Artificial Intelligence Driven E-Commerce Business Model Under New Retail Environment

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Abstract: Today's world is taking on a new look of great development, reform and adjustment, and scientific and technological innovation has entered an unprecedented intensive and active period. At present, all kinds of development adhere to digital transformation and improve the quality of development. To be more specific, the artificial intelligence algorithms of voice recognition, image recognition and digitization will fundamentally promote the retail industry. With the market reform, only by using new technologies to transform the whole link of the wholesale and retail industry can we meet the precise and personalized needs of customers. Through the main analysis of customer management, warehousing and inventory management, supply chain management and new payment, this paper will take the customer high-quality experience as the purpose and the whole retail ecological sharing platform as the starting point to achieve the grand goal of high-quality development. This paper upgrades and transforms the artificial intelligence of each node of the wholesale and retail industry, puts forward the "big data + local distribution and retail e-commerce business model", reshapes the whole link of the wholesale and retail industry, and designs the "intelligent factory e-commerce business model". The deep integration of artificial intelligence and wholesale and retail can create new productivity, so as to realize more comprehensive automatic supply chain management, operation, coordination and prediction.

Keywords: AI, Wholesale and retail, Customer satisfaction, Supply chain, Business model

1 INTRODUCTION

Wholesale and retail industry is the industry with the largest share in the service industry, which contains considerable development space. It is an industry with the highest degree of marketization and fierce competition. At present, the market is in a stage of rapid development, and the introduction of artificial intelligence and big data will turn into a strong driving force for economic growth and promote the transformation and upgrading of enterprise technology, management and business model. The application of new technology can reduce operating costs, improve work efficiency, and greatly benefit the wholesale and retail industry. Both wholesale and retail industry and online wholesale and retail industry are facing an opportunity and challenge to reshape their own value. The development of online retail industry has entered a critical period of innovation and transformation [1].AI provides new technical means for the reform of wholesale and retail industry. The core driving force of

ICICA 2022, December 02-04, Chongqing, People's Republic of China

DOI 10.4108/eai.2-12-2022.2328056

industrial technology development is still economic interests. The core growth pain points of various demand enterprises provide the development soil for AI + retail industry [2]. As a retail industry with high-density contact with customers, customer experience is more important in the situation of "Internet +" economy. Many companies regard improving customer experience as a differentiated competitive advantage. The application of artificial intelligence needs to transform the business model of wholesale and retail industry to improve the customer satisfaction rate [3].

The influencing factors of artificial intelligence on wholesale and retail mainly involve product life cycle, market, brand, supplier, storage, logistics, consumer information and so on. We need to combine market elements, technical elements and service elements to bring more excellent results to everyone. At the same time, we need to focus on customer management, storage and inventory management, supply chain management new payment. The industrial chain of wholesale and retail industry is shown in Figure 1. With the development of intelligent manufacturing and information technology, the supply chain has entered a new stage of intelligent supply chain deeply integrated with the Internet of things, which will fundamentally change the operation mode of the wholesale and retail industry and promote the reconstruction and iteration of the whole wholesale and retail industry [4].

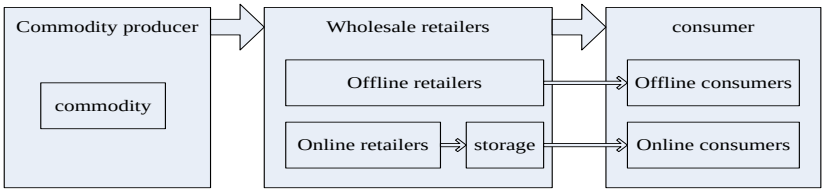

Figure 1. Wholesale and retail industry chain.

2 LITERATURE REVIEW

CB insights released the "state of retail tech H1'20 report: Investment & sector trends to watch" in the first half of 2020. In the global "over 100 million round" financing event, China's JD industrial products and North America's Instacart accounted for the top two with us $230 million and US $225 million respectively, while the two companies belong to e-commerce and grocery on-demand delivery. Davenport and other scholars (2020) believe that artificial intelligence will be the most used technology in future marketing.

2.1 Customer consumption experience and wholesale and retail industry

Some factors affecting customers' perception and satisfaction with online shopping include information quality [5-7], system quality [8-9]and service quality [10]. We can improve customer satisfaction by applying intelligent customer service center, big data analysis and personalized customization.

