Institutional and Cultural Aspects of Logistic Management in the Chinese E-Commerce Sector

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ABSTRACT

Electronic business relies heatedly on a predictive tool to provide consumers with the products online in a brief moment. E-commerce activities are handled by many buyers globally compared to conventional distribution, and with a broader range of products but a limited amount. This article aims to help the information review systemically manage consumer relationships in institutional and cultural aspects of the logistic management (ICA-LM) model. In preparation for the ICA-LM to be adequate to discuss static and dynamic attributes for removing precious secret information, the neural network and the class label are integrated. In this way, real-life client needs are defined and potential clients listed with limited time to generate client relationship maintenance (CRM) feedback for clients. The research in Hong Kong, a transportation management firm prototype, shows and validates CRM information gathering in the developing e-commerce logistics sector in the actual world.

KEYWORDS
Distribution Mode, E-Commerce, Logistics, Logistics Service Provider

INTRODUCTION TO LOGISTICS MANAGEMENT

Good quality manufacturing development is essential for national productivity expansion. New strategic enterprises’ boundary reflects the continued ability to maximize industrial growth and spur economic growth of high efficiency (Wu, P. J., & Lin, K. C. 2018). As a competitive new cost-saving and environmentally friendly market, reverse procurement emphasizes developing high performance, saving power, and sustainable consumption. It is willing to commit to clarifying, standardizing, standardized and efficient growth of the sustainable logistics sector (Barenji, A. V., et al. 2019).

Nevertheless, sustainable agriculture is in its adolescence as a modern form of business. Its training requires a suitable climate for ecology. The environment sustainable business landscape is
distinguished by many contributing influences in the entire manufacturing climate. The interplay of
the organization’s primary domestic and foreign considerations is not apparent, making it impossible
for the government to devise mature goals and programs in the environmental transport industry (Li,
M., et al. 2019). The context of the Green Supply chain spans the entire logo period and involves
the environment, ecological principles, philosophy of environmental sustainability and so forth, as

In order for consumers to comprehend secret facts and customer actions more effectively, data
mining technologies have been established. Data analysis is a beneficial technology for disclosing
information from enormous data collectors through robots crossover, engine intelligence, information
metrics and subterranean trends. Clumping and decision-making trees are standard strategies for data
mining in the research. Aggregation is an ubiquitous technique in categories for the file system and
the class of objects beneath it. The organisation of dimension tables in priority conditions to identify
hidden data principles is an unattended grouping

With the support of the environmental science principle and intelligent production technologies,
sustainable Inventory management is an efficient scheduling, leadership, monitoring and execution
process for logistics systems that reduces resource use and greenhouse gas pollution in the logistical
procedure (He, P., et al. 2019). The integration of agricultural logistics will lead to China’s ecological
management to mitigate traffic noise emissions, environmental damage spreading hazardous
pollutants and exclusion from conventional logistics operations suggested by Xiao et al. (2021).
Green procurement growth can relate practices with foreign trading practices, and industrial policies
can justifiably protect the atmosphere, environmental wellbeing and organizational wellbeing (Liu,

International e-commerce has been increasingly common in the last twenty years. In the context
of a reasonable price overseas supply and with a broader range, internet shopping has become a
new trend worldwide as it offers various advantages to its consumers (Dutta, P., et al. 2020). The
exponential development, Internet deployment and globalization, of smartphones are the secret to
the spread of e-commerce. The emergence of e-commerce has resulted in significant developments
in website safety and the industrial use of the network and online transportation platforms.

To ensure that the online service is built to the correct place at a suitable period, e-commerce
is an economic trade operation that depends intensely on logistical services. It provides a thorough
understanding of a global economy’s requirements that is rising suggested by Li et al. (2020). The
surge in global e-commerce between customer and investment has contributed to shifts in the shopping
paradigm and revolutionaries in the transportation industry. With the development of distribution
and e-commerce distribution, the conventional logistical sector has shifted (Ren, S., et al. 2020).

As e-commerce distribution evolves exponentially, various conventional vendors enter the
lucrative logistics market (Chen, M. C., et al. 2019). As forward was in the online payment logistics
sector, all of each other in the comparatively new sector have retained their current, conventional
logistics structure. E-commerce distribution typically has five features: heterogeneity of ordering, poor-
selling price, large density, high range of products, and moment distribution activity. Consequently,
relative to the conventional logistics sector, it has many businesses, both corporate customers and
persons (Pourhejazy, P. 2020).

