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CHALLENGES OF EMERGING TECHNOLOGY IN FREIGHT FORWARDING AGENTS WITH RESPECT TO V.O.C.PORT

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ABSTRACT

Logistics technologies to provide enhanced services for their customers to study the factors influencing new logistics technology adoption for logistics service providers in Tuticorin and the influences of technology. A good deal of logistics examines provider's tries to improve their operational efficiency by constant implementation of new technology in the logistics sector. Many studies have found that innovation in technologies is the most important tool for enterprises to keep their competitive advantages. Logistics is a typical sector that is regularly enhanced by every revolution of technology. On the one hand, information technology makes more sorts of information available in supply chains, many of which used to not be available. Also, technology accelerates the knowledge sharing across supply chains and among supply chain partners. For instance, Machine learning, Internet of things, artificial intelligence, Cloud computing, and as well as other enabling technologies brings the supply chain visibility, by sharing more immediate information about products and goods. Third-party logistics (3PL) is in advance significance as more and supplementary organizations across the earth are outsourcing logistics activities to the 3PL service providers.

Key words: Technology, Logistics, cargo forwarding, logistics services, Supply chain, intermediates, third party, logistics providers

Abbreviations: [ML] Machine Learning**; [**IOT]**,** Internet of Things, [AI], Artificial Intelligence, [CC] Cloud Computing, [PL], Party Logistics

INTRODUCTION

A freight forwarder may be a person or organization that liable for the transportation of products from one destination to a different destination. Freight forwarding companies work in arranging the entire process for their shippers, from the storage space to the transport of their market. They act as an intermediary between the shipper and transportation services, Communication with a variety of carriers to barter on price and choose on the foremost cost-effective, well founded and swift route. Freight forwarders contract with respective Liners – that is, airlines, shipping lines or hauler to transport the goods. Usually a forwarder does not physically move the shipment but acts as a skilled in the logistics processing. Their services are more specialized. They understand international business, they know the rules and regulations, and they simplify the act of shipping on favor of a company shipping its good throughout the world. The transportation will be done by multiple shipping type of mode, as well as ships, airplanes, trucks, and railroads, and often use multiple modes for a single transportation. For instance, the freight forwarder may assemble to transportation of goods from a plant to the seaport by truck, shipped by ship to the target city and then enthused from the seaport to a client place by another truck. See the process show in Figure 1.1.

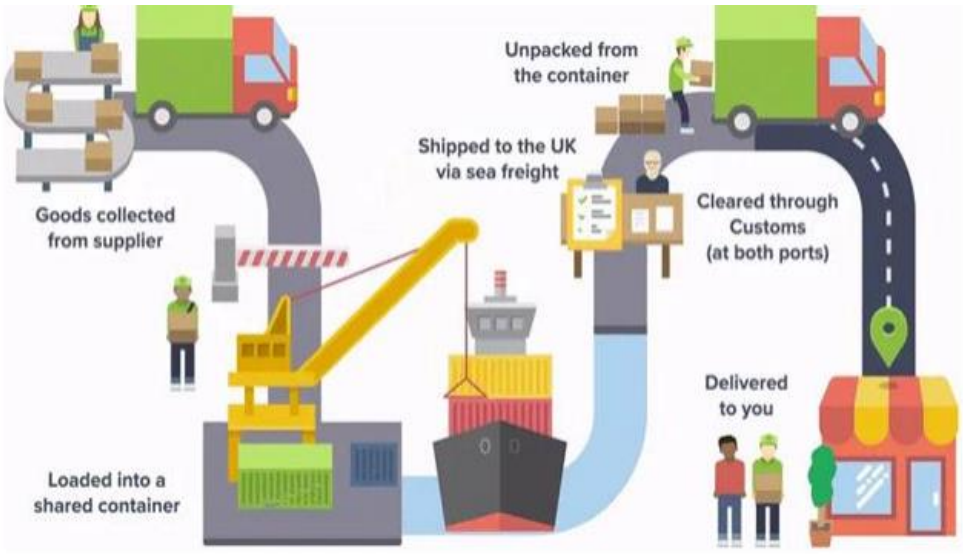

Figure 1.1.Freight Forwarding process

Review of literature

Internet of things layered architecture with constituent elements. The researchers have provided IoT architecture for a secure construction, by solving security problems at each layer of the given architecture and also conclude by informing the potential applications of the IoT platforms in fields varying from smart home to intelligent transportation to green agriculture and e-health care (Matharu2014) analyzed and proposed social features of IoT and Sociology-based relationship model between IoT devices. This model with the automatic relationship recognition can enhance the autonomy and dynamics of wireless communications in IoT. `Smart'(HuijuanZhang and YujiShen 2014). Machine learning (ML) could (MARGARET Rouse, 2016).