Providing customers with timely and exclusive services and maintaining effective communication and interaction can improve customers' purchase desire and sales volume [11]. In fact, according to a study conducted by PwC, 73% of buyers pointed out that CX (customer

experience) is an important factor in their purchase decision, and call center is one of the most key components of CX.

Enterprises use artificial intelligence to analyze marketing data and get corresponding suggestions in real time. The use of big data has been regarded as an important means for enterprise marketing to obtain competitive advantage [12]. The active use of big data has the potential to improve operating profits, and the use of data is playing a vital role in enterprise business decision making. The digital, intelligent and personalized development of operation will bring great changes to enterprise management [13].

AI has the characteristics of high speed and automation. Based on the product recommendation previously purchased by customers, enterprises will make personalized choices for customers according to AI algorithm, and customers will have stronger choice confidence, so as to accept the suggestions of personalized recommendation [14].

2.2 Warehousing and wholesale and retail

In the transaction process, enterprises can use commodity barcode and logistics unit barcode. In the transaction process, enterprises can use terminal equipment to scan commodity barcode to obtain commodity information. Scanning logistics unit barcode can track the physical movement of each logistics unit. In terms of warehouse location, AI technology can fully optimize and learn according to the basic supply chain data of customers, suppliers and manufacturers, combined with factors such as transportation cost, labor cost, rental cost and tax system, so as to make the warehouse location more accurate. In terms of transportation route, AI can realize intelligent sorting and delivery through different algorithms such as path optimization algorithm and scheduling algorithm.

The commercial leasing modes of warehousing and logistics can be divided into four modes: providing product solutions, providing operation services, providing leasing services and intermediary cooperation. Under the background of the integrated development of Internet of things technology, AI technology and robot technology, the leasing mode is still under exploration, and will change to a more intelligent high-performance logistics equipment in the future [15].

2.3 Supply chain management and wholesale and retail

Through the establishment of an integrated supply chain system of consumers, suppliers, manufacturers, distribution enterprises, retail enterprises and logistics enterprises, it manages supply, demand, raw material procurement, market, production, inventory, orders, distribution and delivery, shares information with suppliers in real time, reduces enterprise inventory costs and improves business efficiency [16].

The robot with deep learning algorithm can transport goods independently or according to the predetermined route, effectively improve work efficiency and reduce manual risk [17]. Driverless trucks use on-board cameras, millimeter wave radars, ultrasonic sensors and other multi-sensor sensing environmental information to realize automatic driving, route planning, active lane changing, parking space identification, autonomous parking, etc. [18]. On June 6, 2019, Amazon released prime air delivery UAV, with a coverage of up to 24 km.

2.4 New payment and wholesale and retail industry

The new payment provides a different payment experience from the past by using mobile Internet, QR code, face recognition and other technologies, and reduces the employment of clerks and labor costs through unmanned shelves. For example, Tesco in the UK uses the American Free Software IFTTT (if this then that) to realize automatic purchase in the process of online shopping according to customers' purchase conditions to meet customers' needs. Mobile payment applications novel coronavirus pneumonia, including PayPal, Samsung PAY, Apple Pay, Alipay and WeChat Pay, have penetrated into all areas of life.

Smart phones have become an indispensable part of consumers' life. At present, most smart phones on the market have the basic functions of new payment, including digital environment such as online banking and mobile payment. According to the survey of J.D. Power, hundreds of millions of consumers will pay through smart phones, and various capital flows will quickly accumulate a large amount of data to help enterprises realize informatization and digitization and increase their production and operation efficiency. The DFD diagram of new payment and new retail scenario is shown in Figure 2.

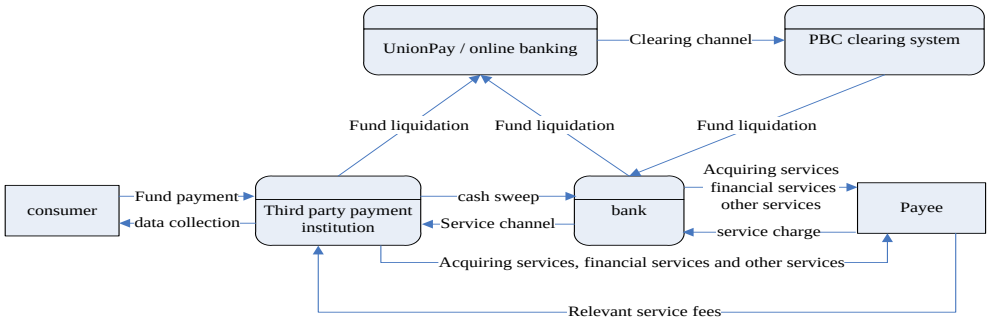

Figure 2. DFD diagram of new payment and new retail scenario.

