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"Research Proposal: Satisfaction when using Artificial Intelligence"

Advancements in artificial intelligence (AI) can be seen in many facets of daily life, with its effect on society well documented and researched. In particular, AI's effect on the workforce has caused debates whether AI fueled automation will displace people from jobs. For AI to succeed in replacing human workers, it must be capable of usefully participating in human interaction. We can test whether humans are adequately replicable by measuring and comparing the satisfaction of customers calling an AI support operator versus a human operator. With this data, we will be able to identify the strengths and weaknesses of AI, as well as which customers approve of the AI experience. This study would be useful for both artificial intelligence developers and company executives looking to deploy AI as a replacement for current employees.

Research has been done on the various forms of artificial intelligence, the capabilities of each form, and what effects have or may incur as a result of it's introduction into society. The first form of AI is "applied-AI", referring to artificial intelligence designed for a singular task. Applied-AI can be seen in the automation tools used in factories and warehouses. The second type of AI is "general-AI", which is the futurist idealization of an AI comparable to general human intelligence (Goertzel 343). Researchers agree that general-AI is a far away goal, but acknowledge the growing presence of applied-AI in sectors such as self-driving cars, voice recognition, basic image recognition, and more. This growth has become an explanation for the decade long United States job recession. Erik Brynjolfsson of MIT and Andrew McAfee have reported a correlation between the rise of technology in the workforce, the rise of productivity in the workplace, and stagnation in job growth. They state that it is the first time in history that productivity has grown while job growth stagnated (Rotman 29). Thomas Frey echoes their fears with a list of "101 Endangered Jobs by 2030". The list includes drivers, doctors, service positions, craftsmen, and clerks (Frey 41). Goertzel, on the other hand, refutes these claims and notes that there is still a place for humans in a post-AI world. He cites the difficulty to sufficiently integrate technology into medical care and the possible errors AI could have. All of these studies focus on whether or not AI will replace humans, but none discuss whether the public at large will be receptive of this change. Research on if AI is up to a standard that it should replace humans has not been conducted.

More research needs to be conducted to better understand the utility of artificial intelligence. The proposed study will record and analyze a participant's

satisfaction when speaking with either an AI or human customer service operator. Each participant will be randomly assigned a task in one of three levels, ranging from “simple” to “complex”. Completing the tasks will require the guidance of a cable company customer service operator. Examples of tasks in order of increasing complexity are: making an account payment, changing the payment method, and diagnosing an error code on a cable box, then fixing the cable box. The study will be conducted using people aged between 18 to 70 years old, broken into three groups with a deviation of 17 years between groups. Participants will be given a small monetary stipend for their time. Each task will be assigned an equal number of representatives from each group. Whether a participant successfully completes the task or not, they will be asked to fill out a satisfaction survey ranking the difficulty of the task, the usefulness of the operator, and whether they were speaking with a machine or human. As to opposed to other research done in this field, the focus on general society and their ability to use AI, rather than quotes from economists analyzing the motivations of CEOs, gives better insight as to whether AI is an adequate replacement for human workers as well as whether age plays a factor into the ability to use AI.

The usefulness of this research will affect many aspects of the debate on AI in the workforce. It will inform companies deploying an AI based customer service to gauge monetary motivations against customer satisfaction. It will allow software developers to focus on the shortcomings of AI to better improve the experience. Finally, it will provide insight to researchers whether AI has a limit to its capability to displace jobs. If customers are dissatisfied with the AI representatives, it gives credence to researchers such as Goertzel who say that some occupations require human understanding and artistry level of complexity (351). If not, then these jobs really may be extinct after all. This study is crucial to the understanding of whether artificial intelligence is an adequate job candidate, or not.