

# A Study on the Awareness of Digital Empowerment of Global Trading and Supply Chain

<sup>1</sup>Prof Debasish Rout, <sup>2</sup>Dr Somabhusana Janakiballav Mishra,  
<sup>3</sup>Dr Ranjan Kumar Kantha  
<sup>4</sup>Prateek Saxena

<sup>1,2</sup>Assistant Professor, AGBS, Bhubaneswar, <sup>3</sup>Dean, AGBS, Bhubaneswar, <sup>4</sup>Student of MBA, AGBS, Bhubaneswar

Submitted: 01-05-2022

Revised: 04-05-2022

Accepted: 08-05-2022

## ABSTRACT

"Digital empowerment" is not a slogan; it is necessary for businesses to survive in today's excessively competitive environment. The pace at which Information Technology has grown in the last few decades has left our senior generations untutored and untrained. People who finished their education before the 90s are the major victims of this IT boom. Because the '90s was the decade when things started to change, Amazon (1994), Netflix (1997), Google (1998), Alibaba (1999), Tesla (2003), Facebook (2004), Twitter (2006), all the names mentioned at the back are all multinational, billion-dollar IT companies today. These were the international names founded in the 90s. If you look at India, one could say the technological boom is taking place right now. If you check the list of the Indian Unicorns (Unicorn = Valuation > 1 billion USD), you'll find that out of the last 10 companies that made it to the unicorn list in the year 2021, 9 of them are Internet and Technology oriented firms. Venture Capitalists, Private Equity Firms are all eagerly funding these firms. Therefore, many new-age start-ups are coming forward with innovative technological solutions and achieving huge successes in an amazingly short span of time. Global Trading involves all sorts of activities involved in the transfer of goods from one country to another. The importance of Global Trading has been explained in the summary section of this report, and you may refer to that.

**Key Words:** Digital empowerment, Information technology, Global trading, Supply chain

## I. INTRODUCTION

### GLOBAL TRADING AND SUPPLY CHAIN INDUSTRY

Global Trading is essential, as explained in the Summary portion of this report. Supply Chain and Supply Chain Management are both a part of Global Trading. One cannot happen without the other.

Supply chain optimization is crucial for every Import-Export Business. It is one of the major costs involved in Global Trading. Therefore, just as firms try to save taxes through various methods, they also try to cut costs by optimizing their Supply Chains. Optimization of the Supply Chain involves methods employed to save time and costs in the transferring of goods from the Supplier to the end consumer. Digitization of Global Trading and Supply chains has helped achieve that goal to a great extent. Many businesses are reaping the benefits of the digitization of the Industry, and many are still stuck with the old ways.

**So, let us now discuss how Digitization has helped the Global Trading and Supply Chain:**

#### Industry 4.0

This term has been buzzing in the industry for the past three years. The changes brought by the digitization of Global Trading and Supply chains are significant for supply chain optimization and its development.

Industry 4.0 includes all kinds of digital methods that can be employed in the Supply Chain. It has the potential to change the whole dynamics of the Supply Chains and provide various cost-cutting techniques, even revenue generation, by the data collected from the Supply Chains. Industry 4.0 is about presenting the businesses to the customers

digitally through social media marketing, E-Commerce, etc. That was just the marketing portion of the trade; ultimately, the whole supply chain and everything involved in it has to go digital with the new-age technologies like — the Internet of Things, the cloud, 3D printing, big data, augmented reality, etc.

### **DSC (Digital Supply Chain)**

The goal of the digital supply chain is to build an environment for the network that's convenient and responsive. Some of the important constituents of DSC are logistics visibility, integrated planning and execution, smart warehousing, procurement 4.0, efficient spare parts management, B2C logistics, prescriptive supply chain analytics, and digital supply chain facilitators.

### **These are the elements that work to optimize the supply chain:**

#### **1. Integrated planning and execution**

The goal of a digital supply chain is to help the customer to get their product as soon as possible. To do it efficiently and effectively, the supply chain must be fully integrated, connecting suppliers, manufacturing, warehousing, which is driven through a central cloud-based command centre. Platforms that integrate the data provide a primary planning facility that is useful in a firm's day-to-day operations.