The new payment industry can use the precipitated massive data for data intelligent application, and provide diversified services such as collection and payment, member management, purchase, sales and inventory management, supply chain management and so on. Payment service can drive the upgrading of industrial business model, cover multiple scenarios, improve the synergy of industrial Internet scenarios, go deep into the enterprise's supply chain and financial chain, connect the enterprise's capital flow, information flow and logistics, and drive the transformation and upgrading of merchant's enterprise business model [19].

Mobile payment through mobile phones has become increasingly common. However, the rapid development of mobile payment not only brings more convenience, but also faces more and more security risks. The risk of mobile payment may lie in the disclosure of personal privacy data [20]. At the same time, there have been new types of fraud, such as QR code cheating, online fraud and illegal fund transfer.

3 RESEARCH OBJECTIVES

This paper will explore the feasible path of the transformation and upgrading of online retail industry through the research on the above influencing factors of AI on wholesale and retail. From product production to warehousing, logistics, procurement and distribution, the nodes of the whole industrial chain of wholesale and retail industry will be upgraded and transformed by AI. Promote the upgrading and development of the whole supply chain to achieve the purpose of improving quality and efficiency in the development of online wholesale and retail industry.

This study reviews the literature, finds out the main factors that may affect the impact of AI on wholesale and retail, and tries to reshape the whole link of wholesale and retail industry through model method. We set up two main research questions to answer:

Rq1: Using AI as the main factor affecting the development of wholesale and retail to improve quality and efficiency.

Rq2: construct a business model to explore a feasible path for the transformation, upgrading and development of online retail industry.

4 RESEARCH METHODOLOGY

According to CB insight (2019), "artificial intelligence is reshaping business", we can start from the key core of the traditional retail industry, and then build the retail e-commerce business model. Using the methods of literature, observation, modeling and model improvement, this paper investigates the key influencing factors of wholesale and retail industry. According to the results of literature research, this paper proposes that the research elements of retail e-commerce business model should include four aspects: customers, sellers, warehouses and manufacturers. In this case, the horizontal cross functional flow chart is used to describe the business model framework, and the "o2o retail e-commerce business model" is preliminarily constructed. Then, according to the research on the influencing factors of AI on the wholesale and retail industry, the existing business model is transformed and upgraded, and the "big data + local distribution and retail e-commerce business model" is constructed. Finally, the whole link transformation of the traditional retail industry business model is further carried out, and the "smart factory e-commerce business model" is proposed. Therefore, this paper proposes a research model to transform and upgrade the key factors through artificial intelligence, and transform the whole link to form a new research model.

4.1 AI technology reshaping the key influencing factors of wholesale and retail industry

1) High service quality can improve customer consumption experience satisfaction

Customer consumption experience mainly studies customer satisfaction, because satisfied customers will repeatedly buy goods and recommend goods to others, so as to bring profits to a specific e-commerce company. Professional intelligent customer service can provide customers with all-weather care. Big data analysis can help enterprises better serve customers. Personalized customization can meet the different needs of each consumer.

2) AI technology can carry out all-round transformation of storage

AI technology can not only reduce storage costs, but also improve timeliness and customer satisfaction. With the increasing number of online shopping orders, the pressure of on-time delivery has become greater and greater. AI technology is applied in the process management of production, sorting, storage and inventory, which can reasonably deploy the stored goods according to the needs of customers and reduce the distribution cost. In terms of transaction process, the information service platform established by combining AI technology realizes the dynamic management of product information. In warehousing and transportation, the intelligent delivery system without monitoring is used to realize automation from receiving orders, distributing goods to transportation and distribution. In terms of warehouse leasing mode, it will change to intelligent high-performance logistics equipment.

