

Study on mobile e-commerce business process optimization

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Abstract: With the continuous development of e-commerce, mobile communication technology and wireless internet technology, mobile e-commerce has become a new business mode. Yet in the early development of the mobile e-commerce, it still exists many problems, such as high costs, low efficiency and small consumer group etc. This paper executes optimization on the mobile e-commerce according to characteristics of consumption habits of mobile e-commerce consumption groups and tries to solve existing problems in the development of mobile e-commerce.

Keywords: Mobile E-commerce, Business Process, Optimization.

1. Development Overview of Mobile E-commerce

The fast development of communication technology and internet technology has become the environmental basis of the mobile e-commerce. According to the Research Consulting's survey on China mobile e-commerce industry, in 2009 China's mobile e-commerce users already reached 36.684 million and increased 117.7% comparing to 2008. In 2011 the market scale of China mobile e-commerce reached 39.31 billion and it accounted for 30.5% of the overall market scale. It can be seen from the above data that mobile terminals scale and mobile e-commerce market transaction scale are very huge in our country. Mobile e-commerce will become the most potential and the hottest market in this new historical period.

However, at present the mobile e-commerce lack of innovation and operation mode. And its mobile terminal payment is not convenient enough. The clarity of its merchandise browse is not high and the input of information is slow. All of these above reasons led to the mobile terminal users' low using frequency of mobile e-commerce. In order to improve the satisfaction of terminal users, we

need a more humane mobile e-commerce process.

2. Introduction of Mobile E-Commerce Business Process

2.1. Definition of Mobile E-commerce Business Process

Mobile e-commerce is a new e-commerce model to transmit data via mobile communications networks and using mobile terminal devices, such as mobile telephone or PDA, to carry out various business activities(Zeng,2010). It makes it possible for customers to carry on shopping, business trading, online payments, other business activities, finance activities and related service activities at any time and place. Mobile e-commerce overcomes modern business's limitations on time and space. It is a new integrated information services which is at the closest distance to the target consumer groups and has great market demand. Mobile e-commerce business process is mean of the purpose of accomplishing company goals or transaction tasks, using mobile e-commerce information technology to conduct a series of related business activities. Mobile e-commerce business process optimization means to fundamentally rethink the business process of the company, using IT and mobile terminal equipment to seek significant improvement in cost, quality, service and speed. The purpose of the optimization is to reduce business costs, promote the efficiency of business process, and enhance user experience and satisfaction. The key to the optimization is "how to run the present business in a better way".

2.2. General Process of Mobile E-commerce

Business process is very important for mobile e-commerce. The future mobile e-commerce system is an integration of the actual logistics and capital flow. And it is an information flow that reflects logistics process. The general process of mobile e-commerce mainly includes six steps: preparations before transactions, business negotiations, signing the contracts, contracts implementation, payments and after-sale services.

According to the characteristic analysis of the mobile e-commerce terminal users' consumption behavior, mobile e-commerce platform should has the following functions, such as searching for products and services quickly, browsing products and service information conveniently and simplifying transaction functions so as to make it possible for mobile terminal users to carry out online transactions on mobile devices conveniently. So on the basis of general e-commerce process, mobile e-commerce process should better meet various needs such as user search, browse and payment.

2.3. Analysis of Mobile E-commerce Business Process

Mobile e-commerce process lack of humanity and its function is not perfect. With the development of technologies, mobile devices have been constantly updated. E-commerce is also developing rapidly. When the majority of consumers just get used to the e-commerce transaction model, now they have to adapt to the mobile e-commerce terminals and platforms. Therefore, it requires the mobile e-commerce business process to be humanistic, secure and easy to be operated. But now, the searching function of the mobile e-commerce platform is not perfect enough. Its convenience of operation and learning, searching ability and correcting ability also need to be improved.

The payment of the mobile e-commerce is inconvenient and its security is low. Now mobile e-commerce is still in early stages of development. There are still many problems, such as low security, inconvenience of mobile terminal applications etc. For instance, when using Mobile CTOC E-commerce site, the security of mobile payment has following risks: consuming phone memory, stealing all the information and data in the phone, spreading illegal and harmful information, forced consumption caused by the code to control the phone leading to the owner's sharp increase in communication costs and information costs(Sun,2011).

The service timeliness of the mobile e-commerce is poor. There are communication delays, SMS delays and even packet loss phenomenon. The existing mobile network still has certain limitations, which need to be improved by the related technical departments. It is the basic service for mobile e-commerce to send related information among sellers, payment operators and banks accurately. This information include handling fees, communication costs, information costs, discounted charges, bad debts, refunds and on-time delivery of relevant information. Cooperated trading parties should improve service efficiency in accordance with country's finance and taxation management regulations.