#### **2. Logistics visibility**

The key to success for any supply chain is the exchange of information. The traditional supply chain is filled with abrasion caused by the late submission of the information. That's why the broad-gauged goal of the digital supply chain is to open the supply network for all to see. B2C markets are asking companies to provide this level of visibility and are demanding more information about shipment arrivals.

Once such levels of visibility are achieved, then the organizations will be able to enjoy a lot more benefits than just inventory savings or planning improvements.

These are the elements of Logistics Visibility that will help in fulfilling the above task:

- Data for external and internal sources are brought into a single platform.
- The data is consolidated and enriched with cross-referenced information. Cross-referencing here means; the internet is filled with data, and software can observe and analyse millions of words on the internet within seconds, so a term about the business

which everyone may be talking about on Twitter, could be found by the software, and could help the businesses in planning. For Example, if a business was tracking users' Twitter activities, they would have found out four weeks in advance about a strike that happened in Los Angeles. That information could be useful for a business in many ways.

#### **3. Procurement 4.0**

If we digitize procurement, it will radically change the point of view and new categories to be sourced and transform the value theory of the procurement function.

The digitization of many aspects of procurement is already going on. Companies use a variety of techniques to connect more with suppliers and actively manages supplier risk-boosting collaboration. This will include buying the software needed to run the digital supply chain itself. This will likely turn out to be an easy task because there are plenty of vendors willing to work with companies. As the procurement is digitalized, the companies will have to limit their supply chains to physical and have to make contact with developers (who will program all GPS programs to be deployed). A lot of electronic components will be required to run the digital supply chain.

#### **4. Smart warehousing**

Another element in the digital supply chain is Automated warehousing, and it is a strategic tool to know how companies generate value for their customers. The changes in warehousing would begin from inbound logistics. The trucks returning to the warehouse will tell their position and arrival time to the warehouse management system, which will choose and prepare a docking slot at the exact time of the arrival of the truck.

Inside the warehouse, the software will update inventory from time to time with the help of sensors fitted in the goods and the warehouse itself. Finally, the system will deploy flying drones to help in taking inventory, continuously giving the location of goods, and mapping the entire facility.

In addition to enhanced logistics, automatic transportation, and optimized logistics processes, will be done by innovative technologies that will make them much easier, and the orders will be delivered on time.

After the products are picked, they will be packaged by robots for shipment that can pack several sizes of packages while checking the data on the product and the customer's packaging requirements. The software will also control the

warehouse environment by setting the proper temperature, light, and humidity according to the products. The products will be packaged for shipment by robots. By switching off the lights and heat in the warehouse, energy consumption can be reduced significantly. Robots are working, so lights won't be necessary.

**Digitization has affected Global Trading and the Supply Chain in a lot of ways, few of them are mentioned below:**

**Easier and more convenient tracking of supplies**

Before the Digitization of the Global Trading and Supply Chain, tracking of supplies and managing the inventory used to be a problem for the buyers who have multiple warehouses and take orders from customers from multiple nations, but with the help of the new-age Trading Software's that can store and provide the data regarding the inventory, transportation, Invoices of Purchases or Sales, etc. in a proper, neat, and customized manner, it has become easier for the traders to check their financials easily on their screens whenever they want.

**Affordable Marketing**

Earlier, when social media wasn't as active as it is today, multi-billion-dollar companies had the edge in marketing their products. Because they could afford the expensive methods of advertisements like Television, newspapers, or Banners, etc., but with the help of digitization, now the smallest of the firms can equally compete with the big multinational corporations through social media marketing or Google Ads.

This change has led the general public to order from newly established international firms by simply looking at their products on their Mobile Screens through ads or social media campaigns. People don't care anymore whether their product is flying in from a foreign nation. For them, they get the product right at their doorstep, sitting in the comfort of their homes. For a seller, he has increased his market base sitting at his shop, which has become possible through Digitization.