Critical is the requirement to manage clients. Customer Relationship (CRM) is significant in
stimulating business strategy for creating long-term sustainable partnerships with particular clients.
Through business analytics, employee loyalty to the enterprise consistently reaches the total product
population’s objective in the e-commerce transportation industry (Xu, G., et al. 2019). Thus, this
research aims to provide information on data management to manage customer contact in a structured
manner for Institutional and cultural aspects of the logistic management (ICA-LM) model.

The rest of the research work as follows. Section 2 deals with the background and literature survey
of logistics management. The proposed Institutional and cultural aspects of the logistic management
(ICA-LM) model is designed and implemented in section 3. The software analysis and performance evaluation are analyzed in section 4. Section 5 deals with the conclusion and future scope.

BACKGROUND TO THE LOGISTICS MANAGEMENT

e-Commerce Transportation Overview

In recent times, e-commerce is the newest global shopping paradigm with increased overall machines and networking technologies and Internet users’ consumer number. The global online e-commerce revenues in 2018 hit US$2.8 billion and are projected to continue to increase over the next few years, exceeding US$ billion in 2022 (Mashchak, N., & Dovhun, O. 2020). E-commerce applies to electronic purchases between companies and persons via the Network or the Network, referring to Laudon and Traver.

Amongst various forms of e-commerce operations, B2B and B2C involve the free transfer between organizations and consumers of products and services via digital communication. In an e-commerce age, buyers can purchase ordered goods from a retailer and then supply them directly to reach users. The expense of production and handling significantly affects the enterprise’s viability, creating new issues and inventory control solutions suggested by Harish et al. (2020).

Underneath the economic landscape of e-commerce, companies will broaden their competition considerably as new platforms for brand business are developed, thus growing their competitor’s position connected to trade agreements to embrace just-in-time development and distribution. As the last trade largely depends on military supplies, particularly for the latest minute travel, the warehouses play an important role in e-commerce (Wang, Y., et al. 2020). By guaranteeing that the online command is transmitted to the sound best possible quality and particular customers on the international economy, e-commerce management will reduce their chances.

e-Commerce Transportation Performance Management

In e-commerce, decentralized and high transactions contribute to the growth of a broader range of e-commerce logistical consumers than standard deliveries. With significant potential clients, it is necessary to handle clients and partnerships systematically (Kayikci, Y. 2019). CRM is characterized as a processing chain that enables processes to develop and retain user engagement, improve client recruitment, maintain clients, and reap the rewards.

A client lifespan is organized into four phases: client recognition, consumer behaviour, service quality, and client growth. Because of the wide variety of customers’ orders and expectations in the eCommerce industry, consumer behaviour predicting has become a competitive and complex experience. By concentrating on CRM in e-commerce, businesses would realize what is essential for consumer behaviour and thus increase their productivity—using consumer information to refine domestic e-grocery distribution centres. Giuffrida et al. (2020) expected customer actions to improve the failure rate of deliveries. Wong et al. (2020) launched integrated conduct that separated consumers by observing their purchase intention and then forecasting their potential transactions to improve consumer interactions.

CRM Results Mining

Data mining technologies have been introduced to teach the consumers secret facts and clients’ activities to understand them better. Data analysis is a helpful technique for disclosure by crossing robotics, engine intelligence, information metrics and underground trends from huge data collectors. Standard data mining techniques in the study are clumping and decision-making trees. Aggregation is an omnipresent mechanism for the underlying file system and object classes’ organization according to similarities into categories. It is an unattended grouping to organize dimension tables in prioritized requirements for the identification of secret data principles.
The study of patterns and classification, machine-learning judgement scenarios and data-mine are critical and valuable. Zhong et al. (2019) has proposed a clustered framework to examine eCommerce consumer values in Morocco to create an appropriate marketing strategy. Based on organized averages and k-means cluster-algorithms, Sachan et al. (2020) reviewed consumer purchasing information and assessed consumers in terms of current, duration and monetary parameters. Yu et al. (2020) grouped consumers into classes using the KM method to establish various consumer care and monetization approaches.

Another method popular in machine learning is feature selection which is used mainly for model analysis and regression. Compared to Das et al. (2020), categorization is to practice a template that maps a piece of information attributes on the supervised manner mark. Categorization using tree structure allows us to find and derive attributes based on the given learning information classifying the data. Training is monitored as the collection of data includes marked information items.