3) AI will revolutionize supply chain management

AI helps predict by analyzing large amounts of data. The data generated by the supply chain can improve the forecasting ability of enterprises and become more active in resource layout and demand forecasting. According to the expected layout of the market, enterprises can schedule transportation vehicles according to the needs of different regions, so as to reduce operating costs. Logistics robot can play a very important role in logistics support.AI visual inspection technology improves the operation efficiency of supply chain. Achieve effective safety supervision in intelligent traceability of goods.

4) New payment is a realistic path to promote the digital transformation of consumption

New payment can effectively promote digital transformation. New payment provides more digital business opportunities. AI can provide strong technical support for new payment, and has become an important tool to promote transactions. More importantly, AI will provide more hope for the digital economy by creating a more secure digital trading system.AI technology can accurately combat fraud.AI gives unlimited possibilities to new payment.

4.2 O2O retail e-commerce business model

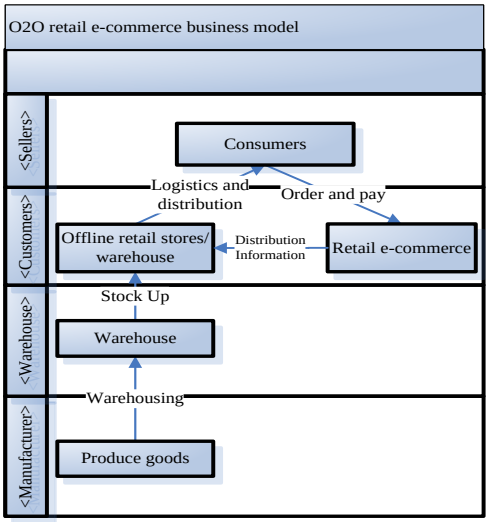

Figure 3. O2O retail e-commerce business model.

After "online", as long as physical retail channel enterprises have a common online and offline brand system and membership system, it will help to improve customers' online (offline) consumption amount and activity, and improve the overall business performance of retail enterprises.[21] Therefore, this paper first retains the necessary key factors and constructs an o2o retail e-commerce business model, as shown in Figure 3. After the manufacturer produces the goods, the goods are stored in the warehouse. The seller purchases goods from the manufacturer and stores them. Consumers place orders and pay through the online e-commerce platform, waiting for logistics delivery to the door. Alternatively, consumers buy directly through offline physical retail stores. This model retains the necessary activities of customers' offline consumption experience and online order payment.

4.3 Big Data + Intra-city Service and retail e-commerce business model.

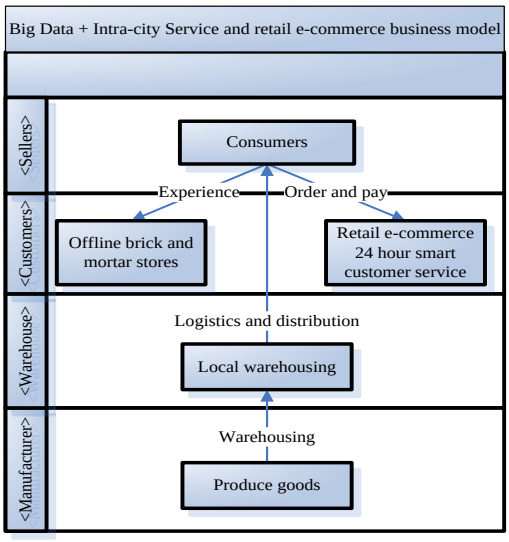

Figure 4. Big Data + Intra-city Service and retail e-commerce business model.

By establishing a supply chain system integrating consumers, store sales and suppliers, we can share information with suppliers in real time, reduce enterprise inventory costs and improve business efficiency. After the manufacturer produces goods, intelligent technology is applied to warehouse and inventory management to predict customer demand according to big data, reasonably deploy stored goods in some cities and reduce distribution costs. Suppliers provide offline experience stores to improve customer satisfaction, and provide online shopping to meet the needs of customers for convenience, time and money. Online shopping can provide better service by using the all-weather customer service center with AI. After customers place an order and pay, they can ship from the nearest warehouse. If the sales volume can reach a certain level, the same city delivery can be realized and the distribution cost can be reduced. This model has been transformed into a big data + local distribution retail e-commerce business model through AI upgrading, as shown in Figure 4. All kinds of useful data will be recorded in large quantities. After the data center is established, it will become the basis of big data analysis and prediction.

