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 Sponsor: MIT Office of Sustainability

MIT Campus PPE Demand Planning

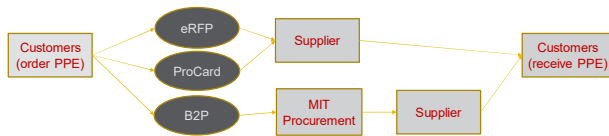


May 2021 Research Expo

Motivation / Background

During the COVID-19 pandemic, a global shortage in PPE and cleaning supplies created an institutional imperative for MIT to better understand its PPE and cleaning supplies demand and procurement.

Previous decentralized model:



This model increases the risk of supply shortages in an already unstable supply chain by allowing aggressive competition between departments, labs and centers (DLCs) in the open market.

Key Questions

- What is the current strategy of requesting, receiving, and using PPE and cleaning supplies at the DLC level?
- How can we help DLCs estimate how much PPE and cleaning supplies they need to order, and when they need to order them?

Relevant Literature

- Kamar, A. A., Maalouf, N., Hitti, E., El Eid, G., Ismaeel, H. A., & Elhajj, I. H. (2020). The Challenge of Forecasting Demand of Medical Resources and Supplies During a Pandemic: A Comparative Evaluation of Three Surge Calculators for COVID-19 [Preprint]. *Infectious Diseases (except HIV/AIDS)*. <https://doi.org/10.1101/2020.09.29.20204172>
- Smith, A. D., & Offodile, O. F. (2007). Exploring forecasting and project management characteristics of supply chain management. *International Journal of Logistics Systems and Management*, 3(2), 174. <https://doi.org/10.1504/IJLSM.2007.011821>



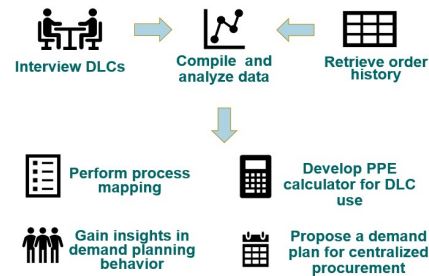
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The Problem

The determination of PPE and cleaning supplies demand per DLC is not uniform, consistent, or based on actual need.



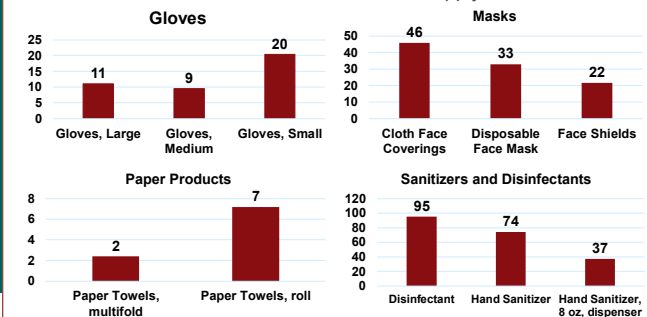
Methodology



Results

Too much PPE was ordered on a campus-wide and DLC level

COVID Store months of supply



Contribution

Understanding Demand to Prevent Over Ordering

As part of a wider effort on campus to create tools, map processes, and identify opportunities for determining how much PPE MIT needs and how to procure it, we provided the information needed to align the supply of PPE and cleaning supplies with DLC demand.

Centralizing Ordering to Prevent Waste

Sustainable PPE Procurement at MIT

Kelly Sorel



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