

# **The Determination of Patient Appointment Scheduling and Patients' Examination Room Assignment Policies: A Case Study**

**Ping-Shun Chen**<sup>1, a, \*</sup>, **Li-Wen Liu**<sup>1, b</sup>, **Ching-Ping Zheng**<sup>1, c</sup>, **Wen-Tso Huang**<sup>2, d</sup>

<sup>1</sup>. Department of Industrial and Systems Engineering  
Chung Yuan Christian University  
Chung Li District, Taoyuan City, 32023, Taiwan, ROC

<sup>2</sup>. Business School, Department of Financial Management  
Minnan Normal University  
Xiangcheng District, Zhangzhou City, 363000, China

<sup>a</sup> pingshun@cycu.edu.tw, <sup>b</sup> jenniferliu860228@gmail.com, <sup>c</sup> minnie8668@gmail.com,  
<sup>d</sup> smythambit@163.com

## **Abstract**

This research is to study a patient examination operation problem, which contains the patient appointment scheduling policy and patients' examination room assignment policy. The objective of this study is to minimize the patient waiting time with constraints of the medical staff workload balance and utilization. This research uses a case image center to construct a simulation model of the patient ultrasound examination operations in order to examine the performance of different policies in two scenarios. Based on the numerical simulation, the results show that the optimal patient inter-arrival time in Scenario 1 is 18 minutes. In Scenario 2, the weighted cumulative examination point policy outperforms the cumulative examination point policy, the cumulative examination time policy, and random policy.

## **Keywords**

patient scheduling, patient assignment, simulation, case study

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## **Biography / Biographies**

**Ping-Shun Chen** is an associate professor in the Department of Industrial and Systems Engineering at Chung Yuan Christian University, Taiwan, ROC. He obtained a PhD degree in the Department of Industrial and Systems Engineering from the Texas A&M University, USA. His research area focuses on supply chain management, system simulation, and healthcare simulation applications. He has published more than 20 papers on the international journals.

**Li-Wen Liu** is an undergraduate student in the Department of Industrial and Systems Engineering at Chung Yuan Christian, Taiwan, ROC. She cooperated with Ching-Ping Zheng for a one-year independent study. The independent research focuses on evaluating different policies of the patient scheduling and patient examination operations by using system simulation.

**Ching-Ping Zheng** is an undergraduate student in the Department of Industrial and Systems Engineering at Chung Yuan Christian, Taiwan, ROC. She cooperated with Li-Wen Liu for a one-year independent study. The independent research focuses on evaluating different policies of the patient scheduling and patient examination operations by using system simulation.

**Wen-Tso Huang** is an associate professor at the Business School in Minnan Normal University. He holds a PhD in Industrial Engineering and Management from National Chiao Tung University. He taught operations courses at the undergraduate level. He has many publications in prestigious journals, such as International Journal of Production Research, Journal of Biomedical Informatics, Communications in Statistics - Theory and Methods.