Studying Differences in Computer Self-Efficacy Amongst Business Majors

by
Rebecca Jones

A thesis presented to the Honors College of Middle Tennessee State University in
partial fulfillment of the requirements for graduation from the University Honors
College

Fall 2022

Thesis Committee:

Dr. Amy Harris, Thesis Director

Dr. Carol Clark, Second Reader

Dr. John Vile, Thesis Committee Chair

Studying Differences in Computer Self-Efficacy Amongst Business Majors

by Rebecca Jones

APPROVED:

_____
Dr. Amy Harris, Thesis Director
Graduate Professor, Department of Information Systems &
Analytics

_____
Dr. John Vile, Thesis Committee Chair
Dean, University Honors College

Acknowledgements

Firstly, I thank God for the opportunity to be at MTSU through the Honors College and for all the amazing friends and people I have met along this journey. Thank you, Dr. Harris, for agreeing to be my advisor; I look up to you as an individual and an academic scholar. You were the only advisor who believed in me and wanted to start this crazy project, and I will forever be thankful to you. This thesis would not have been completed without the love and support of my parents. Although they are over four hours away, they have been there for me throughout this whole journey and encouraged me more than I deserve. I also want to thank my older brother, Christopher. Thank you for guiding me and being such a big supporter in my life.

Abstract

This study assesses the different levels of computer self-efficacy of MTSU's business students. The research was conducted through the distribution of a survey with quantitative and qualitative questions aimed at understanding how students perceive technology. Each participant's computer self-efficacy score was calculated by students rating 12 computer-related statements from strongly disagree to strongly agree. Additionally, the survey evaluated why students chose their major and the connection between their computer self-efficacy score and their desire to pursue a technology job following graduation. As hypothesized, information systems majors have the highest computer self-efficacy score and the most students pursuing a technology-related career. The biggest motivator behind students selecting their major is the perceived job opportunities associated with the major. However, the biggest motivator for students switching majors was interest or passion in another major.

Table of Contents

List of Tables

Introduction

One of the most significant decisions an individual can make is picking a college major. Some individuals enter college knowing exactly what to major in, while others struggle to decide. The biggest deciding reason a student selects a major is their perceived interest in the major (Croasdell et al., 2011; Downey et al., 2011). However, there are more crucial factors to consider as to why students are drawn to specific majors while not giving other majors a second glance. Technology is a huge barrier that students encounter but many never formally recognize.

Technology is constantly advancing and inserting its way into every aspect of life and obtaining a college degree is no exception. Covid-19 forced many universities to shift from in-person classes to online learning, leaving many students facing new, unforeseen challenges. How do business majors with different interests and motivations perceive technology and these new adaptations? This question is answered by understanding the Theory of Reasoned Action (TRA) and self-efficacy.

Theory of Reasoned Action

Understanding human behavior can be examined by tracing the effects that influence an action; this can predict and control future behaviors (Skinner, 1965). The Theory of Reasoned Action is a deeper look into understanding human behavior, which states that subjective norms and individuals' perceived attitudes toward behavior inform performance (Zhang, 2007). TRA occurs when the decision is voluntary, such as picking a college major. Outside factors influence the action, but the choice of study is left to the student to decide (Zhang, 2007).

Understanding the effects that influence an action can fall into two major categories: external and internal influences (Downey et al., 2011). External forces are most often associated with the status of the major or the career's potential earnings, while internal forces examine the student's feelings toward the major and the influence of others' opinions (Downey et al., 2011).

Self-Efficacy

Along with interest, self-efficacy determines students' success in their chosen major. Compeau and Higgins (1995) defined self-efficacy as, "the belief that one has the capability to perform a particular behavior." (p. 189). Individuals with high self-efficacy set ambitious goals, recover from mistakes, welcome challenges, and see failure as a temporary setback caused by a lack of effort (Bandura, 1997). On the contrary, individuals with low self-efficacy are more susceptible to depression and stress, view challenges as unmovable obstacles, and set mediocre goals (Bandura, 1997). Self-efficacy is important for college students because their level of efficacy will impact their perception of challenging school tasks and new technological advancements. "Computer self-efficacy was found to exert a significant influence on individuals' expectations of the outcomes of using computers, their emotional reactions to computers (affect and anxiety), as well as their actual computer use" (Compeau & Higgins, 1995, p. 189).

Information Systems

This study will focus on each business major's different computer self-efficacy rates, with emphasis on Information System (IS) students. IS is the most technology-

focused degree available among the various business majors. Downey et al. (2011) describe IS as not two separate identities of business and computer courses but a unique and rewarding combination of the two areas of study.