**Market Base for Online Services**

Digitization has not only made the global trade processes simple and convenient for all parties but has also created a new market for online media platforms. For the past few years, a new kind of trend has emerged in the OTT (Over the Top) Platforms. This has become possible only through Digitization, where the supply chain and Global Trading of "services" are all done via the internet.

Examples of such platforms are Netflix, Amazon Prime, Disney+ Hotstar, Zee Entertainment, TVF, etc.

And it is not just the OTT platforms that got a market platform through digitization; there are many other platforms as well. For example, Education Technology (Byjus, Vedantu), Gaming Platforms (MPL, Roblox), Finance Technology (Paytm, Phone Pe), and many more.

**Need for Digital Empowerment in the Supply Chain**

A Supply Chain includes everyone from the producers to transporters and retailers. All the activities of Marketing, distribution, and finance comes under the purview of the Supply Chain.

**Better Time Management**

A supply chain is divided into levels, all the way from Producers on the top to the end-buyers at the bottom. Digital Supply Chain Management helps bring transparency in the communication and interaction between all the levels of the supply chain, which helps in easier collaboration and Flexibility of action from every level.

**Faster Responsiveness**

In case of a hurdle or a delay in the Supply chain, Digitization helps in conveying the information to every member of the group simultaneously. That helps the management to address the issue and respond with an effective fix in time. Because of Digitization, the whole Supply chain can easily access the information without relying on others to pass on the message.

**Easier Collaboration**

With the help of Digitization of the Supply Chain, it makes it easier for people involved in the Supply chain to work together.

As mentioned earlier, Digitization helps in making the process transparent. Every chain member can observe a complete view of the Supply Chain and its changes and actions. It is easier to collaborate when everyone has all the information timely.

Many other factors involved in the Supply Chain have been enhanced by Digitization, which will be discussed in the 3rd Chapter of the report.

**Structure of the Basic Supply Chain**

A simple supply chain is made up of companies that purchase and sell supplies from one another. The lead firm establishes a succession of connections with each company and controls the

procedure of issuing and executing purchase orders on request as a result. The providers of raw materials, parts, and activities that a firm requires to create and deliver its goods to intermediate or end consumers are included in a supply chain structure definition.

The supply chain manager supervises the operations of all components of the supply chain, which is divided into five sections:

**Supplier -----> Manufacturer -----> Wholesaler -----> Retailer -----> Customer**  
**Process of Supply Chain Management**

Suppliers strive to create and operate supply networks that are as productive and cost-effective as feasible through supply chain management. Supply chains encompass everything from manufacturing to product creation, as well as the information management required to coordinate these activities.

Usually, SCM aims to centralize or connect a product's manufacturing, shipment, and marketing. Companies can save costs and deliver items to customers faster by controlling the supply chain. Internal stocks, internal manufacturing, marketing, sales, and business vendor stocks are all under tighter supervision.

## II. LITERATURE REVIEW

**Gupta, Surendra M., and Yousef A. Y. Al-Turki (1999)** have found out that uncertainties and variations in demand are a big impediment for supply chain and for that flexible Kanban system is a newly developed system which can cope up with the above variations.

**Hancu, L., (2008b)** has opined that business process re-engineering or re-structuring can be a competitive advantage for any company to take a commendable position in the market. Mergers & Acquisitions, RFID technologies, Virtualized Supply Chains are some of the advance re-structuring methods of excelling in the international business.

**Cohen, M.A., and S. Mallik (1997)** have inferred in their research that to maintain the core

competency of supply chain functions there has to be enhanced integration of suppliers with customers which will co-ordinate all multiple value adding processes within the firm.

**Premnath Pandey & Suruchi Pandey (2016)** have found out in their research that lean supply chain is the most potent method of achieving a global status in the field of international supply chain & logistics.

