6 CONCLUSION

6.1 INTRODUCTION

This chapter reviews the significance of the proposed knowledge externalization approaches for capturing and sharing of knowledge with the right person at the right time in an e-learning environment, the results obtained during the present work and suggestions for future research. Before proceeding with the review of the work done, the objective of the thesis stated earlier in the introductory chapter are recalled. The primary objective of this research is to create a dynamic query handling framework to externalize the experts’ knowledge in an e-learning environment by streamlining the communication process between knowledge seeker and knowledge provider.

6.2 HIGHLIGHTS OF THE WORK DONE

A brief survey of the knowledge externalization approaches and expert finding techniques available in the literature is discussed in the introductory chapter and the motivation for the present work is also brought out.

An innovative framework for Dynamic Query Handling System (DQH Model) is successfully constructed for e-learning communication that can automatically transfer a user query to the best subject expert available in the system. DQH model functionality tests were carried with experts entered in the system with expertization keywords through self classification mode. Accuracy level of 91.67% was obtained on user satisfaction on the query solution. In this framework, IDREM model is applied to enroll experts into the system by specifying the supporting parameter list and expertise keyword list. These parameters were utilized in the system to cross-check an expert’s expertization level or contribution on a given field or domain. The combinations of data were supplied as an input to the search engine in the
format of expert name combined with one of the expertization keywords (i.e., Expert Name + Keyword) and downloaded into the database. Relevance Algorithm and Expertise Mapping Algorithm have been used to process the data generated by the search engines to obtain one’s expertization level on a particular domain. IDREM model functionality tests were carried with dynamic relevance of the expert i.e. expert expertization level measured through Internet data. Accuracy level of 93% is obtained on user satisfaction on the query solution. The IIDREM approach is introduced to consider the qualifications and experiences of the expert, to make the expert finding more effective and to obtain realistic results in expert ranking. The qualification and experience details are integrated with assumed values to balance the input format. The assumed value for qualification and experience along with expertise level are then supplied as an input to the multiple regression analysis process to get the optimal expert ranking for the expert. IIDREM model functionality tests were carried with experts whose expertization level were measured using Internet data relevance of an expert, in addition experience and qualification of the expert were also considered as a leading factor in expert assessment process. Multiple regression analysis has been used to obtain the best subject expert from the expert group. Accuracy level of 97.1% was obtained on user satisfaction on the query solution. Based on the investigations made and results obtained, the following conclusions are arrived.

- The framework of a Dynamic Query Handling System has the significance of taking a query from a user to an appropriate expert automatically, without the use of manual routing parameters such as subject expert IDs, expert group IDs. The results reveal that the queries raised by users are transferred to the appropriate experts automatically using the expertise keyword entries provided by the expert. This mechanism offers a successful path to reach a potential expert for solution of a problem and the opportunity to collect valuable knowledge from the expert and store it in the knowledge repository which is searchable by users to find relevant answers before querying again an expert.
• The IDREM mechanism yielded data with high accuracy levels to ensure the expertization level of an expert. The results also show creditable improvement in the approach of query transfer and mapping it to the best expert for knowledge externalization.

• The IIDREM model utilized multiple regression analysis to consider the experience and qualification of the expert as a leading factor on expert ranking along with Internet verified expertization level of the expert. This process has obtained the subject experts for the query transformation in a possible way.

These enhancements satisfy most of the needs of knowledge seekers by directly connecting to domain expertise for collection of tacit knowledge and transforming it into externalized knowledge. These enhancements were tried and realistic results were obtained in all cases and results were reported.

6.3 FUTURE RESEARCH

This research is not intended for manual query routing. The new dynamic query routing mechanism introduced in this research deal with automatic query transformation between knowledge seeker and knowledge provider for the purposes of knowledge externalization. This approach can satisfy most of the needs of knowledge seekers by directly connecting to domain expertise for collection of tacit knowledge and transforming it into externalized knowledge. However connecting the social media with the framework of Externalization of Experts’ Knowledge in E-learning Environment to fetch more data pertaining to the expert expertization and produce accurate expertise level for each expert could be the future work. A peer review approach could be considered for expert ranking process. This future extension may bring new expert connection and drive the expert finding approach to a greater level.