The supply chain visibility is that the practice of collecting, storing and analyzing the relevant data to trace the flow of materials as they move through the availability chain from suppliers to producers to the end-consumers (ORTEC, 2018). An efficient freight transport system is important to the economy and to make sure a top quality of life. Intelligent transportation systems aim to extend the utilization of existing transportation systems, capacity from the prevailing physical infrastructure, safety and security, while at an equivalent time decreasing the negative environmental impacts of freight transport (Ranaiefar, 2012). (Gattuso and Pellicanò, 2014). Mechanization of production, with the aim of optimizing flows of materials and reducing labour needs. Initial applications of automation were in production and warehousing contexts (Flämig, 2016), but so far , automated freight transport systems aren't utilized in public open space, as they require a specific and dedicated infrastructure and regulations. (Neuweiler & Vanessa Riedel, 2017)found that there's a niche in research associated with identifying competitive advantages, with autonomous driving entering the market. In terms of ‘technology’, is required (Flämig, 2016).Internet is a replacement way of communication, transferring information and making businesses. The term already referred to as Internet of things, provides the thought of the digital connection between objects via internet, creating a network where data is shared and exchanged. Considered a tactical industry on its own. In the Tuticorin region, the potential for growth is extremely capable. Despite of the many development of the logistics

industry; there has been little or no published research within the area of logistics and provide chain leading to a really. Thus, the purpose of look at the expertise remuneration and challenge faced by the practitioners as well as the applicable parties worried within the logistics and supply chain industries. This study found key benefits and challenges, namely Freight forwarding logistics providers are the hindrance for logistics effectiveness in Tuticorin. Thus, provided a base for future researchers to examine any aspects of logistics and supply chain management in Tuticorin (Sivakumar et al., 2020).

Objectives of the study

1. To study all the technological advancements available in the logistics business.
2. To find out the use of current technologies by Freight forwarders in logistics.
3. To explore the major challenges and operations faced by the Freight forwarding agents.
4. To offer sufficient suggestions about adopting the new technology by 3PL service providers dealing with V.O.C port, Tuticorin.

Methodology

This study reviews the literature of the technologies and logistics provider services on supply chains. We aim at discussing this technology adoption in third party logistics services in freight forwarding effective overview of the challenges and benefits related to integrating in supply chains. The literature was mainly collected from journals on supply chain management, operations research, information systems and International Journal of business logistics are some of these journals. In this study information gather can come from a range of sources. Likewise, there are a variety of techniques to use when gathering primary data. Primary data is like questionnaire; schedule containing a set of questions filled by enumerators who are especially appointed for the purpose. For this student a well-structured and specifically designed questionnaire was used to measure the technologies in industries. Responses were analyzed with quantitative methods by assigning arithmetical values**.** The empirical section is built based on survey and interviews. Answers from the survey are collected online from respondents and interview was organized with authorized personnel of the respective organization. The secondary data are those which have already been collected from websites. Data for the theoretical framework is based on the secondary data. Source of these secondary data are online materials,

journals, books and other research papers .Registered companies in Director General of Shipping were taken for the study. Convenience sampling technique is used and sample size of 52 is chosen for the study. Using the SPSS Software Package, to verify the reliability and validity test of the questionnaire by Cronbach's alpha 0.9 Using tools for analysis is Descriptive analysis, ANOVA. All items were quantified by perception measures, using a Likert scale from 1 to 5. A quantitative survey was designed and it was separated into 4 sections: 1) Technological advancements available in the logistics business. 2) Uses of current technologies by Freight forwarders in logistics. 3) Major challenges and operations faced by the Freight forwarding agents. 4) Feature development of freight forwarding operations and to offer feasible suggestions about the challenges in adopting the new technology by 3PL service providers dealing with V.O.C port, Tuticorin. The research instrument was to begin with initially piloted on a small sample of warehouse owners and a few minor revisions were complete.