To further examine IS majors, it is essential to understand the definition of Information Systems in a business setting, when the degree originated, and the reasoning for its differing titles. IS occurs every day in businesses when a set of components work together to store, spread, or process information in a company, and this process is accomplished through various business operations, such as data analytics, communication, and company feedback (Stair & Reynolds, 2020). IS was introduced as a field of study when organizations began utilizing computers in the 1960s (Topi et al., 2010).

IS degrees often have inconsistent titles, such as Management Information Systems (MIS) or Computer Information Systems (CIS), because titles are contingent on the location or curriculum requirements of a university (Downey et al., 2011). These title differentiations also show the changes this field has experienced over time and when different programs began (Brooks et al., 2020). Table 1 illustrates the varying name changes for IS majors, and the top title held in undergraduate universities during the eleven years was MIS (Brooks et al., 2020).

Table 1: Differing titles for undergraduate IS programs.

Major name	2004 #	2004 %	2007 #	2007 %	2010[a] #	2010[a] %	2015 #	2015 %
Management Information Systems	121	41.0	126	40.5	117	36.1	102	32.2
Information Systems	59	20.0	64	20.6	60	18.5	69	21.8
Computer Information Systems	52	17.6	56	18.0	54	16.7	46	14.5
Information Technology	n/a	n/a	n/a	n/a	n/a	n/a	13	4.1
Business Information Systems	n/a	n/a	n/a	n/a	24	7.4	11	3.5
Others[b]	63	21.4	65	20.9	69	21.3	76	24.0

Brooks et al. updated the data for 2015 and created the chart using the findings of Pierson et al. (2008) and Apigian & Gambill (2010). Compared to other business disciplines, IS majors are unique not solely because of the different titles but also the major's focus on connecting technology and business courses. Understanding the computer self-efficacy of IS majors compared to other business majors will give insight into how technology and its development impact business majors. Computer self-efficacy represents an individual's ability to use technology and their perception of it, influencing their success and emotions derived from technology (Compeau & Higgins, 1995). Given the importance of CSE and its connection to technology, further research within this context is warranted.

Therefore, the purpose of this research is to develop an understanding of how CSE levels differ across MTSU's business majors. This paper addresses the following research questions:

- Do Information Systems and Analytics majors have higher CSE than other business majors?
- Are business majors exhibiting higher CSE more prone to pursuing technology-related jobs following graduation?

- What motivates business students to pursue their major over other degrees?

Method

After receiving IRB approval, the survey was created through MTSU's Qualtrics platform. The survey was distributed via email to all MTSU's undergraduate business students. The Jones College of Business is comprised of five departments holding a total of 13 different majors. These majors are assigned to departments as follows:

- **Accounting**: Accounting

- **Economics & Finance**: Economics, Finance, and Finance-Real Estate

- **Management**: Business Administration, Innovation and Entrepreneurship, Management, Management-HR, and Supply Chain

- **Marketing**: Marketing, Marketing-Professional Selling, and Risk Management and Insurance

- **Information Systems and Analytics**: Information Systems

The survey was comprised of three main sections: (1) a demographics portion to collect basic information about participants including major, age, race, class standing, and GPA. (2) Survey items designed to assess students' self-reported levels of CSE. (3) Items designed to gain a greater understanding of students' motivations for selecting/changing their majors and their plans to pursue technology careers post-graduation.

CSE was measured using Compeau and Higgins (1995) 12-item Computer Self-Efficacy Scale. This scale is comprised of 12 statements, shown in Appendix A (Part II: Computer Self-Efficacy Test), to measure students' self-efficacy on a 5-point Likert

scale. The Likert scale's goal is to measure the attitude of participants by posing a series of statements and having them rate their level of agreement across a range of choices, such as strongly agree to strongly disagree (Albaum, 1997). The responses were averaged together to create a composite CSE score that was used in later analysis.

The second section followed the motivation behind students' selection of their major. The survey asked participants to choose their primary reason for selecting their major from a picklist and to write a brief explanation of what motivated their selection. The 10 motivation options, shown in Appendix A (Part III: Motivation for Selecting Major), originated from Kim et al. (2002). Finally, the survey asked participants if they planned to pursue a technology-related career post-graduation. If yes, then they were asked to explain further.

The quantitative data were analyzed using Microsoft Excel. To address the first research question, the following was hypothesized:

(H1) IS student majors will have higher perceptions of CSE than other business majors.