Researchers want to improve consumer satisfaction by dividing the eCommerce platform customer into decision-making bodies. Qin et al. (2020a) examined consumer turnover characteristics based on the methodology of the tree structure. For promoting mobile networks in CRM, Qin et al. (2020b) developed a predictive tree-based clustering framework.

In brief, e-commerce is considered an essential technology and thereby, the techniques of information for CRM in the market were not used. The eCommerce logistics company will develop an appropriate advertising plan to offer custom-tailored services for various potential customers by integrating k-means segmentation and the random forest. Although the distributed findings differ, it may include a qualitative differentiation that makes this method more relevant for regression analysis according to the enterprise’s size.

PROPOSED INSTITUTIONAL AND CULTURAL ASPECTS OF LOGISTIC MANAGEMENT (ICA-LM) MODEL

In e-commerce infrastructure, ICA-LM is suggested to strengthen ongoing CRM deployment. The framework comprises three steps (i) data processing, (ii) review of consumer identification and (iii) production of CRM recommendations.

Administration

Figure 1 shows the data management module of the proposed Institutional and cultural aspects of logistic management (ICA-LM) model. An e-commerce distribution firm identifies the current issues immediately. An overall interpretation of corporate history, position, importance, market existence, corporate culture, aim and activity, studies were recorded with management. The interviews can be conducted to study and evaluate the latest CRM application in e-commerce operations. The regular procedures and pressures of the e-commerce delivery process and advertising should be examined during this period. Once the corporation’s challenges have been identified, ICA-LM collects three types of results. They are details about the logistics coordinator, client data and client transactions.

Many buyers manage e-commerce operations internationally compared to traditional sales and with a wider choice but a restricted volume of items. Global logistics organisations are under great pressure to offer acceptable delivery service with a diverse customer base that meets their diversification requirements. The potential categories and actions of customers should be classified to distinguish between their services and many other e-commerce SPs. The purpose of this article is to assist in the systematic management of customer interactions in the institutional and cultural components of the ICA-LM paradigm.

Analysis of Client Classification

Figure 2 shows the customer classification module of the proposed Institutional and cultural aspects of logistic management (ICA-LM) model. Two data mining algorithms are chosen and implemented
in the product classified research stage to explore current customers to obtain helpful customer information. Individuals are k-means and decision-tab. Because vast consumer data collections are available in eCommerce warehouses, it becomes difficult to calculate the two information mining algorithms. Data gathering findings are processed and used to help improve the corporation’s CRM suggestions. The critical portion of the technique, therefore, is machine learning.

**K-middle Segmentation Clustering**

Figure 3 shows the customer recommendation module of the proposed Institutional and cultural aspects of logistic management (ICA-LM) model. K-means clustering is using gradient descent, Harmonic oscillator Distance for separating data items into cluster centres. Just one region is the activity was investigated. In this document, k-means grouping allows group considerable customer information
and isolates the consumer’s data interactions based on the business size. It produces an updated table with changed information after paying k-means cluster performance and subjectively segments the data more effectively to study random forest.

In order to study today’s consumers to gain useful information, two data mining methods are selected and deployed in the product classification research phase. K-means and decision-tab are individuals. Since huge quantities of customer data are available in electronic commerce warehouses, the two information mining methods are complex to compute. The outcomes of data collection are processed to improve the CRM proposals of the company. Therefore, machine learning is the important part of the process.

A category of consumers will, for instance, be defined in the organization with large monetary values each month. And if a company pays the same quantity in subsidiary businesses in the same period, the two firms have different marketing strategies and sizes. The findings are grouped according to the company’s size. The range across each subject and the coordinates group is determined by the Clustering distance, shown in Equations (1) and (2).

\[
d(x_e, m_j) = \frac{1}{2} \sum_{i=1}^{n} (x_e - m_j)^2 = |x_e - m_j| \tag{1}
\]

\[
m_j = \frac{\text{total objects in the group}}{\text{total amount of objects in the group}} \tag{2}
\]

The e-commerce customer is denoted as \( x_e \). The marketing strategies and size of the product is expressed as \( m_j \). The variable \( m_j \) is defined as the actual objects in the group to the total amount of items in the group.

**Classification Random Forest**

The feature selection comprises guidelines that help to identify and forecast approval for judgments. Thus, the algorithms must create a tree structure to produce proper historical metadata and the updated table made in the preceding level. Current clients are categorized into various categories and are hidden information objects. The algorithms serve to practice the classifier model, which differentiates the user information into the classroom by analyzing many research data. The construction of a random forest consists of eight stages.

