6. Conclusion.

Most organizations can be currently labeled as ‘data rich’, since they are collecting increasing volumes of data about business process and resources. The explosive growth of many business, government and scientific databases has far outpaced our ability to interpret and digest this data. We are drowning in information yet starving for knowledge. Useful tools to address the need for extracting useful information such as hidden pattern from the databases are necessary. Local and wide area networks (such as the Internet) connect many sources of data, forming huge, distributed, and heterogeneous databases. The discovery of knowledge from different sources poses great challenge. The advances in computing and communication technologies and software have resulted in an explosive growth in computing systems and applications that impact all aspects of our life. This will definitely make everything more intelligent than found today, resulting into the virtual world. Though we are heading towards this dream, but still many issues need to be addressed in their completeness to be applied in totality for this virtual world. Investigation of how new technologies (mobile agents in this case) can be applied to enable the creation, consolidation, conservation and continuous utilization of knowledge and study of their associated limitations has become necessary.

Research on mobile agents is characterized by a disproportionate emphasis on the implementation of mobile agent systems, and by a lack of mobile agent applications. Mobile agents didn’t meet the expectations they raised years ago in terms of widespread deployment and use. Mobile code promises to increase system flexibility, scalability, and reliability. To date, however, this promise has been only partially fulfilled. Among the reasons for the technology’s unmet potential are security concerns and incomplete knowledge of the possible consequences of mobile code use. Hence the goal of this research is to help the broader community understand when and how much mobility might be of use by identifying the situations where mobile agent paradigm best apply. The quantitative analysis carried out (Presented as work conclusion at the end of each issue addressed)
will help to structure the distributed applications. Specifically, when, where, and why are different forms of mobility useful. Summary of the observations, presented as work conclusion at the end of each issue are:

1. Restriction on the size of agent during migration and its impact on network latency and round trip-time. This information definitely useful in the application that provides context aware based services in pervasive computing and also in case of building distributed data mining application where in, agents move with the knowledge/service and results of the mining to central site respectively.

2. Poor Performance of mobile agents in data transfer.

3. Viability of mobile agents in distributed searching.

4. Distributed sorting, using mobile agents- a nonviable approach.

5. Mobile agents’ best and robust applicability to handle distributed data in distributed data mining.

6. Authentication of mobile agents: When agents move to different remote sites for doing business on behalf of its owner, the remote hosts need to authenticate the visiting agents.

7. Agents’ tracking- a requirement in applications built using mobile agents, particularly, in context-aware services in ubiquitous applications and distributed data-mining.

8. Scalable object-identity, categorization and object-awareness to make system more intelligent.

9. Authentication of ubiquitous objects to provide an environment where the user expects to access resources and services at any time and anywhere.

The proposed concepts were tested in simulation environment and they need to be integrated with the existing mobile agent systems.