To analyze this hypothesis, a one-way Analysis of Variance (ANOVA) was performed to determine if there were statistically significant differences in CSE across majors. Post-hoc t-tests were used to compare the means of each group to compare the CSE scores of Information Systems and Analytics majors to all other majors. To assess the second research question, the following hypothesis was developed:

(H2) Students planning to pursue technology-related careers will have higher levels of CSE than those who do not.

To analyze this hypothesis, a t-test was performed to determine any statistical differences between the students who plan to pursue technology-related careers and those who do not.

Given the exploratory nature of research question three, there was no need for a hypothesis. A frequency analysis was performed on the students' close-ended responses to the question: "What was your motivation behind selecting your major?" To explore these motivations more deeply, the responses were broken down by major to determine whether any differences occurred. A content analysis was then performed to identify the themes surrounding why people changed their majors.

Results

The survey attracted 244 responses, but only 184 provided responses to all mandatory questions. When the survey was dispersed, an issue in its logic prevented students from selecting their major from the picklist. The survey was redesigned and dispersed to allow students to manually type their major. Table 2 displays the count of responses received from each major.

The count of responses by major varied from 1 to 36. Given that one of the underlying assumptions of the statistical tests used is roughly even group sizes, the decision was made to consolidate responses to assess differences among departments rather than individual majors. Table 3 shows the response counts by department.

Table 2: Response counts by major.

Majors	Count
Accounting	35
Business Administration	36
Business Innovation and Entrepreneurship	9
Business Management	19
Business Management and Leadership	1
Commerce	1
Finance	12
HR Management	1
Information Systems	28
Marketing	30
Risk Management and Insurance	1
Supply Chain	11
Total	**184**

Table 3: Response counts by department.

Departments	Count
Accounting	35
Economics and Finance	14
Information Systems and Analytics	28
Management	77
Marketing	30
Total	**184**

CSE Across Departments

The ANOVA revealed a statistically significant difference in mean CSE scores between at least two groups, $F(4, 179) = 3.47$, $p < 0.05$. Therefore, the null hypothesis for H1was rejected, concluding that the means between the four departments were unequal.

The four f-tests showed the effect of CSE levels was only significant for the Accounting department. This determined that the t-tests for Accounting would assume

unequal variances and Economics and Finance, Management, and Marketing would assume equal variances. The four two-sample t-tests revealed statistical differences in the means of all four departments. Therefore, IS majors have higher levels of CSE than Accounting, Economics and Finance, Management, and Marketing majors.

- There was a significant difference in CSE between IS students (M=50.75, SD=6.60) and Accounting student's CSE levels (M=46.09, SD=8.90), $t(61)$=-2.39, p= 0.01

- There was a significant difference in CSE between IS students (M=50.75, SD=6.60) and Economics and Finance student's CSE levels (M=40.14, SD=12.88), $t(40)$=-3.55, p= 0.001

- There was a significant difference in CSE between IS students (M=50.75, SD=6.60) and Management student's CSE levels (M=44.82, SD=10), $t(103)$=-2.91 , p= 0.002

- There was a significant difference in CSE between IS students (M=50.75, SD=6.60) and Marketing student's CSE levels (M=44.43, SD=9.41), $t(56)$=-2.94, p= 0.002

Technology-Related Jobs

The second post-hoc test revealed the effect of CSE levels was significant for students who said 'Yes' to pursuing technology-related careers. The t-test revealed statistical differences between the two responses; therefore, H2 is supported by saying that students who plan to pursue technology-related careers will have higher CSE levels than those who do not.

- There was a significant difference in CSE between students who said 'Yes' (*M*=47.65, *SD*=8.89) and the CSE of student's that said 'No' (*M*=43.70, *SD*=9.84), $t(169)$=-2.84, p= 0.01

Table 4 represents the majors and participants who said yes and no to technology jobs. The average CSE of students pursuing technology jobs was 47.65 versus students not pursuing technology jobs, with an average CSE of 43.70.

Table 4: The pursuit of technology-related careers by department.

Departments	Yes	No
Accounting	23	12
Economics and Finance	6	7
Information Systems and Analytics	26	1
Management	27	50
Marketing	19	11
Total	101	81

Motivation

The survey asked students to select from a picklist their top motivation for choosing their major. Out of 183 responses, 37% of students said their motivation for pursuing their degree was good opportunities within the major; followed by interest in the type of work (22%) and a good fit with my abilities (16%). The additional motivations and response counts are shown in Table 5 by the percentage of the total.

