LITERATURE REVIEW:

In above categories few Conference proceedings, Journals & Patents have been referred the summary of those reviews is as follows:

**Angelika et al. (2003)** In this paper authors highlight the significance of ICT enabling services. Closed loop supply chains are being used to recover assets that would be otherwise lost. ICT in closed loop Supply chain and management are being used and practiced. Authors also reveal that this mode of implementation has observed improvement in South East Asia especially countries like China, Japan, Korea India.

**Andera (2000)** Here author reveals the idea and usage of RFID (Radio frequency Identification) technique. RFID implementation can manage the recovery process more efficiently in Reverse Logistics & Supply Chain & Management. Author says a RFID tag can be assigned to each unit of product to identify it and subsequently delivery or recovery can be made easy.

**Angelika and Soulla (2011)** In this paper, authors present an index system for reverse logistics processing center location. And then it has been put forward a decision table based on the index system. In the decision table, one potential processing center is regarded as one subject, and the values of its index are regarded as the condition attributes of the table. But because all of the values are continuous, we must discrete them in order to transform the decision table into an information system so as to use rough set way on it. In the information system, the location result of one potential processing center is regarded as the decision attribute of the object. Furthermore, rough set way based on distinguish matrix is introduced to the information system.

**Benabd el et al. (2011)** In this paper a Decision support system has been proposed which helps to identify wastes (Clinical). The system is developed with medical/Clinical wastes in centric idea. Paper concludes with hazardous nature to be taken care and adequate skill can implement DSS effectively.

**Chang et al. (2008)** Here authors suggest achieving high agility of Reverse Logistics Enterprises is an effective means of reducing cost and meeting buffer needs of customer. It may also justify time, and robustness, production flexibility and relevant parameters.

**Cheng (2012)** Author presents here a comprehensive study based observation. The study presents Uncertainty Remanufacturing Demand (URD) for green suitcase chain to predict the return demand model of a flexible inventory model. The research verifies these methodologies in
a practical case. The paper concludes with the idea of proper coordination among all entities which are participating in recovery of product.

**Chunhong and Li (2011)** The paper seeks to report current logistics status in south East Asia especially in China. Recent research focuses on the relationship between ICT (information & Communication Technology) application and return logistics improvement in E- Business market. With the development of economic society, people pay more attention to the requirements of environment protection; reverse logistics gradually attract the interest of people.

**Carsten N (1998)** Here author starts with discussion on additional traffic on RL (Reverse Logistics) for electronic market and reference in Europe. It is also mentioned that how political and legislative willingness come forward to establish WEEE recycling system.

**Guicheng and Xiuzhu (2010)** This paper introduces the current development situation of China’s E-Commerce firstly and then points out that the era of RL (Reverse Logistics) in E-Commerce development situation and after that elaborates on the key RL system function modules. Paper concludes with the industrial aspects of the E-Commerce.

**Jin and Xiong (2010)** The paper proposes a new returned RL (Reverse Logistics) model to adopt optional policy to establish high efficient MIS (Management Information System). Authors say lack of mature management methods and strategies will make great existence of lower loyalty customers, result ascending quality of RL.

**James (1998)** Individual firms and supply chains will continue to seek ways to achieve competitive advantages. RL (Reverse Logistics) is an increasing path way and important part of current and future supply chain strategies. It behaves firms to be on the leading edge of RL strategies process development.

**Jiang (2012)** Author presents an IS (Information System) model as an application of GIS (Geographical Information System). It designs scheme of E-Waste RL. RLIS (Reverse Logistics Information System) based on internet It is a multifunction model to analyze E-waste flow. Ultimately the waste will be an important factor for revenue generation.

**JMan and Shao (2009)** Here authors propose an indexing system for RL (Reverse Logistics) processing centre location. It corresponds to a decision table where several potential processing centers are identified. Values of index table correspond to conditional attribute of the table. This system is a typical example of data ware housing and then subsequently data mining operation.
Jia et al. (2009) Although author Jia L has already explored the design of RLMS (Reverse Logistics Management Information System) in 3 modules ie. Functional, logical and security modules in research of RLMIS based on B/S+ C/S. In addition here authors have extended and detailed realization methods of RLIS (Reverse Logistics Information System) under E-commerce environment.

Liu and Wang (2010) 0-1MILP arithmetic is implemented to resolve distribution centre location problem in RL (Reverse Logistics). RL location structure in E-Business deals with system complexity, system objective diversity, bad balance in SCM (Supply Chain & Management) and many too few orientations.

Reza (2010) Paper proposes a model for selecting third party Reverse Logistics (3PL) provides in the presence of multiple dual role factors. A numerical example demonstrates process done through a DEA model while allowing for the incorporation of multiple dual factors. 3PL is core entity in Supply Chain & Management system.