3. Optimization Model Of Mobile E-commerce Business Process

3.1. Process Optimization Objectives

The main objectives of mobile e-commerce business process are to embody the humane of process design, improve service efficiency, promote utilization rate and satisfaction of clients, and increase effective consumer groups. It will achieve open and global commodity businesses, decrease the cumbersome links in trading, lead to direct transaction between producers and consumers and change the whole socio-economic running pattern eventually.

The optimized mobile e-commerce business process will change the traditional business process to be electronic, digital and mobile. Firstly, it uses electron flow to replace real logistics which can reduce manpower, material resources and expenses. Secondly, it breaks the restrictions of time and space, making it possible to conduct the transaction at any given time or places, which greatly improves trading efficiency. The whole business process includes consumer, seller, mobile network platform, payment platform, mobile banking, logistics and many other subjects. After the optimization, the business process should be of clear level and division of labor. It will not appear to be disorganized and each link will be a clear division of labor and close cooperation. So that it can realize the common beneficial targets of mobile e-commerce value chain finally.

3.2. Optimized Mobile E-commerce Business Process

Optimized mobile e-commerce process focuses on end-user experience of mobile e-commerce platform, and with the huge amount of customer information of mobile operator, integrates the resources of commercial service providers, to develop a secure third party payment platform(Cao & Tian,2010). Optimization model is as Fig. 1.

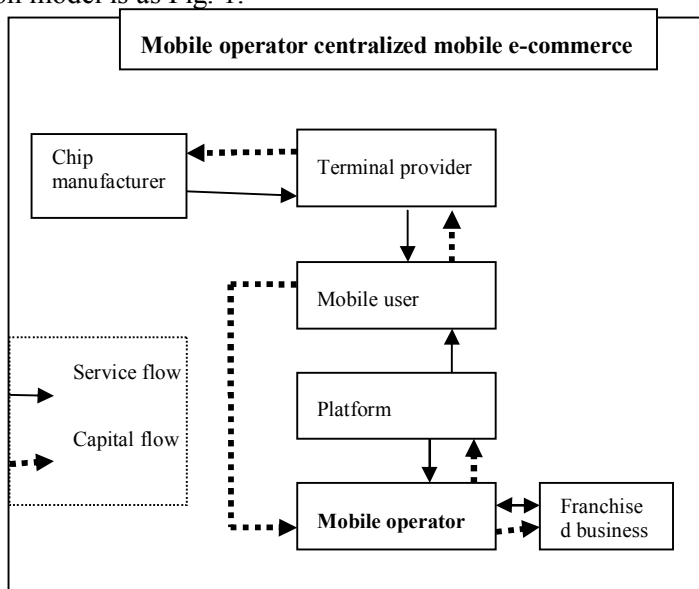


Fig.1: Mobile e-commerce process optimization model

The above process integrating the traditional process, optimizing past complex parts, makes the mobile e-commerce process even faster, more convenient, and easy-to-understand.

By mobile devices, the consumer visit mobile e-commerce website platform

to position target product and to search service information. When it find target product and service information, the consumer need to conduct lateral comparison among obtained information through different platforms, and then choose the best purchase program, and confirm product order.

Through the order, the seller confirms with the consumer, informs the way of charging, and makes preparation for delivery -- logistics and distribution. After receiving goods and acceptance checking, the consumer delivers the payment by mobile billing platform. Then third-party platform informs buyer and seller the trading result, and then the transaction is completed. After the completion of the transaction, the consumer gives evaluation about the product and service, therefore the seller gets consumer's feedback in time.

3.3. Value Analysis of Optimization Model

The value of the mobile e-commerce process lies in the following aspects:

Firstly, shopping interface should be clear, concise and convenient hence to save consumers' time on adapting user interface. So it will be easy to understand and operate. Information publishing can be combined with mobile electronics characteristics, which can be achieved by adding telephone counseling, SMS, MMS and e-mail to notify consumers.

Secondly, in technical aspect, it should enhance the technical support of related mobile companies and network departments, relying on the production website construction and webpage designer's feeling over preferable model to display the goods to consumers.

Thirdly, Mobile payment is a business method through mobile terminal to pay the purchased goods or complete payment activities. By combing the consumer's bank accounts with phone number, consumers can operate their own bank accounts via SMS, voice, GPRS, etc to complete payment, consumption and other functions, and through text messages and other ways to inform the result of transaction and account changes(Wu,2012). There are different trading methods. When facing complex trading activities, we need to establish a unified price standard and price system, hence to solve mobile price problems in mobile e-commerce activities.