4.4 Smart factory e-commerce business model

After further reshaping the whole link of "big data + intra city service and retail e-commerce business model", the "virtual store" is provided with AR + AI technology with big data management center as the core. So as to realize personalized shopping, intelligent production, intelligent storage and so on. The e-commerce business model of the smart factory is shown in Figure 5.

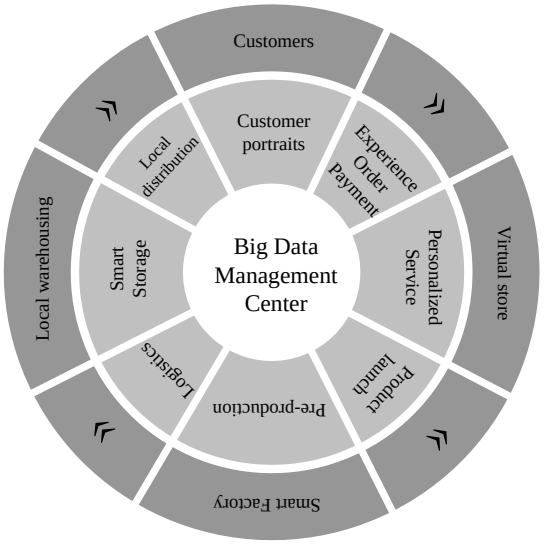

Figure 5. Smart factory e-commerce business model.

With the launch of the virtual store, the application of 3D technology is more mature. The furnishings in the store can be almost the same as those in the real store. Customers can "enter the store" to buy products and provide "shopping" without leaving home all day. Realize "virtual experience" through AR + AI technology. For online channels, "virtual experience" effectively solves the problem that online products cannot be tried. When consumers buy products online, they no longer have to worry about buying products that are not suitable for them because they can't try them out.

The virtual experience store is used to provide customers with virtual shopping or order shopping. The virtual experience store can obtain various data of customers' browsing, attention and purchase behavior. Consumers must provide personal information and transaction information when shopping online. After obtaining this information, the big data management center can draw a picture for customers, analyze, lock and capture target customers, push information to customers and predict customers' potential needs, provide personalized services and realize targeted marketing. In addition, how we can use the information that we could not collect before and use it to help our customers overcome the problems in technology and operation and make continuous improvement is the role that quality professionals can play [22].

Manufacturers can realize pre-production and intelligent storage according to big data, and fully realize the purchase of goods in the place of origin, factory price direct sales, online order payment and local delivery. With the help of distributed algorithm and intelligent technology, the model transforms convenience stores and express points into front warehouses, and opens up online and offline ways, so that the real-time distribution of intra city logistics can reach minutes, greatly reducing the cost. The price is much lower than that of physical shopping and retail e-commerce. Manufacturers can also obtain customers' personalized needs according to big data, guide production innovation, and intelligently push new products to

target customers through virtual stores. Manufacturers can also use virtual stores to realize business solutions such as virtual props, member management, discount promotion and so on.

Different e-commerce business models should be based on new payment. Mobile payment and face brushing payment technologies are quite mature, adhere to digital transformation and improve development quality. At present, digitization is deeply rooted in people's hearts. It is no longer a tool or a so-called means of service products, but is changing into a new way, new thinking and even a new way of value creation. Through data mining, it can help financial institutions portrait customer consumption behavior, help financial institutions establish models in advance, innovate products, meet customer needs, and ensure that the risk is controllable.

Table 1 shows the analysis by obtaining the 2021 annual sales data of GZZ Intelligent sales system. It mainly includes fresh food, food and non-food. Fresh food includes bread, aquatic products, refined meat, vegetables, fruits, daily necessities, etc. Food includes liquid food, prepared food, dry food, seasoning, etc. Nonfood includes cleaning products, household goods, cultural goods, leisure products, household appliances, non-seasonal clothing, etc.