Table 5: Motivations for students selecting major. Where are the percentages

Motivations	Count	% Of Total
Good opportunities with this major.	68	37.16%
I am interested in this type of work.	41	22.40%
Good fit with my abilities.	30	16.39%
To help me run my own business someday.	21	11.48%
Projected earnings are favorable with this major.	12	6.56%
My parent's influence.	7	3.83%
Reputation of this major at my school.	2	1.09%
Amount and type of promotional information.	1	0.55%
My friends' influence.	1	0.55%
Total	**183**	**100%**

When the motivations were broken apart by major, the responses were consistent across the 12 majors. However, IS majors had the highest percentage of people who chose their major based on interest in the type of work.

For each one of the top three motivations, illustrative examples are:

Good Opportunities: *"I selected the major due to the applicability to various areas in business and the "endless" career possibilities that come with it."*

Interest in Type of Work: *"I enjoyed learning about computer hardware when I was younger, and it kind of stuck with me. Coding can be fun, and my major is just a step down from Computer Science."*

Good Fit with My Abilities: *"It suited my talents, and the degree gives me a high potential earning power."*

Switching Majors

In addition to understanding why students chose their current major, the survey asked students whether they switched majors and if they did change majors, to explain the reasoning. Out of the 183 survey responses, 100 students had switched majors (55%). Table 6 further illustrates these findings. Information systems and Marketing were the most switched into majors.

Table 6: Count of students who have switched majors.

Major	Count
Information Systems	19
Marketing	19
Business Administration	18
Accounting	16
Business Management	10
Finance	9
Supply Chain	4
Business Innovation and Entrepreneurship	2
Risk Management and Insurance	1
HR Management	1
Business Management and Leadership	1
TOTAL	100

Out of the 100 participants that switched majors, 53 students provided their reasoning for switching majors. A content analysis was performed on these responses by sorting the written explanations into the top six motivations described. The categories created were (1) Course Load, (2) Influence of Others, (3) Interest/Passion, (4) Good Opportunities with this Major, (5) Aligned with Career Goals, and (6) Desiring a More or Less Specific Major. The results of the content analysis are shown in Table 7 by the

percentage of the total. In addition, money was listed as a supporting motivation in 24 of the written responses. Responses and their category mappings can be found in Appendix C.

Table 7: Motivations for switching major.

Motivations	Count	% Of Total
Course Load	14	26.42%
Interest/Passion	14	26.42%
Good Opportunities with this Major	12	22.64%
Aligned with Career Goals	6	11.32%
Desiring a More or Less Specific Major	5	9.43%
Influence of Others	2	3.77%
Total	53	100%

The top two most common motives for switching majors were based on course load and having interest/passion in another major. Fourteen students wrote about their course work in their previous major being either too complicated or simplistic. One IS major explained:

"I switched because I wanted to pursue a tech field but without the heavy calculus."

Fourteen students also chose interest as their motivation for switching majors. A previous Computer Science major wrote:

"I switched majors because I realized I had a deep passion for digital marketing."

Discussion and Conclusion

The overall purpose of this study was to assess the different levels of computer self-efficacy across MTSU's business majors. Additional goals were to understand if a student's CSE score impacts their decision to pursue a technology-related job following graduation and learn what motivates MTSU's business majors to choose their major.

As predicted, the Information Systems and Analytics department had the highest average CSE score of all departments; therefore, supporting hypothesis one. The differing levels of CSE across the departments ranged from an average of 40.14 (Economics and Finance) to 50.75 (Information Systems and Analytics). Surprisingly, the Management department had a higher average CSE score than the Economics and Finance department by 4.86. Management courses and the jobs often pursued through the degree typically involve less technology skills than Economics and Finance; therefore, the research was unforeseen that Economics and Finance majors scored lower CSE scores than Management students. However, there were vastly different sample sizes for the two departments. Further research with more equal department sizes can better conclude additional reasonings for Economics and Finance majors scoring such low CSE scores.

The second research question addressed the correlation between students' CSE and the pursuit of technology jobs. Hypothesis two was supported because students who intend to pursue technology-related degrees following graduation had a higher CSE average of 3.95 than students with no intent to pursue technology careers. As established, IS majors had not only the highest CSE score but also the highest percentage of people who chose to pursue technology-related careers.

The final research question addressed the motivation behind students selecting their major. Most survey participants (37%) said their motivation was good opportunities within the major. Additionally, interest in the major was the second motivator (22%) followed by the major fitting the student's abilities (16%). This concludes that the strongest motivator for students picking their major is external: the opportunities the major provides. IS majors had the highest percentage of people choosing their majors based on interest. This research study only measured nine potential motivations for selecting a major, but additional research could include more.

