facebook, Instagram. Beside that company also run advertising on these pages to measure how much the interaction of customer and promote their product. Furthermore, company also use the most common way to have more personal information and other data is from third-party sources.

In order to sort and analyze all data which company have had from different methods; the technology is applied to this process. Computers attend to go through data more quickly and efficiently. There is a software name Misa, this software manages not only financial data but also information of customer. The data in this software link to each other and it could create different type of report which readers concern. Moreover, user could have reports include data have already analyzed such as how much customer buy helmet under certain ages, the time customer buy product, the area buy product the most.

Even though helmets are sold to wide range of age groups, the main targeted customer of company is adult group with 20 - 30-year-old. As they put more focus on this group, type of data is mainly related to how often this customer segment change to new products, their favorite colors. As products of company tend to update new current trend on market.

Since the company use data to keep good relationship with customer, the collected information mainly focusses on buying behaviors, personal information like hobbies of customer and feedback post-purchase. All this information is gathering and store in customer database of company software. The analysis will be implemented on these data. Misa system could suggest basic improve to company which aspects of product or customer service need to be improved. It helps company to understand customer data and creating customized promotion. Leading that company already have special offers to both new and loyal customers.

Regarding storing customer data, Anh Em store their customer data on both CRM software and spreadsheet. The advantage of CRM software is not only store but also organize information safety and easily. Spreadsheets are created by office software; Microsoft Excel is good for company manage customer data through useful tools of it.

As the limit of Microsoft Excel, company use both CRM and Spreadsheet. Meanwhile. Company pay attend to keep data secure and easy to access, update or delete information, they use password-protected tools. All data are encrypted link within the system.

7.4 Customer acquisition and retention data

The data of targeted customer segments are constructed in database which base on basis personal data such as name, age, address, email, and phone number. Company reach customer by delivering marketing messenger, this way to entice customer to try out company's products and measure how much attractive of company to customer and a way of collecting response. With collected response methods, company could have acquisition predictive model and figure out right targeted customer segments. For example, the customer tends to buy paint with a brush.

Due to identifying pattern and trend in behavior, company use data to learn potential customer by the information customer provide, such as previous purchase. After understanding potential customers, company will adjust or modify advertisement to directly to customer in order to appeal to them. Company knowledge that the accurate and streamline of data is extremely important as it contribute to success of customer acquisition.

Meanwhile, company also concern about customer acquisition cost consumed to obtain a new customer. Sometime, this amount of cost can be expensive, take marketing and advertising on different platform for example, if company could not understand customer behavior and customer favorite, it would cost company a big amount of money for this issue, but it does not attract customer. They use data for improving their acquisition strategy. The data allow company learn customer buying behavior and lifetime value. Hence company could employ potential customers who have lifetime value higher than the cost company need to acquire the customer. After identifying potential customers, lookalike model is applied to system of company, it creates customer' profile who are a close match to targeted customers. These customers are group to people who have similar key characteristic.

Regarding to maintain existing customers and bring satisfaction to customer. According to the answers of managers in interview, the first necessary step is tracking the interaction of customer through data. It gives company information of how interesting and experience of customers toward company. Also, feedback is easy and quick way to inform to company both negative and positive experience of customers. Essentially, data of company need to be clear without duplicate or errors. Thus, company can view and analyze to personalize to different customer group creating satisfaction to customers.

Through data mining, company is able to realize the demand of customer and leading to improve their services and products. That helps company to achieve customer loyalty by serving them according to their important information. Plus, the number of loyalties increase, the number of sale of company also increase. It brings advantage to the increasing profit and grow of company as loyal customer account for nearly half of revenue.

To maintain loyal customer and avoid delivering irrelevant message as it would create annoying to customer, right messages in right channel is one of requirement of company. Likely, lookalike model is applied on maintaining customer loyalty, company would receive product's suggestion or sale discount on products which is fit to their favorite.

7.5 Communication channel and promotions

Company use significant channel to communicate with both their new and existing customer. Apart from using traditional way of promoting their product on newspapers or social media pages. Company creates outgoing Short Messages Service (SMS) to customers who have interaction in certain time leading to company could get more responsive their offers. As company could know the number of customers respond to their offer, they enable to collect more information of customers including the preference, last purchase and even the complaint. It leads to company could handle and improve their products and service in time.

Access customer feedback and know their experience in time is a vital role in reinforcing customer relationship and correct wrong point. Therefore, company have set up call center where customers could easily call to ask questions concerned products and services. Through this service employees have an aware of customer's behavior and interactions. It is easily for manager could handle and plan how to train employee serving customers. This efficient way help company save cost of acquiring new customers and maintain existing customers.

There is another way, company usually use to increase the satisfaction level of customer. It is sending message to customers via provided address by customer on every occasional which is on both national holiday and private day of customer. The message usually attaches discount code or voucher that is encourage customers purchase more products of company and aim to create feeling of being taking care of.

Like other company in same field, Anh Em company is own promotion strategy to keep good image in customer' point of view. The strategy is implemented on customer database which also collected during sale, social media page and other marketing activities. The strategy is divided into two categories, a category for attracting new customers, another is encouraging loyal customers stay along with company longer. For new customers, the company will provide a specific amount of discount for the first products plus a collected point card which prod customers consume more products next time. About loyal customers, they will receive exclusive offer.