Figure 3. Customer recommendation module of the proposed Institutional and cultural aspects of logistic management (ICA-LM) model

![Customer recommendation module](image)
Step 1. Define learning collection \( T \), non-categorical and unambiguous characteristics, cumulative sample count \( (|T|) \), class labelling label \( (C_1, C_2, \ldots, C_K) \) based on the previous event logs and an updated chart. Count for each classification number of tests. Until estimation, it reflects the business applications.

Sep 2. To get the knowledge contents before separating, measure \( \text{Info}(T) \), an equilibrium of \( T \) by Equation (3).

\[
\text{Info}(T) = -\sum_{i=1}^{k} \frac{\text{freq}(C_i, T)}{|T|} \log_2 \left( \frac{\text{freq}(C_i, T)}{|T|} \right)
\]

(3)

The class labelling is denoted as \( C_i \). Classify the result with the intermediate node of all potential attributes and measure after \( T \) is divided into equations by an attribute \( \text{Info}_x(T) \) for the various attributes is expressed in Equation (4).

\[
\text{Info}_x(T) = \sum_{i=1}^{n} \left[ \frac{|T|}{|T|} \text{Info}(T_i) \right]
\]

(4)

Classify the result with the intermediate node of all potential attributes and measure after \( T \) is divided into equations by an attribute \( \text{Info}_x(T) \) for the various attributes. The knowledge contents before separating measure are denoted as \( \text{Info}(T) \). The particular time slot is represented as \( T_i \).

Figure 4 represents the pictorial representation of \( \text{Info}(T) \). Classify the result with the intermediate node of all potential attributes and measure after \( T \) is divided into equations by an attribute \( \text{Info}_x(T) \) for the various attributes. The knowledge contents before separating measure are denoted as \( \text{Info}(T) \).

Using an algorithm to quantify fitness function for any conceivable feature is expressed in Equation (5).

\[
\text{Gain}(x) = \text{Info}(T) - \text{Info}_x(T)
\]

(5)
Classify the result with the intermediate node of all potential attributes and measure after $T$ is divided into equations by an attribute $\text{Info}_x(T)$ for the various attributes. The knowledge contents before separating measure are denoted as $\text{Info}(T)$. A gain of the particular product is designated as $\text{Gain}(x)$.

Utilizing Equations (6) and (7) calculates the financial performance of each potential characteristic.

\[
\text{Split - info}(x) = \sum_{i=1}^{n} \frac{T_i}{T} \log_2 \left( \frac{T_i}{T} \right) \tag{6}
\]

\[
\text{Gain - ratio}(x) = \frac{\text{Gain}(x)}{\text{Split - info}(x)} \tag{7}
\]

The gain of the particular product is denoted as $\text{Gain}(x)$. The particular time slot is denoted as $T_i$. Classify the result with the intermediate node of all potential attributes and measure after $T$ is divided into equations by an attribute $\text{Info}_x(T)$ for the various attributes. The knowledge contents before separating measure are denoted as $\text{Info}(T)$. The split information is represented as $\text{Split - info}(x)$. The gain ratio is denoted as $\text{Gain - ratio}(x)$ and defined as the ratio of gain to the split information.

Figure 5 shows the pictorial representation of $\text{Gain - ratio}(x)$. The gain of the particular product is denoted as $\text{Gain}(x)$. The particular time slot is denoted as $T_i$. Classify the result with the intermediate node of all potential attributes and measure after $T$ is divided into equations by an attribute $\text{Info}_x(T)$ for the various attributes. The knowledge contents before separating measure are denoted as $\text{Info}(T)$. The split information is represented as $\text{Split - info}(x)$. The gain ratio is denoted as $\text{Gain - ratio}(x)$ and defined as the ratio of gain to the split information.

Step 5. Try comparing each component’s information gain and pick a high output ratio attributes as the break (node component) in the random forests.

Step 6. For the rest of the device(s) with no grouping characteristic, steps were repeated (1)-(5).

Step 7. Since no highly classified branch exists, establish a tree structure.

Step 8. Assess and verify the random forest with a series of experimental data to ensure precision.

