

**WAYFIN CST: BUILDING A HELPFUL AND USABLE
CUSTOMER SERVICE DASHBOARD**

**ARTIFICIAL INTELLIGENCE IN CUSTOMER SERVICE:
EVOLVING ROLES AND EXPECTATIONS**

An Undergraduate Thesis Portfolio
Presented to the Faculty of the
School of Engineering and Applied Science
In Partial Fulfillment of the Requirements for the Degree
Bachelor of Science in Computer Science

By

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SOCIOTECHNICAL SYNTHESIS

The Fourth Industrial Revolution has already begun, ushering in ideas, technologies, and social changes that signal a new age of human-machine integration. Many companies hope to achieve more efficient and effective interactions with customers by introducing these technologies into the workplace. One such technology is outlined in the technical topic, which analyzes the design and development of a dashboard created for use by customer service representatives, providing more agency to these employees and improving the efficiency with which the company resolved service requests. The science, technology and society (STS) topic explores how the advancement of Artificial Intelligence technologies in Customer Experience affects and is affected by social forces and relevant social groups such as customers, business owners, and industry analysts. Together, the loosely coupled technical and STS topics provide an overview of these technologies in action, the reasons behind their ubiquity in the workplace, and what their usage entails for the roles and expectations of relevant social groups in the future.

The technical report focuses on the creation of a dashboard application for customer service representatives at Wayfair. This tool was designed to improve access to necessary information for resolving service requests by creating an intuitive interface, boosting company productivity by cutting down on the backlog of requests that had plagued the team's developers. Specifications for the dashboard were elicited from service representatives, which included a feature that allowed them to view exactly what a customer saw when their problems arose.

The dashboard garnered positive feedback from service representatives, who enjoyed its simplicity and usability. The development team also noted that the tool had led to fewer outstanding service requests in the backlog. Though this project was a success overall, the time

constraints of the project did not allow for the implementation of every requested feature, and further work is needed to ensure that the dashboard maximizes usability and productivity.

The STS research topic aims to answer how various socioeconomic forces have shaped the development of Artificial Intelligence technologies in the field of Customer Experience, and how these technologies are impacting the roles and expectations of social groups such as customers, managers, and service representatives. Through the lens of the Social Construction of Technology framework, developed by Bijker and Pinch in 1984, the research paper demonstrates how financial incentives and industry analysts serve as closure mechanisms for certain technological artifacts, determining which technologies become successful, as well as the speed at which they are adopted. It also invokes the concept of interpretive flexibility, and highlights the different ways in which the adoption of these technologies in the workplace affects various relevant social groups. This analysis relies on articles from peer-reviewed journals authored by prominent economists, labor scholars, and technologists, as well as news articles, surveys from the Department of Labor and other organizations, and various case studies, among other sources.

With industry analysts and consultants moving billions of dollars in capital towards Artificial Intelligence companies and technologies, and the implementation of tax policies that favor automation, the research paper demonstrates the impact that social forces have had upon the proliferation of these technologies. Additionally, by viewing the impact of these artifacts upon different social groups, it shows that certain groups have a lot more power in commercial relationships than others, with customers enjoying experiences much more tailored to their needs, while service representatives are witnessing the erosion of their agency in the workplace. Ultimately, while Artificial Intelligence can make for a more comprehensive Customer Experience, the possible negative implications for workers and labor rights cannot be ignored.

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PROSPECTUS

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