The Relationship Between Supply Chain Management and Customer Relationship Management

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ABSTRACT

In the context of Supply Chain Management (SCM) and Customer Relationship Management (CRM), this article aims to study and explain the relationship between SCM and CRM. The article used case studies and literature research to study whether there is a relationship between SCM and CRM, the strength of the relationship, and the limitations of the relationship. There are two companies in detail: Amazon and Emirates. E-retail representative company Amazon through the CRM system to adjust the web interface and adjust the sales model for different consumer groups to attract many consumers. At the same time, Amazon adjusts the supply chain accordingly to improve efficiency and improve customer satisfaction. On the other hand, EA uses an independent CRM system to create a membership system to maintain and promote consumer relations without combining supply chain management adjustments. However, this does not affect the benefits that CRM brings to EA. In addition, the integration of CRM and SCM in small and medium-sized companies and offline retail is of little significance at this stage. Therefore, it can be concluded that the integration of SCM and CRM plays an essential role in online shopping. However, its role in other industries such as aviation and offline retail has not yet been reflected.

Keywords: *Customer Relationship Management, Supply Chain, E-commerce, Amazon, Emirates Airlines*

1. INTRODUCTION

With the advent of the Internet age, people's shopping habits have gradually changed. When customers' shopping preferences and habits change, the supply chain also needs to change to provide consumers with the best products and services.[1] In many cases, the research CRM and that of SCM are operated as two independent parts.

Among them, commonly used systems mainly include operation system (used to automate the CRM process and improve efficiency), analysis system (used to analyze collected customer data and knowledge to generate reports), collaboration system (used to manage communication Channels and customer interaction touchpoints).[2]

The focus of SCM is to meet the needs of consumers and increase the company's profits, but there are few opportunities to contact consumers.[3] So, a hypothesis was proposed, suppose CRM, which has direct contact with consumers, that can be integrated into SCM. In that case, it may be possible for SCM to more successfully understand customer needs, thereby improving efficiency and increasing revenue.

The article mainly focuses on studying the relationship between CRM and SCM in different industries through case studies and literature studies to explore whether there is a relationship between SCM and CRM. While determining whether there is a relationship between SCM and CRM, this article also explains in detail the strength of their relationship and itsrestrictions. Amazon and Emirate are currently representative companies in the e-commerce retail industry and aviation industry, respectively. Thence, this article will study these two representative companies in detail to explore the relationship between SCM and CRM in the e-commence retail and aviation industries. At the same time, based on the conclusions and information on the relationship between SCM and CRM obtained from Amazon and Emirate, this article will also discuss whether these relationships are applicable in offline retail and small and medium-sized retailers.

Amazon is one of the world's top e-retail companies, adopting e-commerce business models for extensive business operations. Amazon's excellent SCM and CRM

make him the #1 Top Shopping Website & #5 Top Beauty Destination among Teens (Piper Sandler's Generation Z Survey) 2021.[4] Amazon has giant warehouses distributed all over the nation. Therefore, this study collected relevant information on Amazon to explore the relationship between SCM and CRM in the electronic retail industry. [5]

In order to fully explore the relationship between SCM and CRM, this article also collects the case of EA as an illustration of the aviation industry using CRM to create a membership system to increase business profits, trying to study whether the relationship between SCM and CRM exists in multiple fields.[6] Therefore, this article aims to study and explain whether the relationship between SCM and CRM in the e-retail and aviation fields is strong or weak or vice versa.

2. SUPPLY CHAIN MANAGEMENT (SCM) AND CUSTOMER RELATIONSHIP MANAGEMENT (CRM)

2.1. Definition

Supply Chain is a network of manufacturers and suppliers who create products or services required by end customers. These manufacturers are connected through physical logistics, information flow, and currency flow.[1]

Supply chain management is the active management of supply chain activities and relationships, which aims to maximize customer satisfaction and increase consumer value. At the same time, costs can be reduced or controlled, sustainable competitive advantages can be achieved, so that the company can continue to grow and be profitable.[1]
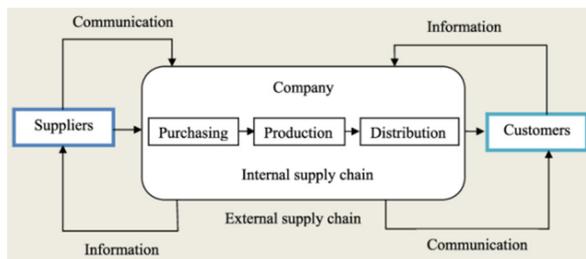
2.1.1. Supply Chain Management