Table 1. Analysis of Sales Data of "GZZ Intelligent Sales System" in 2021.

	fresh	food	Non food	Monthly total	Turnover
Jan	¥431,152.68	¥346,810.08	¥368,522.54	¥1,146,485.30	23592
Feb	¥405,828.70	¥144,499.96	¥876,014.72	¥1,426,343.37	24600
Mar	¥412,002.72	¥166,025.30	¥737,573.86	¥1,315,601.88	22845
Apr	¥369,409.72	¥156,108.44	¥727,228.16	¥1,252,746.32	21464
May	¥157,705.34	¥205,272.02	¥433,398.79	¥796,376.15	15417
Jun	¥164,502.69	¥217,997.65	¥929,849.08	¥1,312,349.42	20867
Jul	¥316,486.20	¥325,548.07	¥454,445.55	¥1,096,479.81	24002
Aug	¥272,029.35	¥381,943.72	¥602,767.56	¥1,256,740.63	23219
Sep	¥207,780.19	¥139,603.80	¥805,211.39	¥1,152,595.38	17432
Oct	¥166,063.93	¥240,899.74	¥834,899.73	¥1,241,863.41	20680
Nov	¥205,480.33	¥314,896.70	¥429,792.56	¥950,169.59	18702
Dec	¥403,395.01	¥213,217.31	¥462,176.14	¥1,078,788.47	20014
Annual total	¥3,511,836.87	¥2,852,822.80	¥7,661,880.07	¥14,026,539.74	252834

Table 2 shows the data analysis of the sales of "GZZ Intelligent sales system" in 2021, reflecting the online consultation, favorable comments, number of cancelled orders, shipment from origin, intelligent warehousing, etc. The ratio of trading volume and online consulting volume in Table 1 and Table 2 ranges from 0.38624479 to 0.38631845, indicating a positive correlation between trading volume and online consulting volume.

Table 2. Analysis Table of Sales Data of "GZZ Intelligent Sales System" in 2021.

	visitor	Order quantity	cancellation of order	Online consulting	Favorable comments
Jan	6328657	24955	61078	13751	9765
Feb	6599027	26021	63688	13983	10538

Mar	6128383	24165	59145	12534	10238
Apr	5757876	22704	55569	11565	9830
May	4135657	16307	39913	7387	7980
Jun	5597657	22073	54023	7711	13089
Jul	6438807	25389	62141	8056	15870
Aug	6228520	24560	60112	7538	15606
Sep	4676397	18440	45132	5329	12047
Oct	5547588	21875	53540	6257	14357
Nov	5016862	19782	48418	5637	13004
Dec	5367347	21172	51807	5834	14128
Annual total	67822778	267443	654566	105582	146452

According to the data in Table 1 and Table 2, it is easy to get the change of the proportion of intelligent warehousing and origin shipment. Figure 6 shows that the use of AI can effectively improve the efficiency of the supply chain.