The programming paradigm is seen in a flow-chart-like parse tree because after the measures above were implemented. It can quickly be translated into classifications. Consequently, under the
derived decision tree or the category law, the organization can forecast or apply a class mark to potential subscribers. Effective personalized marketing strategies are created for each consumer set based on consumer research findings to classify consumers.

**Innovation CRM Suggestion**

ICA-LM is planned in this process to enhance the transportation CRM for e-commerce. Successful customer experiences can provide a deeper understanding of consumer expectations, and businesses can demonstrate and increase consumer experiences’ efficiency. A cost-effective strategy for engaging in conversation with consumers is fundamental to maintain consumer interactions. The sacrifices made in interacting with consumers help to develop deep friendships. Besides, the logistics management can adjust and customize its freight forwarding and business models based on consumers’ expectations. The corporation will provide consumers who are known as valuable clients with additional time to commit to service them more profitably.

Figure 6 shows the architecture of the proposed Institutional and cultural aspects of logistic management (ICA-LM) model. The technology platform and the application incorporate the details when considering the current repositories and the delivery centre-level negotiations by offering necessary information to the machine. A consumer purchases an item. The following information about how the procedure takes place is described.

**Step 1:** A consumer is an intelligent one. Each commodity has an etiquette (RFID or QR). This packet includes product details, such as identification number, location, time, manufacturer, distributor etc. The brand name is modified through IoT goods, accessible at the warehouse’s stage, to the customer details and can subsequently be tracked in actual times.

**Step 2:** The virtual machine sends goods and engine features, such as accessibility and position, to the PCL; the virtual Machine guarantees that the PCL and its delivery centres coordinate in virtual environments.

**Step 3:** The role complicated abilities validate the purchasing intelligence gathered and the commodity capacity list, bundles the data and transmits it to manage and schedule statement planning and manage.

**Step 4:** After the controlling and planning roles have been sending records, work agents and resources officers are formed. For each person, downtime, email and state are used for each work and computer.

![Figure 6. The architecture of the proposed Institutional and cultural aspects of logistic management (ICA-LM) model](image)
Employment agents meet with the consumer to do a job they order, and automation officers refine this procedure by considering input received from the consumer’s resources and employer. It offers optimal track preparation based on services and work available to the user. Step 5: A mobile node provides each maker agent with a defined procedure built on PCL that contains data on the assessment and management of the fulfilment centres stage. Step 6: If the chosen element is done and put, the system agent passes the part status information into the central database.

When examining the current repositories and the delivery centre discussions, the technology platform and app include information by providing the machine with essential information. A consumer buys a product. The following information is presented about how the operation is conducted.

**Communication Level Agents (CLA)**

CLA is in charge of improving real-time consumer contact, retailers and PCL correspondence. The CLA is comprised of consumers and service providers. Consumer representatives are accountable to each consumer and remind them through a web service about the state regarding transactions. This system allows accurate knowledge about the chart for certain delivery times and premium services to be preserved. Supplier represents the distributor’s liable to provide product details, such as inventory level, type, pricing data, transfer of funds, etc. The distributor’s representatives give a particular supplier with the background. To attain two-way connectivity, CLA updates the PCL details for buyers and producers.

**Warehouse Consumer Level (WCL)**

Machine-based agents like AVG, automated production systems, conveyors and biomedical devices are present in the WCL. It communicates with the device via an efficient algorithm and utilizes IoT-based networking and coordination appliances on the production floor. Remote assistant communications were created to share between WCL and PCL in real-time. Desktop agent switching systems have improved synchronization of equipment/software levels and enhance device performance. Remote agent connectivity mechanisms allow a clear relation from machines to mobile applications through the channel between computer programs and network operators.

The virtual machines ride through the system to receive deals. After this, mobile officers can report to the supervisor to create a list of data with the system officers’ offers. In compliance with the specified negotiating policy, virtual machines will then make an offer and re-evaluate the acceptable offer. Computer agents use metaphysics built on XML to deal with the sensor nodes in this process. The mobile user migrates this detail to the guidance counsellor on your PCL—the device’s virtual machine structure.

Figure 7 shows the data flow of the proposed Institutional and cultural aspects of the logistic management (ICA-LM) model. For each engine operator, the PCL transfers corresponding control and planning info. The WCL delivers the complementary delivery confirmation through vehicular networks to the PCL. In comparison, there are consumer representatives at this stage, which would be the finished result with the related RFID or QR codes used throughout code representation. The physical assets of WCL operator contact protocols. The result obtained in this analysis of computer operatives: (a) the optimal computer operator is awaiting the next service. (b) each operator performs one thing at a time, and (c) can manage a system’s performance when it collapses.