**De Treville, S., Shapiro, R.D. and Hameri, A.P., (2004)** have tried to throw some insight on lead time management. In order to achieve an optimum market mediation performance lead time management has to be prioritized. Lead time reduction is more important than information transfer improvement.

## Objectives Of The Study

This study analyses the awareness of digital empowerment of global trading and supply chain; the other objectives are:

- To know how many people are aware of global trading and supply chains.
- To gather information about if people are interested in commodity trading.
- To understand what kind of digital technology they have heard about in the global trading and supply chain domain.
- To know if the sample population believes in digitization and should every business invest in digitization.
- To provide recommendations on what can be done to spread awareness.

## III. RESEARCH METHODOLOGY

The sample size is 52 in the age group above 18 years, which included both students as well as working professionals for the purpose of the research. The target population represents the Bhubaneswar regions. The people were from various professional backgrounds. Primary data obtained in this project is using the interview and questionnaire. Data analysed by percentage method and graphs.

## IV. DATA ANALYSIS AND INTERPRETATIONS

### Demography of Respondents

Occupation	Working Professional	39	0.75
	Student	13	0.25
	<b>Total</b>	<b>52</b>	
Education	Graduation	21	0.41
	Masters	28	0.54
	Diploma	1	0.017

	Degree	1	0.017
	BBA	1	0.017
	<b>Total</b>	<b>52</b>	

**INTERPRETATION:**

From the above table it is found that 75% of the respondents are working professionals and 25% of them are students. 54% of respondents have completed or are pursuing their masters, whereas

41% respondents have completed or are pursuing graduation.

What is your knowledge about global trading and supply chain?

Little/none	18	0.35
Basic	27	0.52
Selective	6	0.12
Full	1	0.01
<b>Total</b>	<b>52</b>	

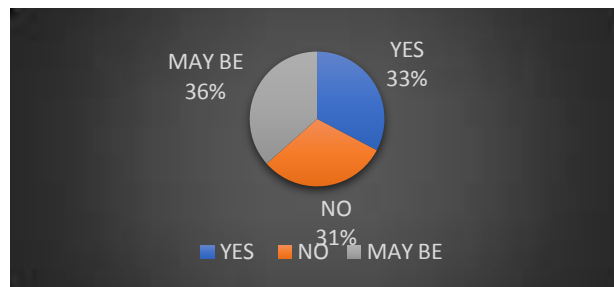
**INTERPRETATION:**

From the above table it is found that 52% of respondents have a basic idea of global trading and supply chain, 35% of them have little or no idea,

11% of them have selective knowledge and 2% of them have complete knowledge.

Are you working in or do you wish to get into the Global trading and supply chain industry?

Yes	17
No	16
May be	19
<b>Total</b>	<b>52</b>



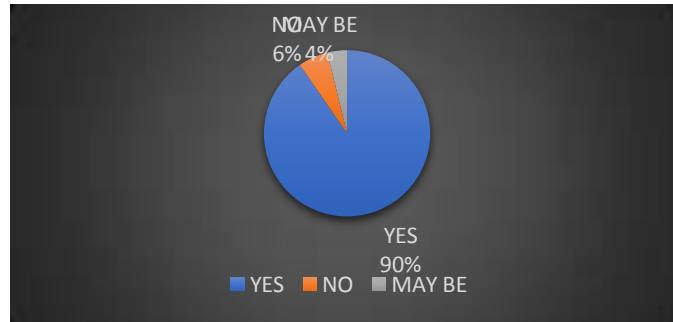
**INTERPRETATION:**

From the above graph it is found that 36% of respondents are not sure if they want to get into global trading and supply chain, 33% of them are

willing to get into the domain and the rest 31% of them said they are not interested at all.

Do you believe in the digital empowerment?

