

**THE UNIVERSITY OF TRANS-DISCIPLINARY HEALTH SCIENCES AND TECHNOLOGY**

Private University Established in Karnataka by ACT 35 of 2013

**BENGALURU - 560064**

**Recommendation**

Title of thesis: Analysis of hospital based Ayurvedic clinical practice to gain Real World data knowledge

Name of the Student: Vinay Mahajan

Name of Guide(s): Dr. Aswhini Godbole

**1. Recommendation / Conclusion / Summary:**

The committee of internal and external examiners agreed that there are multiple facets of the work which would be useful for different stake holders, like Hospital managements, clinicians, and patients, Universities, Policy makers – AYUSH, and Healthcare providers - Ayurveda Healthcare systems, General healthcare systems. The recommendation for use of the data and information from the thesis are listed below:

1. A book to be written based on the work carried out so far.
2. Course for various stakeholders covering broad areas covered as granular objectives in the thesis presentation talk.
3. Present the data and tools to policy makers including the Ministry of AYUSH and recommend development of real-world data analysis platform in each institute under the ministry.
4. The data can be used for writing up several types of manuscript.
5. Potential of having Live analysis of the hospital data – work with the IT team within TDU and IAIM hospital and explore technical opportunities to have live analysis available to specific end users.
6. A long-term strategic effort which would require quite a lot of work: How can the existing data be used for licensing to external institutions, thereby generating a source of income.

The examiners expressed their satisfaction about Vinay's work and thesis, and recommended award of PhD degree.

**2. Future work:**

There is a lot of additional analysis carried out during PhD work which has not be written in the main text of the thesis document. This paragraph outlines some of this work and ideas about new work which can be carried out in future: (1) Work with the university and hospital management for updates to the data capture process, (2) Find potential opportunities to work with other hospitals and carry out similar analysis, (3) Use Sequential Pattern Mining library developed by Phillipe Fournier-Viger, having more than 100 algorithms to discover patterns in data, (4) Use Co-

morbidity package in R programming language to identify disease comorbidities using different statistical tests and metrics, (5) Use Natural Language Processing approaches using tensor flow methodologies to discover underlying patterns in the data, (6) Work with the ayurvedic physicians in the hospital on specific disease areas like Chronic Kidney Disease (CKD), and Parkinson disease data – these are the areas, hospital is working actively working on.