The exchange of data occurs between the end output and the system agent. The system agent comprises store, commodity and communications phenomenology data HTML as per the given design. Each machinery component was recorded following a strict protocol and communicated directly via an electrode surface and an interaction code supporting the manufacturing engineer (ACL). To measure ICA-LM’s success in the Accounts Department, subsequent research of these 55 e-commerce consumers were performed pre-and post-ICA-LM was implemented. It was primarily intended to gather information about how consumers viewed e-commerce operations for the ABC
business, particularly their reliability, ability to develop close relationships with ABC, and potential future buying activities pre-and post-deployment.

The questionnaire invitations were emailed to those 50 e-commerce logistical clients, and the average answer rate in these polls was 80%. The execution of ICA-LM reveals that there are three changes in the business case: (i) improved customer loyalty, (ii) established relationships and (iii) better future ordering.

(i) Improvement in Consumer Loyalty

The five personalized service solutions were introduced for each consumer base, overall loyalty improved by 46.4 per cent, reflecting their support plan performance level.

(ii) Foundation of strong Connections

More existing clients were pleased with their offerings and developed a stronger bond with the ABC Business after offering tailored service schemes for their respective customer groups. The group of customers able to have a close partnership rose from 10 to 40 buyers, an improvement of 45%.

(iii) Enhancement of Future Order

Established consumers anticipate making five logistical e-commerce purchases a month before launching ICA-LM. Now they foresee ten orders a quarter, with the planned order rate increasing by 62 per cent. The estimated amount of order expenditure was 80 per cent higher. It demonstrates that current clients are prepared to shop and to invest more in e-commerce logistical. Their purpose of conducting themselves in the context has changed.
SOFTWARE ANALYSIS AND PERFORMANCE EVALUATION

The proposed Institutional and cultural aspects of the logistic management (ICA-LM) model is designed and analyzed in this section. The different simulation outcomes such as fulfilment cost, shipping cost, e-commerce analysis, customer feedback analysis, internet payment analysis and mobile payment analysis are done in this section. The performance results show that the proposed Institutional and cultural aspects of the logistic management (ICA-LM) model have the highest performance over existing systems.

The neural network and class label have been merged to prepare the ICA-LM to talk about the static and dynamic qualities for the removal of vital secret information. This defines genuine customer wants and lists potential customers with limited time to provide customer maintenance feedback for customers that enhances market happiness on the market. The Hong Kong survey, a prototype transportation management company, demonstrates and evaluates the collection of CRM information in the realm of the current rising e-commerce industry.

Figure 8(a) and 8(b) show the shipping cost analysis and the fulfilment cost analysis of the proposed Institutional and cultural aspects of the logistic management (ICA-LM) model, respectively. The total cost for the shipping, and the product’s fulfilment cost to be delivered is analyzed and measured. The measured results are plotted in the above graph. The performance results show that the proposed Institutional and cultural aspects of the logistic management (ICA-LM) model have the highest performance over the period concerning the existing e-commerce system.

Table 1 shows the logistics analysis of the proposed Institutional and cultural aspects of the logistic management (ICA-LM) model. The different simulation parameters such as Computer & consumer electronics, Toys & Hobby, Books/music/video, Apparel & Accessories, Furniture & home furnishings, Health & personal care, Auto & parts, Office & suppliers and Food & Beverage. The simulation parameters are analyzed over the year 2018, 2019 and 2020. The proposed Institutional and cultural aspects of the logistic management (ICA-LM) model have the highest performance in 2020.

Figure 9(a) and 9(b) show the mobile payment analysis and internet payment analysis of the proposed Institutional and cultural aspects of the logistic management (ICA-LM) model, respectively. The different payment methods are analyzed and measured over the year 2014 to 2020 every year. When the number of years increases, the mobile payment’s respective payment and the mobile payment increase. The performance results show that the proposed Institutional and cultural aspects
of the logistic management (ICA-LM) model has the highest performance in the year 2020 compare to the previous years.

Analysis of the shipping costs and an analysis of the cost compliance of the suggested logistics management institutional and cultural aspects model. The overall shipping costs and the delivery cost of the goods are assessed and quantified. The findings measured are shown in the graph above. Performance findings indicate that, throughout the current e-commerce system, the suggested Institutional and Cultural Aspects model performs most effectively.