Yes	47
No	3
May be	2
<b>Total</b>	<b>52</b>

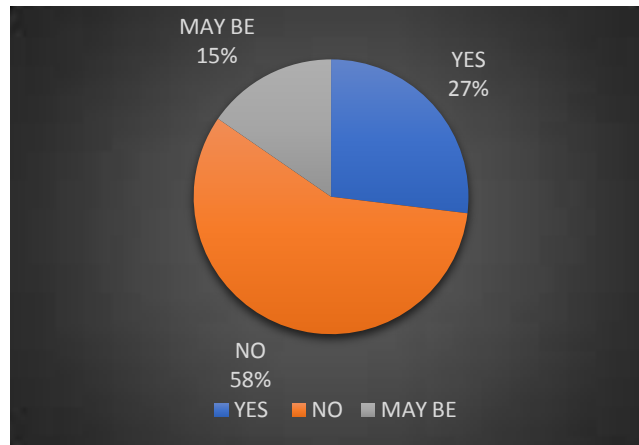


**INTERPRETATION:**

From the above graph it is found that 90% of the respondents believe in digital empowerment, 6% of them don't believe in it and 4% are not sure.

Have you heard about any CTRM [Commodity Trading and Risk Management] solution?

Yes	14
No	30
May be	8
Total	52

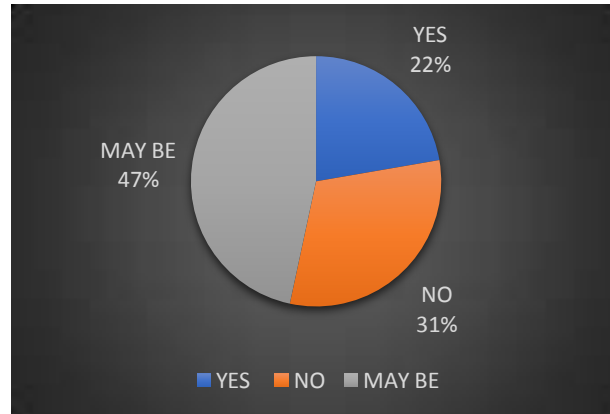


**INTERPRETATION:**

From the above graph it is found that 58% of the respondents have not heard about any CTRM software, 27% of them have heard about it and the remaining 15% are not sure.

Do you think the global pandemic may have affected the global trading and the supply chain industry?

Yes	37
No	6
May be	9
Total	52



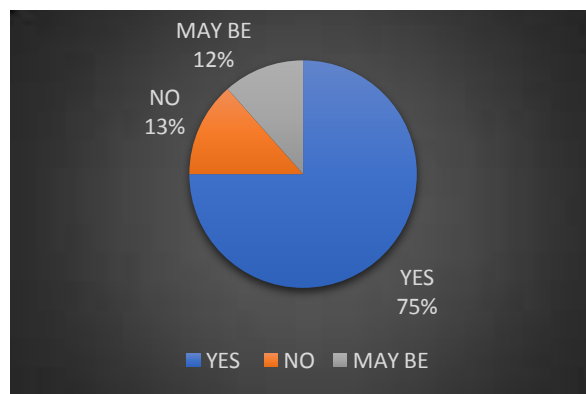
**INTERPRETATION:**

From the above graph it is found that 47% of the respondents are not sure if the global pandemic have affected the global trading and supply chain, 31% of them don't believe that the global pandemic has affected this domain, whereas

remaining 22% believe that the pandemic has impacted this industry.

Do you believe that the global pandemic is also a cause of digital empowerment in the global trading and supply chain industry?

Yes	39
No	7
May be	6
Total	52



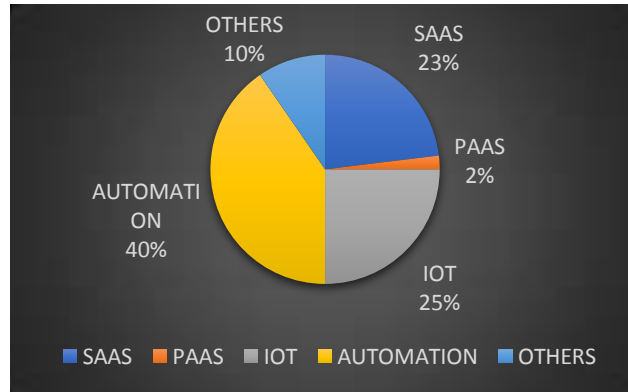
**INTERPRETATION:**

From the above graph it is found that 75% of the respondents believe that the global pandemic is also a cause of digital empowerment in the global

trading and supply chain industry, 13% believes otherwise and the remaining 12% are not sure.