Figure 1 Definition of Supply Chain Management [7]

CRM is an information system the companies established for acquiring, collecting, analyzing, and sharing customer knowledge through interaction with clients, such as classification. The system can obtain customer preferences and needs and provide the company with a comprehensive view of customers. [8] Moreover, use this to explore new customers, understand new and old customers, predict the various needs, provide different services to improve customer

satisfaction and loyalty, and increase the company's benefits.

2.1.2. Definition of Customer Relationship Management

Figure 2 Customer Relationship Management [9]

2.2. Different types of CRM

The operating system focuses on improving the automation of the CRM process and improving efficiency to improve customer satisfaction. The automation construction and development of the operating system include sales force automation, marketing automation and service automation, capture, interpret, isolate, store, modify, process and report.[2]

The analysis system collects and stores customer data knowledge and analyzes and processes this data to generate reports. The analysis system includes "internal business scope data, such as sales data (products, quantities, and purchase history), financial data (purchase history, credit score), and marketing data (response to activities, customer loyalty programs."[2] After being analyzed, customers can be classified according to different customer preferences, buying habits, location, and other characteristics. Different sales plans can be made for various customer groups. The analysis system is crucial because it proceeds to track customers' various items. Data changes provide sales advice so that the company and consumers can maintain a stable and long-term relationship. [2]

The collaboration system interacts with consumers through various forms such as emails and calls to make the transaction communication between the company and the customer more convenient and smooth.[2]

2.3. Challenge on CRM and SCM

The challenge of market turmoil is due to frequent consumer preferences and changes in competitors forcing SC to innovate. In this situation, the company's SCM needs to respond quickly to customer changes. However, different customer groups have diverse needs. It is difficult for SCM to make timely changes in the rapid changes in consumer tastes and continue to provide customers with the highest quality products or services at the lower or lowest cost.[1]

The most significant disadvantage of CRM is the high cost required. Costs include "software subscription or purchase fees, premium upgrades (add-on marketing or reporting features, customization), IT resources needed (hardware or software requirements) and staff training and skills improvement". [10] In CRM, the data exchange between customers and sales and service personnel is also a problem. For instance, after consumers place an order online, they want telephone service personnel to obtain delivery information of the product. If the company wants to improve or maintain the customer satisfaction rate, the service staff must accurately query the customer's order and give feedback to the customer. It sets high requirements on the automatic sharing capabilities of the CRM system, which will also increase costs.[10]

3. CASE STUDIES: AMAZON AND EMIRATES AIRLINE

3.1. Amazon's CRM and SCM

Amazon, is known for providing high-quality products and fast logistics services and gathering all customers in one place. The best part is that although Amazon's service personnel and customers rarely have face-to-face communication opportunities, Amazon has always managed to maintain its customer relationship and maintain it very well.[5][11]

Amazon provides its customers with an easy-to-use interface by storing all their details. At the same time, Amazon will display recommended products to customers by storing the information that customers fill in when they create an account and their previous purchases and habits. This way, it helps customers choose products, make shopping easy and convenient, and improve online shopping comfort and acceptance.[5][11]

The analysis and application of consumer data make consumers happy that Amazon can make such accurate recommendations. This innovative recommendation method, deeply attracts consumers because it makes them feel unique and valuable. [5][11]

Amazon uses its own CRM system to obtain and analyze customers' shopping history, choices, patterns, and preferences. Amazon uses this method to predict customer shopping behavior and take corresponding actions to maintain and manage the supply chain. According to the analysis of CRM, Amazon built many warehouses across the United States. Well-managed logistics improves the efficiency of Amazon's supply chain management. [6][11] It allows customers to get their purchased products faster, improves customer satisfaction, and increases Amazon's reputation and turnover.
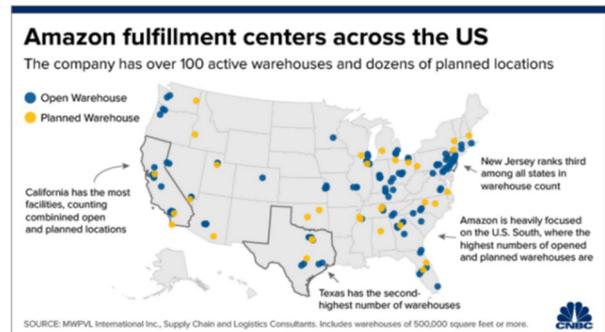