8 RECOMMENDATION

According to the answer of company' manager in the interview through Facetime, there is few questions which the manage could not answer as her company have done tasks. Therefore, in this recommendation section will both concern the questions were not answered and some solutions will be suggested in this section as well. Also, conclusion will be included in this section below the part of recommendation.

Even though company are doing well in handling their own platforms which be able to use to collect data and communicate with customers, still, they are struggling with problem of their website where is used to introduce their product and receive customer feedback. This problem causes the website is not accessible when customer check the website for purchasing. This mistake leading to customers would leave to competitor company and buy their product instead of buying products of Anh Em company as customers could not check what they want. Moreover, it would create feeling of unsatisfied when their question and requirement are not responded. To do so, company should take consider of using third-party service to maintain and monitor the website better to make sure company could access all customer information.

The interruption of company's website operation would limit appropriate information as company could not know exactly customer's problem and customer demand in time. It is not allowed customer acquisition plan to have well identification of potential customer. It requires company overcome this challenge to achieve positive result.

To customer acquisition, understanding signal of intent is a dimension of a plan helping marketer notice potential customer. Company is allowed to capture signals what customer are looking for and their buying behavior. The signal might show to company people who are interesting in the products of company. As a result, company could design and adjust products and service following customer needs and send emails to them.

Although company have a specific plan of training employees in order to preparing and accessing customer's information. company just only focus on certain employees trained and gotten to know the system of CRM. The problem of not training all worker would result in failed achieve appropriate information. The employees who are not trained will not know how to collect data in proper way leading to vital information which could be employed for a plan would be missed. Furthermore, it is hard to integrate information between departments, it would be end up that some employees would not aware interactions and signal of customers with company.

Following training employee issue, lacking integration between department would lead to unsatisfying service and creating confusion as well. To say so, all employees within company need to be updated and involved in training the progress of performance review, progress of installation and they should understand the challenge of employ CRM to avoid company meet situation of duplicate or unnecessary data. This would help company serve customer smoothly as a team.

The management of customer information is not good in the way of organizing and classifying database, company should focus on way of collecting sufficient reliable information more seriously as it play an important role in improving service and achieving positive result when company employ it to implementation of CRM. Beside that employee should be encouraged to check database frequently, unreliable, or unnecessary data would be rid of and considering updating data.

Due to increasing awareness of employee about the importance of customer data and CRM system in keep good connection to customers. Apart from educating employees, the meetings, workshop, blog or even trade show should be organized to update all worker and provide adequate information of CRM. From that employee constantly realize benefits.

Since appropriate information would allow company to achieve positive result, training employee the approach of collecting and asking customer data is one of essential part should be included in training program. Customer' information needs to be asked in proper way to spot their foremost concern, then use that concern to address in communicating to customer. However, information is classified, this show company understand, respect, and listen to customers.

Protect confidential information of customer is a dimension which company should invest in as it brings trust to company' customers. The trust is extremely important to give company upper edge over competitor, when company gain the believe of customers in protection, they are willing to provide their personal and sensitive information. Beside investing in technologies and IT department, there are corporations between different department within company, all employees must adhere to data safety and

security protocol strictly. The right of access to customer's data also needs to be provided by administration.

To helping company to stand out in the field, company should use customer data to satisfy customer by allowing customers to involve in comprehensive process by implementing new process, advertising techniques and marketing on customer base. Creating value matches to customer needs, it makes customer feel engaged, trust, and then they would want to stay longer with company. Moreover, customers could enjoy the benefit, company give to them during time of involving in process.

9 CONCLUSION

The purpose of this thesis is to describe how company improve and growth relationship with customers through the large volume of data from different sources. Database relevant to customer information and it is considered efficiency and appropriated. These data are served to CRM. The combination of customer database and CRM allow company to obtain good result as the company expects.

This thesis illustrates the impact of customer's data on customer relationship management which case of company is aiming to reinforce customer acquisition and retention. Employing new customer is instructed by plans and strategies of each targeted customer groups which company want to approach. Furthermore, it requires company should deeply understanding the market, audience, and competitive environment in order to spot customer demand. Regarding retaining current customer, the most important that company could create good experience and offer by reaching customer's satisfaction, doing surprising to customers, and customer could receive. Plus, promotion for each customer group is indispensable as it stimulates customer stay longer with company.

As company recognize the most important of customer relationship, the case company in this thesis have employee CRM to optimize the relationship between two side along with big data. Anh Em would run this system and serve customer better if they all employees are trained how to handle customer data according to company requirements. Same data will be used between department of company to avoid misunderstanding within company.

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APPENDIX 1

Questionnaire:**Collect data:**

- How do you collect data?
- What kind customer data are chosen to be collected?
- What kind of data is needed to identify right customer segment?

Store and manage data:

- Do your company store all type of customer data?
- When did you start employee CRM in your company?
- How do you your company manage customer club and customer membership?
- How do company trained employee to keep effective relationship with customers?
- How company protect confidential information of customers?

Acquire new customers:

- How do you use data to acquire new customer?
- How you use your customer database to increase customer satisfaction?

Maintain existing customer:

- How you use your customer database to increase customer loyalty?
- How you use your customer database to increase customer profitability?
- How do you classify data to identify new needs of customer?
- How does company do to adapt customer' needs?

Channel:

- How do you use your database to communicate with customers?
- How many channels do you use to delivery service and product to customer?
- Does the company have a specific flatform to receive customer feedback?

Promotion:

- How do you use data to offer service and product to new customer?
- How do you decide to launch specific promotion based on database?