Finally, in logistics aspect, using automatic logo recognition methods, establishing perfect designated goods pick-up locations, and with the support of electronic automatic identification and goods selection devices, it can realize a network system with multi-company and multi-client intent delivery process.

The optimized mobile e-commerce process achieves the integration of mobile e-commerce operators, platform operators and other resources. It chooses the adapted operation mode and provides a safe and humane business environment

for terminal users finally.

4. Mobile E-Commerce Process Optimization for Yiwu Small Commodity City at Qinhuangdao

4.1. Mobile E-commerce Project Overview of Yiwu Small Commodity City

Qinhuangdao Yiwu small commodity city was developed and constructed by Qinhuangdao North Logistics Company. It was put into operation in 2011. Its main functions include: small commodity wholesale trading center, logistics information center, transportation center, e-commerce center and services that support for projects such as financial, insurance, industry and commerce, taxation and catering.

Yiwu small commodity city innovates business ideas, takes entity shops as the basis, and signs an agreement with China Unicom to establish virtual online “Vendor Network” and “mobile phone shop”. This is the new pattern for mobile e-commerce management which merges three shops to one.

The main functions of “mobile phone shop” include: first, communication, namely, building call center in the park of management companies in Qinhuangdao Yiwu small commodity to ensure the timely communications. The communications between internal group networks are free of charge. At the same time, provides free 3G mobile phones for the majority of merchants to achieve better communications. Second, sales, namely, provides “Vendor Network” e-commerce platform shops and phone shops to help merchants to do network marketing. Third, logistics, namely, let the logistics companies which pass through the examinations locate in the small commodity city, and achieve unified pickup and delivery management. Fourth, settlement, namely, Minsheng Bank will provide POS machines, VIP services and payment platform on networks. Minsheng Banks will also provide mobile phone payment tools which achieve capital payment based on 3G phone and provide more comprehensive and convenient electronic settlement methods for merchants. Five, security, namely, it has network eyes which can not only watch shops and goods through the internet and mobile phones, but also can carry out real-time monitoring. So the shopkeepers are more at ease. Six, management, namely, through network office automation management software which was developed by China Unicom to interact with shopkeepers, release news, download files, and execute remote video conference and training.

The appearance of “mobile phone shop” added a large sales channel for

network shops. In fact, it achieves mobile office which means the merchants can process customer consultation, deliveries and settlement business at any time and space. It can not only enhance the work efficiency greatly, but also conduct its own product marketing in the mobile phone customer groups. Meantime, “mobile phone shop” can also use mobile phones to operate “network eye” which can achieve the real-time watch to monitor shops and goods at a full range. It can also achieve a lot more humane functions.

At present, Qinghuangdao Yiwu small commodity city draws lessons from the business model of Zhejiang, and improves the model by establishing online stores and mobile phone shops and merging the three shops to one. Its business process has become more and more perfect, but there are still some deficiencies and defects. The small commodity city invested a great amount of capitals. Though the software and hardware environment of mobile e-commerce are complete at present, its marketing is still insufficient and not yet formed an effective user groups and the loyal customers.

4.2. Mobile E-commerce Business Process Optimization of Yiwu Small Commodity City

Through the research of Yiwu small commodity city and “mobile phone shop”, we summed up a set of appropriate solutions for its mobile e-commerce process. Before the transaction, the buyer searches commodity supply in Qinghuangdao Yiwu small commodity city according to their own needs, makes a shopping plan, carries out market research and analysis and understands the market condition. Though the mobile communication terminals, they can understand the new situations whenever and wherever, and then complete the consulting activities. The businesses will do market positioning, determining the goods supply and do preparations for shops. Before setting up shops, the businesses should contact everything and sign the contracts to ensure that customers can receive goods in best time. Buyer and businesses can login the vendor network and register through mobile devices. Buyers search in the goods released by businesses, select goods and then determine which they want to purchase. Buyers use mobile phone bank tools or other online tools for payments. Then through information, businesses will inform the buyer that payment is successful completed and they will deliver goods immediately. Buyers will confirm the good receipt after they get the goods and then the money will be paid to the businesses from the bank. When there is money circulating among buyers, sellers and banks, both the buyer and seller will receive the responding mobile phone SMS alerts to enhance the security of payment. At last, buyers and sellers will evaluate each other. The evaluation can improve the trust for

other consumers to purchase again.

Along with the advance of the network information integration, Qinghuangdao Yiwu small commodity city will realize all kinds of modern information communication technologies, fully utilize and expand the network advantages, realize the synchronous office exchange at different time and different position and improve work efficiency. It will achieve centralized management, unified control and try to be the first-class logistics information management park.

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