RESULTS AND DISCUSSION

Table-1. Demographic profile of the respondents

S. No	Variable	Classification of the Variables	Frequency N=52	Percentage
1.	**Gender**	Male	44	84.6
		Female	8	15.4
2.	**Age**	19	10	19.2
		20-29	20	38.5
		30-39	2	3.8
		40-49	8	15.4
		Above 50	12	23.1
3.	**Designation**	Owner	10	19.2
		Partner	19	36.5
		Manager	11	21.2
		Executive Employee	1	1.9
		Technical operator	11	21.2

4.	**Education qualification**	Illiterate	10	19.2
		Diploma	12	23.1
		Graduate	11	21.2
		Post Graduate	3	5.8
		others	16	30.8
5.	**Employees are working**	Below 10	8	15.4
		11-25	20	38.5
		26 -50	8	15.4
		51 -100	6	11.5
		Above 100	10	19.2
6.	**Year of Experience**	Below 1 Year	11	21.2
		1-5	23	44.2
		5-10	2	3.8
		10 -15	11	21.2
		Above 15	5	9.6

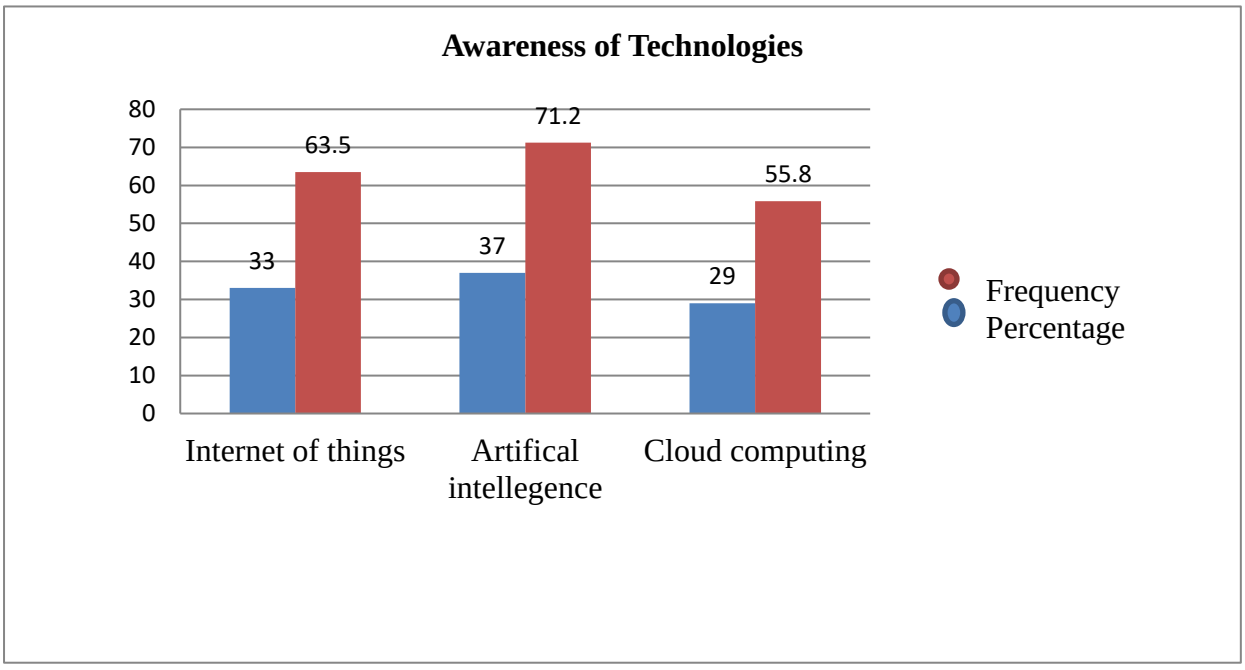

Fig1: Awareness of Technologies

Table-2 Difference between the Challenges of Cloud computing and designation of the respondents in Logistics and supply chain operators

ANOVA						
Preference Factors		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Data Integrity	Between Groups	12.712	4	3.178	3.232	.020
	Within Groups	46.211	47	.983		
	Total	58.923	51			
Data Theft	Between Groups	4.058	4	1.015	.733	.574
	Within Groups	65.019	47	1.383		
	Total	69.077	51			
Data Loss	Between Groups	6.748	4	1.687	1.491	.220
	Within Groups	53.175	47	1.131		
	Total	59.923	51			
Data Location	Between Groups	4.975	4	1.244	1.696	.167
	Within Groups	34.467	47	.733		
	Total	39.442	51			
Security on Vendor Level	Between Groups	.574	4	.144	.315	.867
	Within Groups	21.426	47	.456		
	Total	22.000	51			
Security on User Level	Between Groups	3.929	4	.982	2.463	.058
	Within Groups	18.744	47	.399		
	Total	22.673	51			

*Significant at 0.05% level

INTERPRETATION

From the above table it shows that, relating to the factors that challenges of cloud computing in logistics and supply chain industry operators, out of six factors, these two challenges indicates that the factors of cloud computing are Data Integrity, Security on User Level, since the significant value is less than the “P” value 0.05%. Hence the null hypothesis is rejected. It shows that no difference between designation of the operator and the challenges of cloud computing

technique in logistics and supply chain industry. Left over the four factors are indicates that the significance value is greater than the "P" value 0.05%. Hence the hypothesis is accepted. It shows that difference between designation of the operator and the challenges of cloud computing technique in logistics and supply chain industry.