What technology do you think exists till now in the GTSC [Global Trading and Supply Chain] industry?

SaaS	12
PaaS	1
IoT	13
Automation	21
Others	5
Total	52



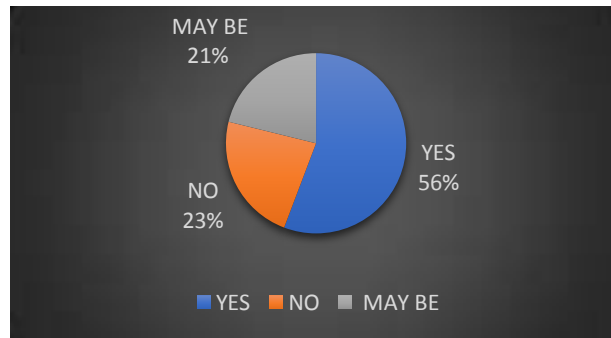
**INTERPRETATION:**

From the above graph it is found that 40% have heard about automation, 25% have heard about IoT, 23% have heard about SaaS, 2% of them have heard about PaaS, and the remaining have heard

about other software that exists in the GTSC industry.

Does Digitalization of Global Trading affect the Global environment?

Yes	29
No	12
May be	11
Total	52



**INTERPRETATION:**

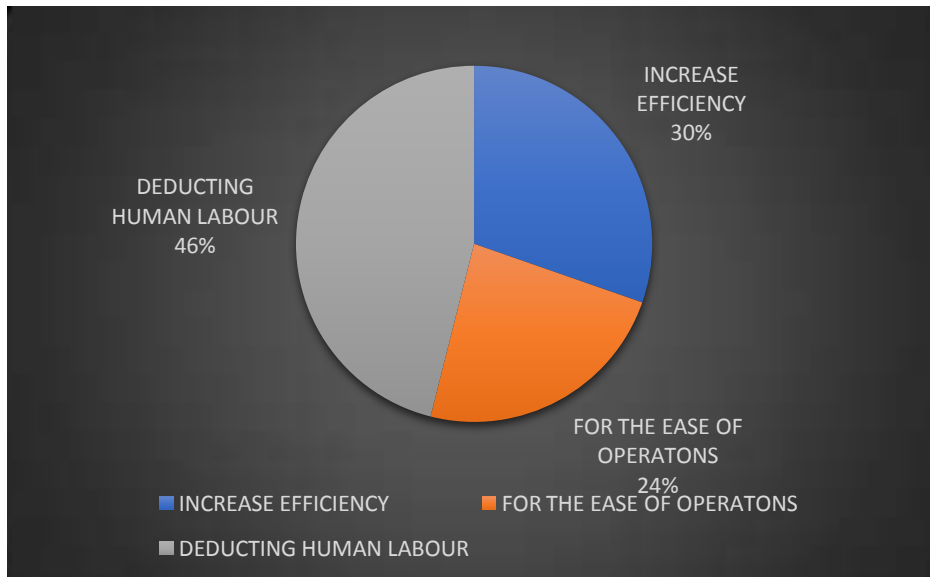
From the above graph it is found that 56% of respondents believe that digitalization of global trading affects the global environment, whereas

23% believes against it and the remaining 21% are unsure of it.

Why should a company spend time and money to digitize their business?