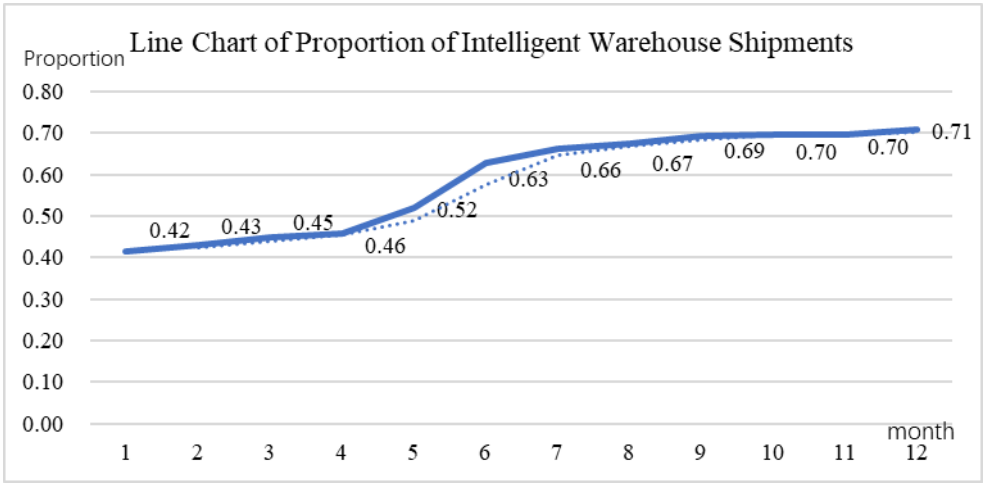

Figure 6. Line Chart of Proportion of Intelligent Warehouse Shipments

5 RESULTS AND DISCUSSION

Through the analysis of the market elements, technical elements and service elements of the wholesale and retail industry, this paper finally determines that customer management, warehousing and inventory management, supply chain management and new payment are the core elements affecting the improvement of the business model of the wholesale and retail industry under the network environment. In terms of customer management, professional intelligent customer service can provide customers with all-weather care, big data analysis can help enterprises with precision marketing and personalized customization, and can meet different special needs of consumers. In terms of warehousing and inventory management, artificial intelligence can realize all-round transformation of commodity tracking, intelligent location and leasing mode. In terms of supply chain management, artificial intelligence will completely change supply chain management by using big data, intelligent robot, intelligent

image recognition and intelligent Traceability Technology. The new payment is a realistic path to promote the digital transformation of consumption. The new payment will also further help the intellectualization of life and production, empower smart marketing and create more possibilities for the payment industry.

Based on the above research, this paper constructs three business models and uses the model method to explore the feasible path of the transformation and upgrading development of online retail industry. Firstly, the "o2o retail e-commerce business model" is proposed, which retains the necessary activities of customers' offline consumption experience and online order payment. After further upgrading and transformation, the "big data + local distribution retail e-commerce business model" was proposed. After the establishment of the data center, the local distribution was realized, the distribution cost was reduced, and it became the basis of big data analysis and prediction. Finally, through the reconstruction of the whole link, the "smart factory e-commerce business model" is created, which takes the big data management center as the core and uses AR + AI technology to provide "virtual stores", so as to realize personalized shopping, intelligent production, intelligent storage and so on.

6 CONCLUSION

Generally speaking, artificial intelligence has been widely used in wholesale and retail, in addition to improving customer experience, consumer behavior analysis, intelligent warehousing, precision marketing, user portrait, supply chain management and other applications. At the same time, the application of new payment can reduce the employment of clerks, reduce labor costs, and provide a safe and convenient shopping experience. Finally, this study shows that in the case of the continuous upgrading of the business model of wholesale and retail industry, we should pay attention to evaluating customers' expectations for service quality. Artificial intelligence will eventually transform and upgrade the retail industry in an all-round way, resulting in a variety of business models, such as virtual shopping with "satisfying shopping desire" experience as the core, real-time distribution mode with "fast pace of life" as the core, single group purchase mode with "low price" as the core, personalized customized service mode with "pursuing quality" as the core, etc. Enterprises need to select appropriate artificial intelligence technology according to the characteristics of their own material supply chain to create an intelligent management mode with their own enterprise characteristics. The purpose of this study is to find out that in the transformation stage of wholesale and retail industry, through the research on the influencing factors of wholesale and retail by artificial intelligence, this paper puts forward a feasible path to explore the transformation, upgrading and development of online retail industry by using model method.

We believe that as many enterprises pay more and more attention to the application of artificial intelligence in the industrial field, and more and more capital is invested in the development of artificial intelligence in the industrial field, in the near future, enterprises will turn the supply chain into an intelligent material supply chain with the help of artificial intelligence technology, so as to realize more comprehensive automatic supply chain management, operation, coordination and prediction. AI technology is used to continuously reshape the business model of wholesale and retail industry.

However, it is not realistic for online channels to completely replace physical stores. First of all, although technologies such as virtual experience are constantly developing, virtual experience can only present the appearance effect of products, but cannot make consumers feel the texture and other experiences of products, so it cannot be used as a reference for purchasing products; Secondly, the social attribute of online shopping is weaker. Visiting virtual stores cannot meet the social needs of shopping with friends, nor can consumers personally feel the real environment of the store. Therefore, physical stores cannot disappear in the competition, but in order to improve competitiveness, we should also focus on social attributes and shopping experience, which cannot be replaced by the "virtual world".

ACKNOWLEDGMENT. Funding Information: Natural Science Foundation of Gansu Province (21JR11RM045); Qingyang science and technology planning project (QY2021A-G003).

REFERENCES

[1] Yang,S.D.,Zhao,D.H.2018.Research on convergence and spatial spillover effect of China's online retail industry.Economic restructuring. 3 (Jun.2018),38-45

[2] Su,H.Y.2020.Measuremen.t of economic development effect of wholesale and retail industry. Research on commercial economy. 3(Mar.2020),16-18.

