EAST TENNESSEE STATE UNIVERSITY DEPARTMENT OF COMPUTING

REPORT TO BOARD OF DIRECTORS

**DATE:**  April 13, 2016

**TO:** Board of Directors

**FROM:** William H. Rochelle, Greer Goodman

**SUBJECT:** Project 4 Report

**GOAL OF STUDY:**

The purpose of the study performed at the new supermarket was designed to determine exactly how few checkout lanes will be needed and how much staff it needs to hire in order to serve 2 customers per lane – one being serviced, another waiting. On average, the aim was to achieve roughly 6 minutes per customer, yet no customer would be under a 2 minute serving period. The study was performed with the goal in mind that the supermarket would be open for 16 hours a day (8:00 a.m. – 12:00 a.m.) and an estimated 600 customers served per day.

**FINDINGS:**

In performing various data tests, the study findings are as follows: any number of registers that the supermarket contains that is less than 7 registers will most likely have a line of 3 customers at some point during the business day, which is over the company’s goal. Any number of registers 8 and higher results in a much lower line count CONSISTENTLY being 2 or less customers throughout the business day. **RECOMMENDATIONS:**

Due to the results of the testing, 8 registers is recommended if 2 customers per lane is desired; however, if there are 9 registers, that consistently is 1 person per lane during the business day.