Figure 3. Map of Amazon Warehouses [8]

3.2. EA (Emirates Airline) Independent CRM application

According to Alshurideh, EA implemented a customer loyalty program based on CRM analysis. EA meets customer needs by allowing customers to save money and collect personal information about these customers.[9][12] It also created a discount system to encourage customers to stay with EA for a long time by enjoying discounts. The CRM analysis plan recommends the implementation of a membership mileage system for EA named Emirates Skywards. [13][14][15]

Consumers can increase the value of Emirates Skywards by accumulating flight miles. Skywards mileage is calculated through three aspects: route, fare type, grade. Therefore, customers can maximize their mileage revenue based on the fare they choose and the class of travel.[13][14] Furthermore, EA uses different names and colors to stand for different levels. The Emirates frequent flyer program has four reward membership levels, including blue and silver and gold to platinum. Once consumers reach the Silver level, they will also start to collect additional miles based on their level status. The more customers fly, the more miles they earn. [14][15][16]

The accumulated mileage is valid for three years. EA will provide more personalized services to customers with higher levels. Such a membership system stimulates customers to use EA to earn miles for better services. At the same time, this gamified flight mileage also makes customers feel novel and attractive At the same time, this gamification of flight mileage also makes customers feel novel and attractive.[13][14][15][16]
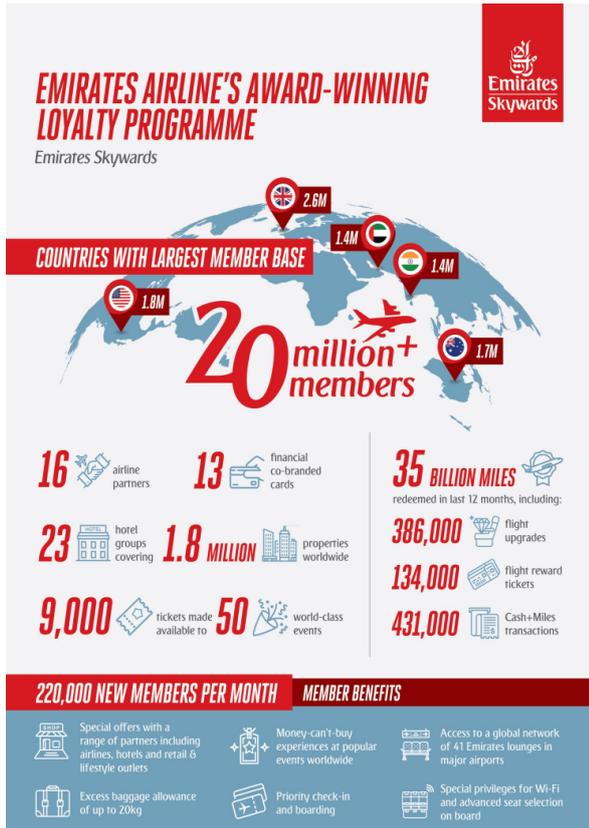
Figure 4 Emirates Skywards [15]

4. DISCUSSION ON THE REASONS OF THE RESULTS

4.1. Perspective of Amazon and the EA

As a top e-commerce company, Amazon has added a CRM system to solve the supply chain's inability to respond quickly to consumer preferences in some areas, such as Amazon's electronic online shopping model. Furthermore, in this way, through the collection, analysis, and processing of customer data to optimize SCM to provide more accurate and personalized services to improve customer satisfaction and increase Amazon's business profits. The ability to complete the integration of SCM and CRM is first because Amazon has enough funds to cover the soaring cost of combining SCM and CRM. In addition, Amazon has a lot of customer traffic every day, so it is not difficult to obtain customer information and buile an effective CRM system.