[3] Huang,Z.2017.Customer care and relationship output of physical retail enterprises: mediating effect based on customer experience. China's circulation economy.31,8(Aug.2017),12-21.

[4] Zhu,G.W.et al.2021. Artificial intelligence marketing: Research Review and Prospect. Foreign Economics & Management.43,7(Jul.2021),81-96. DOI: 10.16538/j.cnki.fem.20201226.301.

[5] Ghaffari, A. and Ashkiki, M. F. 2015.The impact on the quality of the website to buy online customers. Journal of Applied Environmental and Biological Sciences.11,5 (May.2021),516-526.

[6] Vasić, N., Kilibarda, M. and Kaurin, T.2019.The influence of online shopping determinants on customer satisfaction in the Serbian market.Journal of Theoretical and Applied Electronic Commerce Research.14,2 (Feb.2019),70-89.

[7] Iudin, I. H. B. H. and Cheng, B. L.2014.Factors influencing customer satisfaction and E-Loyalty: Online shopping environment among the young adults.Management Dynamics in the Knowledge Economy.3,2(Feb.2014),462-471.

[8] Lin, C., Wu, H. and Chang, Y. 2011.The critical factors impact on online customer satisfaction Chun-Chun.Procedia Computer Science. Elsevier, 3(Apr.2011),276-281. doi: 10.1016/j.procs.2010.12.047.

[9] Uzun,H.,Poturak, M.2014.Factors affecting online shopping behavior of consumers.European Journal of Social and Human Sciences, 3(Mar.2014),163-170.

[10] Wang, L.W.,Le,Q. L.2015.Customer satisfaction towards online shopping at electronics shopping malls in Vietnam-A conceptual model to enhance business success through efficient websites and logistics services. Journal of Stock & Forex Trading, 5(Jan.2015),1-10.

[11] Janak Mehta.the driver of quality management and customer satisfaction. AI and Internet of things.2018(03):14-15.

[12] Paschen,J.,Kietzmann.J., Kietzmann.T.C.2019.Artificial intelligence(AI)and its implications for market knowledge in B2B marketing[J]. Journal of Business&Industrial Marketing.34 (Jul.2019),1410-1419.

[13] Davenport T, Guha A, Grewal D, et al. How artificial intelligence will change the future of marketing[J]. Journal of the Academy of Marketing Science,2020, 48(1):24-42.
[14] Xiao,B., Benbasat,I.2018.An empirical examination of the influence of biased personalized product recommendations on consumers' decision making outcomes[J]. Decision Support Systems, 110(2018),46-57.
[15] Zhang,Q.Q.2020.Application of AI technology in the field of supply chain logistics. Commodity and quality.1(Jan.2020),57.
[16] Wang,Z.2019Application and research of AI in material supply chain. China Petroleum and Chemical Standard and Quality.39,12(Dec.2019), 167-168,170.
[17] Ji,C.Q.et al.2018.Design of large scale logistics system based on AI.China Science and technology information.18(Sep.2018),104-105.
[18] Yu,H.,Gong,Y.,and Li,Y.2021. A new approach to supply chain cooperative management: smart contract design. Chinese Journal of Management Science.8(Aug.2021).1-11.
[19] Liu,L.K.2019.Financial technology leads the new pattern of global financial industry. international finance.12(Sep.2019).3-4. DOI=10.16474/ j.cnki.1673-8489.2019.12.001.
[20] Zhou,H.,Chai.H.F.2020.Research on the status quo, challenges and Countermeasures of financial retail payment risk control Engineering Science in China.22,6(Jun.2020).103-110.
[21] Dong,X.Z.,Chao,G.L.2018.Research on the synergy of O2O strategy of multi-channel retail enterprises: An Empirical Analysis Based on customer RFM panel data. Foreign economy and management.40,8(Aug.2018),71-86.
[22] Biswas K M.,Nusari M.,Ghosh A.2019.International Journal of Management Science and Business Administration The Influence of Website Service Quality on Customer Satisfaction Towards Online Shopping: The Mediating Role of Confirmation of Expectation. 5(Sep.2019), 7-14.DOI= http://dx.doi.org/10.18775/ijmsba.1849-5664-5419.2014.56.1001.