Ren et al. (2009) Authors propos a mathematical model for the data fusion which comes from location characteristics parameters TOA( Time of Arrival) of mobile terminal with respect to base terminal. The model suggested is developed and tested with in the domain of operational research.

Sibo (2012) Author proposes an efficient design of a RL (Reverse Logistics) network. It has an algorithm based on the technique of parallel GA (Genetic Algorithm) where the profit is made objective function. Genetic algorithm is explored with neural network where we have facility to make system intelligent.

Xiang et al. (2011) Authors propose a decision reverse logistics model under the context of E-Business with the assumption of uncertain demand and return which are determined by optional policy. With the rapid development of electronic commerce, it provided a good platform to the reversion logistics’ information construction.

Yang et al. (2011) Authors focus on use of RFID (Radio Frequency Identification) technology to build RLS (Reverse Logistics System) design. It further put light on ideas like RL and E-Commerce. RL in two modes returning and recovering, brand E-Business environment and information tracking system. In modern age at the bill counters of retail mega stores the above techniques are used at large scale. Here the real life application can be observed.
Zhao et al. (2010) Authors have framed paper to discuss mainly three design modules. First is RL system function model, second is RL logic structure and third is RL safety issues. All the three modules are incorporated to make it efficient to function. Further a notice on realization method of RLMIS (Reverse Logistics Management Information System).

Zhu (2008) Author discusses an information management solution called UML in Reverse Logistics. UML, XML, EDI etc are tools in ICT (Information and Communication Technology) and NCT (Network and Communication Technology) which have been very useful to make the RL process mechanical and computerized. Two important functionalities of ICT are creation of Knowledge and retrieval of information from huge database. Actually the real challenge is data retrieval from the data base system. It is very easy to collect data and create data base. It does not require any specific methodology unless we define some algorithm to input data and maintain an order to store it. After processing when data becomes information, then it becomes useful for some defined task and then one needs to have a well define algorithm to retrieve the information to meet said goal. Hence author proposes an information management solution called UML (Unified Modeling Language) for information retrieval from the huge database.

Patents:

A Wood et al. (2005) A database management and synchronization program implemented across a peer-to-peer computer network, consisting of a sharing community of user computers. Database record synchronization throughout the sharing community is accomplished by using a synchronization object which contains the information about a change in a specific record or the addition of a new record. The synchronization object is transmitted by a local user computer at any time to a routing agent, which in turn transmits the synchronization object at any time to remote user computers within the sharing community.

Joe (2005) An online system and method of inquiring and tracking the status of an online order for a product are provided. The system includes a consumer status query message, which includes a consumer identifier of a user who previously placed the online order for the product. The reason is there why it has become important to trace a product while recovery is in process. Author has discussed a real time phenomenon. Consider a case where thousands of products are in recovery path (Thousand number can be easily assumed as market has an experience to face
30% of products manufactured are gone through the reverse logistics procedure). In this case it becomes important to have a record of all thousands of products which need to be traced. An unit product is easy to find out but similar case is not with thousands of products. The number can be in millions or billions. With higher number more robust system is needed to trace the product which author emphasizes. A status translator is operable to receive the consumer status query message and convert the consumer status query message to a consumer status query file.

Karl and Kageneck (2000) Inventor suggested a document indexing and retrieval system and method which assigns weights to the key words and assigns a relative value to pairs of key words (i.e. defines a relative relation on K×K) based on their frequency of occurrence and co-occurrence in the document data base. In response to a query both the weights and this relative relation are used to suggest additional and/or alternative key words which are very likely to find relevant documents. Documents are then ranked by number of hits adjusted for the weights of hit words and their relative

Lawrence et al. (2002) The invention is directed to an enterprise management integration tool for providing a centralized repository for storage and processing of information related to the execution of the enterprise management functions. This is accomplished through the use of a Relational Database Management System (RDBMS) and specific database schema that model the enterprise components and services being managed. The interface with this database will be in one of two preferred forms: (1) software bridges to specific management applications; (2) standardized Structured Query Language (SQL) to applications that support the use of SQL. The database-centric approach provides a framework for integration of myriad applications (software programs) based on the needs of the enterprise management personnel.

Kenneth (2003) A vehicle control system for a vehicle having a door lock actuator includes a RKE (Remote Keyless Entry) system including an RKE transmitter carried by a user, an RKE receiver at the vehicle, and an RKE controller connected to the RKE receiver for selectively operating the door lock actuator based on signals from the RKE transmitter. A piggyback controller at the vehicle is connected to the door lock actuator for performing at least one desired piggyback control function based on selective operation of the door lock actuator by the RKE controller. The piggyback controller may switch to a feature programming mode based on selective operation of the door lock actuator. When in the feature programming mode, the
piggyback controller may permit feature selection also based on selective operation of the door lock actuator.