

## Chapter 6

# An Analysis on the Utilisation of Health Information Technology to Support Clinical Operation of Chinese Medicine

**Catherine Han-Lin**

*Deakin University, Melbourne, Australia*

**Angela Wei Hong Yang**

*RMIT University, Australia*

**Siddhi Pittayachawan**

*RMIT University, Australia*

**Nilmini Wickramasinghe**

*Deakin University, Melbourne, Australia & Epworth HealthCare, Australia*

### ABSTRACT

*Chinese Medicine (CM) has become increasingly demanding globally. Recent World Health Organisation traditional and complementary medicine strategy of integrating CM to Western Medicine (WM) indicates that it is crucial that CM developments have strong literature, scientific, and evidence-based medical approval and support. To achieve this, there is a need to form a synthesis foundation or platform for future studies. This chapter serves to discover this synthesis that is suitable for CM by discussing the basics of inquiring and Knowledge Management (KM) systems. It suggests that CM should follow a combination of Hegelian and Kantian inquiring systems with the support of Singerian and Leibnizian inquiring systems and KM features. This proposed synthesis is one of the first, if not the first study to apply Churchman's inquiring systems into the context of CM and differentiate them from WM.*

DOI: 10.4018/978-1-5225-5643-5.ch006

## **INTRODUCTION**

Information Systems/Information Technology (IS/IT) have been adopted in healthcare to facilitate superior service and delivery to patients (Lin et al., 2013, 2014c; Wickramasinghe, 2013). Examples of this can be seen in hospitals and clinics daily operations, such as ambulatory blood pressure measurement using automated devices which is now considered a more sensitive predictor of cardiovascular outcome than conventional measurement (O'Brien et al., 2000). In other cases, doctors use telemedicine equipment like Tele-radiology and Tele-surgery to diagnose and treat patients (Hojabri & Manafi, 2012). Using IS/IT to assist doctors, specialists, and nurses in decision making can also be found in various hospital divisions. One good example of a decision support system (DSS) is linking characteristics of patients with chest pain to software algorithms recommending specific action (Ferlie et al., 2012). Technology has taken healthcare to a digital era and it is likely and will continually service healthcare with advanced technology (Lin et al., 2013, 2014c; Wickramasinghe et al., 2005). However, there is little IS/IT utilisation in complementary and alternative medicine (CAM) practice (Lin et al., 2013, 2014c). Therefore, we look into one of the CAM - Chinese medicine (CM) practice. The analysis of CM clinical operation activities can help identifying suitable IS/IT involvements and solutions.

The chapter is organised in the following sections: firstly, brief background information about current international CM practice is introduced; its position in world healthcare; why CM is important and hence proper IS/IT system should be studied and implemented. Secondly, typical CM clinic daily operations, activities, processes are identified and analysed. Thirdly, a new and suitable synthesis is suggested for CM developments. Fourthly, based on the proposed theory, possible and suitable IS/IT involvements and solutions are listed. Finally, this chapter concludes with the summary of contributions.

## **BACKGROUND**

There are about 80% of the world population use CAM treatments (WHO, 2013). In Australia the number of people using CAM is rising. Research shows that the number of visits to CAM practitioners by adult Australians in year 2004 to 2005 reached 69.2 million, while the number of visits to primary care or general practice (GP) was 69.3 million in the same year (Xue et al. 2007). CM is one of the most popular CAM practices today (Lukman et al. 2007). There are 4,157 registered acupuncturists in Australia (CMBA, 2014) and more than 10 million visits to acupuncturists every year (Xue et al., 2008). CM is considered by many patients to have fewer side effects; more effective treatment to the root of the disease; and is good for the overall health of patients (Chi, 1994). Unlike western medicine (WM), CM's unique methods of diagnosis (combine inspection, auscultation and olfaction, inquiring, and palpation in every diagnosis) give each patient individualised treatment (Chi, 1994). This approach, to some patients, is a benefit and an advantage.

### **CM Strategic Movements**

The World Health Organisation (WHO) summarised its traditional and complementary medicine (T&CM) strategy 2014 to 2023 (updated from strategy 2002–2005) in three areas: 1) a knowledge base to allow T&CM (including CM) to be managed actively through appropriate national policies that understand and recognise the role and potential of T&CM; 2) ensure quality assurance, safety, proper use and effective-

19 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/an-analysis-on-the-utilisation-of-health-information-technology-to-support-clinical-operation-of-chinese-medicine/205782](http://www.igi-global.com/chapter/an-analysis-on-the-utilisation-of-health-information-technology-to-support-clinical-operation-of-chinese-medicine/205782)

## Related Content

---

### Investigation of Epileptic Seizures and Sleep Disturbance

Bharath V. S., Miraclin F., Bhanu Priyanka, Bharath K. P. and Rajesh Kumar M. (2021). *Advancing the Investigation and Treatment of Sleep Disorders Using AI* (pp. 52-70).

[www.irma-international.org/chapter/investigation-of-epileptic-seizures-and-sleep-disturbance/285269](http://www.irma-international.org/chapter/investigation-of-epileptic-seizures-and-sleep-disturbance/285269)

### Application of Ambient Intelligence in Educational Institutions: Visions and Architectures

Vladimír Bureš, Petr Tuník, Peter Mikulecký, Karel Mlsand Petr Blecha (2016). *International Journal of Ambient Computing and Intelligence* (pp. 94-120).

[www.irma-international.org/article/application-of-ambient-intelligence-in-educational-institutions/149276](http://www.irma-international.org/article/application-of-ambient-intelligence-in-educational-institutions/149276)

### Automatic Rifle and Sniper Detection Using Pose Estimation and CNN With BiLSTMs

Surbhit Shukla, C. S. Raghuvnash and Hari Om Sharan (2024). *Sustainable Development in AI, Blockchain, and E-Governance Applications* (pp. 1-13).

[www.irma-international.org/chapter/automatic-rifle-and-sniper-detection-using-pose-estimation-and-cnn-with-bilstms/338950](http://www.irma-international.org/chapter/automatic-rifle-and-sniper-detection-using-pose-estimation-and-cnn-with-bilstms/338950)

### Contrasting Correlation Coefficient with Distance Measure in Interval Valued Intuitionistic Trapezoidal Fuzzy MAGDM Problems

John P. Robinson (2016). *International Journal of Fuzzy System Applications* (pp. 16-51).

[www.irma-international.org/article/contrasting-correlation-coefficient-with-distance-measure-in-interval-valued-intuitionistic-trapezoidal-fuzzy-magdm-problems/170552](http://www.irma-international.org/article/contrasting-correlation-coefficient-with-distance-measure-in-interval-valued-intuitionistic-trapezoidal-fuzzy-magdm-problems/170552)

### The Artificial Intelligence Implementation Challenge in the European Union and Spain

Julio Guinea Bonillo (2022). *Handbook of Research on Artificial Intelligence in Government Practices and Processes* (pp. 126-141).

[www.irma-international.org/chapter/the-artificial-intelligence-implementation-challenge-in-the-european-union-and-spain/298901](http://www.irma-international.org/chapter/the-artificial-intelligence-implementation-challenge-in-the-european-union-and-spain/298901)