As a representative company in the aviation industry, EA decided to use the membership mechanism to increase turnover by researching CRM data, but did not use relevant SCM technology to change company policies and increase turnover. However, the results of EA using CRM alone to reform the membership mechanism, grading, and providing different personalized services according to grades are superior. EA's commercial profits are outstanding, which brings an excellent experience to customers and wins a good

reputation for the company. At the same time, EA can learn more about consumers' consumption habits through CRM and issue discounts to promote consumption. Therefore, it can be concluded that even if a large airline, such as EA does not combine SCM and CRM, it can create high commercial profits through CRM alone. Therefore, such airlines do not need to spend time and money on tightly integrating SCM and CRM.

4.2. Aspect From Small and Medium-Sized Companies Or Retailers

Integrating SCM and CRM can help companies similar to Amazon's e-commerce analyze customer data, optimize supply chain efficiency and improve customer satisfaction. However, these advantages cannot be reflected in small and medium-sized companies or offline retailers. It is because small and medium-sized enterprises and offline retailers do not have as many customers as e-commerce companies. [17] For example, Amazon can sell to people in the United States and even the world. However, offline retailers and small and medium-sized enterprises can only sell to people in a region. Consequently, the limitations of the customer base limit the small and medium-sized enterprises and offline retailers to obtain sufficient customer information, making it hard to establish a comprehensive CRM.

Moreover, if small and medium enterprises want to build a perfect CRM system, they must invest much money. Nevertheless, their financial ability is not as good as Amazon's, so small and medium enterprises cannot invest much money to build a perfect CRM. In addition, offline retailers that mainly sell daily necessities, such as Target and Walmart, have stable customers, so there is no need to build a systematic CRM to improve logistics or SCM efficiency and turnover. Therefore, the integration of SCM and CRM is temporarily unnecessary for small and medium-sized enterprises and offline retailers that mainly sell daily necessities.

5. LIMITATION

Although online shopping has developed rapidly, the years of online shopping are short. Moreover, in the past 10 years, supply chain is still considered a relatively new field, t so it is difficult to collect sufficient and effective information. Even though there are some innovations about SCM and CRM, few research articles integrate SCM and CRM to study and analyze. This study cannot longitudinally compare the development history of SCM and CRM combined over an extended period. Therefore, this article only specifically analyzes the SCM and CRM of Amazon and EA. Even though Amazon and EA are two representative companies in their respective fields, they cannot be representatives of all companies in the world, especially some retail stores such as Walmart and Target.

6. CONCLUSION

This research suggests exploring the integration of SCM and CRM in the aviation field, offline retail industry, and small and medium enterprises in the future. Furthermore, based on more researchers and practices of integration of SCM and CRM, the relationship between SCM and CRM can be investigated in finding rent fields.

The study findings conclude that in Amazon, the combination of SCM and CRM uses customer information to improve customer satisfaction while simultaneously adjusting SCM to improve efficiency and continue to meet consumer needs stably.[1][2][5] In the e-commerce shopping model, the relationship between CRM and SCM is mutually helpful.[5] In the aviation industry where EA is located, based on existing data and experience, SCM and CRM are two relatively independent parts, which do not need to care too much about integration.[13][14][15][16] However, due to the limiteddeveloping time of the relationship between SCM and CRM, and few researchers or companies consider integrating the two, so there are few documents and cases that can be consulted. Amazon is the only major sole user of such a broad spectrum. Can say since the data pool is very small being only amazon as the prime users of the supply chain caused data to be selective. There are fewer fields to combine SCM and CRM. The most typical is Amazon. In this case, this article cannot compare the integration of SCM and CRM in multiple fields. Therefore, the research can only use Amazon as a representative of integrating compared to EA's use of independent CRM (without integrating CRM and SCM). [12]

However, the integration of SCM and CRM implemented by Amazon as a representative cannot be widely used in the offline retail industry and small and medium enterprises because of limited funds and customer groups. In addition, even if the integration of SCM and CRM in the offline retail industry and small and medium-sized enterprises is forced, it will not rapidly increase the number of customers and turnover. Therefore, it is temporarily unnecessary for the offline retail industry and small and medium-sized enterprises to combine SCM and CRM.

It is hoped that more companies of different types other than Amazon will use and integrate SCM and CRM and collect, analyze, and compare data for these companies that use SCM and CRM to obtain new discoveries about SCM and CRM in the future.

ACKNOWLEDGMENTS

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