Table-3 Difference between the Challenges of Internet of Things and designation of the respondents in Logistics and supply chain operators

ANOVA						
Preference Factors		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Privacy	Between Groups	.960	4	.240	.519	.722
	Within Groups	21.713	47	.462		
	Total	22.673	51			
Security Management	Between Groups	.926	4	.231	.356	.838
	Within Groups	30.517	47	.649		
	Total	31.442	51			
Optimal Asset Utilization	Between Groups	.861	4	.215	.246	.910
	Within Groups	41.062	47	.874		
	Total	41.923	51			
Connectivity	Between Groups	.482	4	.121	.148	.963
	Within Groups	38.344	47	.816		
	Total	38.827	51			
Insufficient updating	Between Groups	1.161	4	.290	.287	.885
	Within Groups	47.512	47	1.011		
	Total	48.673	51			
Identification and Authentication of Technologies	Between Groups	4.385	4	1.096	.817	.521
	Within Groups	63.057	47	1.342		
	Total	67.442	51			

Handling Unstructured Data	Between Groups	2.232	4	.558	.447	.774
	Within Groups	58.691	47	1.249		
	Total	60.923	51			
Data Security and Privacy Issues	Between Groups	3.533	4	.883	.602	.663
	Within Groups	68.986	47	1.468		
	Total	72.519	51			
Intelligent Analytics	Between Groups	2.177	4	.544	.300	.876
	Within Groups	85.266	47	1.814		
	Total	87.442	51			
Data Capturing Capabilities	Between Groups	4.719	4	1.180	2.515	.054
	Within Groups	22.050	47	.469		
	Total	26.769	51			

*Significant at 0.05% level

INTERPRETATION

From the above table it shows that, relating to the factors that Challenges of Internet of Things in logistics and supply chain industry operators, out of ten factors, Data Capturing Capabilities indicates the significant value is less than the “P” value 0.05%. Hence the null hypothesis is rejected. It shows that no difference between designation of the operator and the challenges of cloud computing technique in logistics and supply chain industry. Surplus the nine factors are indicates that the significance value is greater than the “P” value 0.05%. Hence the hypothesis is accepted. It shows that difference between designation of the operator and the challenges of internet of things in logistics and supply chain industry.

SUGGESTIONS

A Secure cloud is usually a reliable source of data thus protecting the cloud may be a vital task for security professionals who are responsible of the cloud. Some of the ways by which a cloud are often protected are Protection of knowledge, ensuring data is out there for the purchasers, delivering high performance for the purchasers, using Intrusion Detection System on Cloud to watch any malicious activities, to form sure the appliance employed by the customer is safe to use, Vendors must provide a network for the customer, customer should be ready to recover any loss of knowledge within the cloud. Seeking assistance from various technological solutions for cloud computing, Artificial Intelligence, internet of things is involving a partner skilled and knowledge at cloud solution management. Redesigning processes to involve all stakeholders and cloud patterns. Integrating cloud solutions by various service providers and security protection protocol for the cloud solution.

CONCLUSION

Internet protocols and opting for vendor specific technologist can be made more realistic. Security and connectivity is another big challenge and having a compliance body could be the solution for most of the privacy and security concerns. The challenge consists in designing privacy-aware solutions for the Internet of Things that allow balancing business interests and customers privacy requirements. This study is consider privacy-violations in the interaction and presentation phase an important future threat, because of the corresponding interaction mechanisms with smart things and systems that are just evolving and are rather unique to the Internet of things. Reusability of components such as data, models, and processing techniques is critical for expanding the use of Artificial intelligence. Cloud computing are data security and privacy issues. Reducing data storage and processing cost may be a mandatory requirement of any organization, while analysis of knowledge and knowledge is usually the foremost important tasks altogether the organizations for decision making. So no organizations will transfer their data or information to the cloud until the trust is made between the cloud service providers and consumers. More work is required in the area of cloud computing to make it acceptable by the

cloud service consumers. This paper surveyed different techniques about data security and privacy that specialize in the info storage and use within the cloud, for data protection within the cloud computing environments to build trust between cloud service providers and consumers

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