

Smart Party – Engineering Large Catering Events

ID# 2019-4874



SmartParty Block Diagram

Technology Summary

The research team has developed a service system engineering approach to optimizing catering services by modeling three important elements of a typical catering service: kitchen operations, food service, and guest arrival. In particular, the interplay among them has been modeled to analyze the impact on guest wait times, which is one of the common measures of service quality. The objectives are to help planners improve guest satisfaction by reducing the time they have to wait before being served, and the elimination of food waste or stock-outs. The engineering tool can help the planners to balance food inventory and the average length of waiting lines, and decide their kitchen capacity, food service rates, and customer waiting times. It is also able to determine the time that would be required to prepare food in advance based on the kitchen capacity limit. The model output has been verified using a detailed simulation model, and implemented on Excel VBA platform.

Application & Market Utility

Planning for feeding attendees at large events requires coordination between various aspects of the service operation in order to reduce wait times and increase attendee satisfaction. So often events are plagued by long lines for food and significant waste when the event is completed. This technology has the capability to make serving large numbers of people more efficiently by forecasting demand and planning for optimal food preparation and serving.

Next Steps

The research team seeks collaboration for further development and licensing.

TECHNOLOGY READINESS LEVEL

4-7

Seeking

Investment | Licensing | Research

Keywords

- Tailgate Party
- Catering Planning
- Catered Event
- Multi-Criteria Decision Making
- Demand Forecasting

Researchers

Vittal Prabhu

Professor and Charles and Enid Schneider Faculty Chair in Service Enterprise Engineering

[Online Bio](#)

[Website](#)

Kai-Wen Tien

Graduate Student

Originating College

College of Engineering

Office of Technology Management Contact

Rokita, Joseph
jjr152@psu.edu
814-863-6336