Table 2 shows the customer feedback analysis of the proposed Institutional and cultural aspects of the logistic management (ICA-LM) model. The different simulation outcomes such as Very successful, Successful, partially successful, not very successful, and Failed are considered for the simulation analysis. The other kind of customers, such as aggressive, moderate and all respondents, are analyzed for the simulation analysis. The results show that the proposed Institutional and Cultural Aspects model performs most effectively.

Table 1. Logistics analysis of the proposed Institutional and cultural aspects of logistic management (ICA-LM) model

<table>
<thead>
<tr>
<th>Attributes</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer &amp; consumer electronics</td>
<td>0.48</td>
<td>0.54</td>
<td>0.64</td>
</tr>
<tr>
<td>Toys &amp; Hobby</td>
<td>0.51</td>
<td>0.58</td>
<td>0.62</td>
</tr>
<tr>
<td>Books / music / video</td>
<td>0.24</td>
<td>0.28</td>
<td>0.34</td>
</tr>
<tr>
<td>Apparel &amp; accessories</td>
<td>0.16</td>
<td>0.18</td>
<td>0.24</td>
</tr>
<tr>
<td>Furniture &amp; home furnishings</td>
<td>0.18</td>
<td>0.19</td>
<td>0.21</td>
</tr>
<tr>
<td>Health &amp; personal care</td>
<td>0.04</td>
<td>0.05</td>
<td>0.06</td>
</tr>
<tr>
<td>Auto &amp; parts</td>
<td>0.02</td>
<td>0.04</td>
<td>0.05</td>
</tr>
<tr>
<td>Office &amp; suppliers</td>
<td>0.03</td>
<td>0.05</td>
<td>0.03</td>
</tr>
<tr>
<td>Food &amp; Beverage</td>
<td>0.01</td>
<td>0.02</td>
<td>0.04</td>
</tr>
</tbody>
</table>

Figure 9. (a) Mobile payment analysis of the proposed Institutional and cultural aspects of logistic management (ICA-LM) model
(b) Internet payment analysis of the proposed Institutional and cultural aspects of logistic management (ICA-LM) model

Figure 10(a) and 10(b) shows the e-commerce analysis of the existing system and the proposed Institutional and cultural aspects of logistic management (ICA-LM) model, respectively. The different simulation parameters such as vendors, discounts, technology, logistics, packaging, warehousing, payment gateways, discounts and others are considered for the simulation analysis. The performance
results show that the proposed Institutional and cultural aspects of the logistic management (ICA-LM) model have the highest performance in all the parameters compare to the existing method.

The proposed Institutional and cultural aspects of the logistic management (ICA-LM) model is designed and analyzed in this section. The different simulation outcomes such as fulfilment cost, shipping cost, e-commerce analysis, customer feedback analysis, internet payment analysis and mobile payment analysis are done in this section. The performance results show that the proposed Institutional and cultural aspects of the logistic management (ICA-LM) model have the highest performance over existing systems.

**CONCLUSION AND FUTURE SCOPE**

As e-commerce has been highly logistically dependent on the delivery of the goods purchased electronically to clients within a specific span of hours, the transportation sector has undergone disruptive improvements. The proposed Institutional and cultural aspects of the logistic management (ICA-LM) model, which aims to manage vast client bases and establish long-term and sustainable partnerships, is introduced to eCommerce industry players. The ICA-LM contains a contextual perspective and evaluation of both current and future clients. This system helps identify actual consumer demands effectively, classify potential clients in possibility with minimal development and working capital, and build consumer CRM feedback to improve market efficiency.

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**Table 2. Customer feedback analysis of the proposed Institutional and cultural aspects of logistic management (ICA-LM) model**

<table>
<thead>
<tr>
<th>Method</th>
<th>All respondents</th>
<th>Aggressive</th>
<th>Moderate</th>
<th>Over a year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very successful</td>
<td>16</td>
<td>18</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>Successful</td>
<td>56</td>
<td>58</td>
<td>58</td>
<td>44</td>
</tr>
<tr>
<td>Partially successful</td>
<td>32</td>
<td>24</td>
<td>34</td>
<td>41</td>
</tr>
<tr>
<td>Not very successful</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Failed</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**Figure 10. (a) E-commerce analysis of the existing system. (b) E-commerce analysis of the proposed Institutional and cultural aspects of logistic management (ICA-LM) model**
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REFERENCES


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