Increasing efficiency	27
For the ease of operations	21
Deducting human labour	4
Total	52





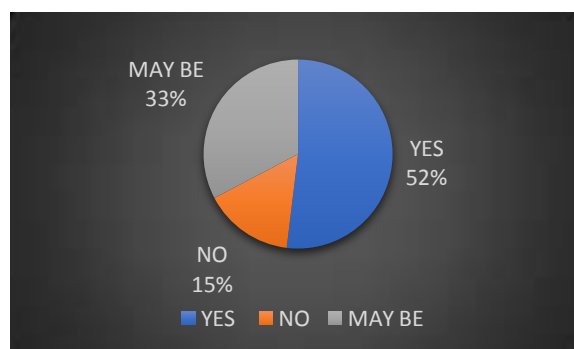
**INTERPRETATION:**

From the above graph it is found that 46% of respondents believe that a company should spend time and money to digitize their business to reduce human labour, 30% of them believe it is to

increase efficiency, and the rest 24% of them believes it would ease the operations.

Would you like to learn about CommodityTrading and Risk Management?

Yes	27
No	8
May be	17
Total	52



**INTERPRETATION:**

From the above graph it is found that 52% of respondents would like to learn about CTRM, 33% are not sure and the remaining 15% said they are not interested in learning CTRM.

**Findings**

From the 52 responses that we got from the customers we conclude the followings:

- 52% of the respondents are willing to learn about commodity trading.

- In terms of digital empowerment, 46% percent people think that any company should invest time and money to digitize their businesses.
- In terms of technology, most people have heard about automation, IoT and SaaS in the global trading and supply chain domain.
- A lot of people have no knowledge about CTRM software
- 33% of the respondents want to get into the GTSC domain.

## V. CONCLUSION

The conclusions that can be drawn from the following data that has been concluded are:

- Very few people know about global trading and supply chain
- Very few people have knowledge about commodity trading
- Not a lot of people want to get into commodity trading
- Most people believe in digital empowerment
- Very few people have heard about CTRM software
- A lot of people believe that global pandemic has affected global trading and supply chain
- Most people believe that global pandemic is the reason behind the digital empowerment of GTSC.
- Most people also believe that global trading affects the global environment

## REFERENCES

- [1]. Chopra, Sunil, and Peter Meindl. (2000). *Supply Chain Management: Strategy, Planning, and Operations*. Englewood Cliffs, Prentice Hall, NJ
- [2]. De Treville, S., Shapiro, R.D. and Hameri, A.P., 2004. "From supply chain to demand chain: the role of lead time reduction in improving demand chain performance." *Journal of Operations Management*, vol. 21.
- [3]. Dekker, R., De Koster, M.B.M., Roodbergen, K.J. and Van Kalleveen, H., 2004. "Improving order-picking response time at Ankor's warehouse." *Interfaces*, vol. 34.
- [4]. Forman, Joseph R. "Integrating JIT with MRP II." *Production and Inventory Management Review with APICS News*. (March 1989): 35-38.
- [5]. Lee, William B. and Michael R. Katzorke, *Leading Effective Supply Chain Transformations: A Guide to Sustainable World-Class Capability and Results*, Ft. Lauderdale, J. Ross Publishing, 2010.
- [6]. Lambert, Douglas M. *Supply Chain Management: Processes, Partnerships, Performance*, 3rd edition, 2008. a b Doug Page, "Dayton Region a Crucial Hub for Supply Chain Management", *Dayton Daily News*, 2009- 12-21.
- [7]. Cohen, M.A. and S. Mallik (1997). "Global Supply Chains: Research and Applications." *Production and Operations Management* 6(2), 193–210.
- [8]. Arntzen, B.C., G.G. Brown, T.P. Harrison and L.L. Trafton (1995). "Global Supply Chain Management at Digital Equipment Corporation." *Interfaces*, January-February, 69–93.
- [9]. Hancu, L., (2008b), *Supply Chain Risk Management by Mining Business Dependencies*, Proceedings of the International Conference SYNASC, September 2008, Timisoara, Romania.
- [10]. Gupta, Surendra M., and Yousef A. Y. Al-Turki. "Flexible Kanban System." *International Journal of Production & Production Management*. (1999): 1065-1094.