According to the written responses, the top motivation for students switching majors was due to both external and internal factors: unsatisfactory course load and interest in another major. Surprisingly, over half of survey participants had switched majors. Further studies could determine whether this is a campus-wide occurrence or if the switch rate is aligned with that of other universities' colleges of business. The performance rates of students that chose that major initially and students that switched into the major could also be compared.

IS and Marketing were the majors with the highest switch rate (19 students each). Of the 12 IS students who wrote out their reasonings for switching majors, 25% of these students switched from Computer Science due to the course load being unsatisfactory or containing too much science. This shows students have misconceptions about what a Computer Science degree truly entails. Further research exclusively between the two majors on a larger sample size could be conducted to discover additional motives for students switching. Additionally, universities with smaller switch rates between the two majors could be studied.

Limitations of this research include all participants in this study came from one university. There is also the risk of non-response bias, and the results from this survey might not be reflective of all MTSU business majors because not all business majors chose to respond to the survey.

Overall, this study aims to understand how different business majors perceive technology and the different factors that influence a student's decision to pick a major and technology-related career. Scoring and ranking the CSE responses of MTSU's business students revealed which majors perceive technology positively and which majors are less adaptable. Regardless if students choose to pursue a technology career or not, technology is an immovable force in society that is continuing to advance in all aspects of life. Therefore, an individual's perceptions and attitudes towards technology will either set them up for success or less than their potential.

References

Albaum, G. (1997). The likert scale revisited. *Market Research Society. Journal.*, *39*(2), 1–21. https://doi.org/10.1177/147078539703900202

Apigian, C. H., & Gambill, S. E. (2010). Are we teaching the IS 2009 model curriculum? *Journal of Information Systems Education*, *21*(4), 411-420.

Bandura, A. (1997). *Self-efficacy : The exercise of control*. W.H. Freeman.

Brooks, S., Clark, J., Clark, C., & Gambill, S. (2020). The information systems name game revisited: Still muddled 20 years later. *Journal of Computer Information Systems*, *60*(3), 268–273. https://doi-org.ezproxy.mtsu.edu/10.1080/08874417.2018.1463578

Compeau, D. R., & Higgins, C. A. (1995). Computer self-efficacy: Development of a measure and initial test. *MIS Quarterly*, *19*(2), 189–211. https://doi.org/10.2307/249688

Croasdell, D., McLeod, A., & Simkin, M. G. (2011, June 7). Why don't more women major in information systems? *Campus-Wide Information Systems*, *24*(2), 158-183. https://doi-org.ezproxy.mtsu.edu/10.1108/09593841111137340

Downey, J.P., McGaughey, R. & Roach, D. (2011). Attitudes and influences toward

    choosing a business major: The case of information systems. *Journal of*

    Information Technology Education: Research, *10*(1), 231

    251. https://www.learntechlib.org/p/111520/.

Howard, M. C. (2014). Creation of a computer self-efficacy measure: analysis of internal

    consistency, psychometric properties, and validity. *Cyberpsychology, behavior,*

    and social networking, *17*(10), 677-681.

Kim, D., Markham, F. S., & Cangelosi, J. D. (2002). Why Students Pursue the Business

    Degree: A Comparison of Business Majors Across Universities. *Journal of*

    Education for Business, *78*(1), 28. https://doi-

    org.ezproxy.mtsu.edu/10.1080/08832320209599694

Pierson, J. K., Kruck, S. E., & Teer, F. (2008). Trends in names of undergraduate

    computer-related majors in AACSB-accredited schools of business in the

    USA. *Journal of Computer Information Systems*, *49*(2), 26–31.

Skinner, B. F. (1965). *Science and human behavior*. Simon and Schuster.

Stair, R., & Reynolds, G. (2020). *Principles of information systems*. Cengage Learning.

Topi, H., Valacich, J. S., Wright, R. T., Kaiser, K. M., Nunamaker, J.F., Jr, Sipior, J. C.,

    & Vreede, G.J. de. (2010). IS 2010: Curriculum guidelines for undergraduate

    degree programs in information systems. *Communications of the Association for*

    Information Systems, *26*(1), 359–428. https://doi-

    org.ezproxy.mtsu.edu/10.17705/1cais.02618

Zhang, W. (2007). Why IS: Understanding undergraduate students' intentions to choose

    an information systems major. *Journal of Information Systems Education*, *18*(4),

    447–458.

Appendix A: Survey Questions

Part I: Demographic Information

Are you an undergraduate business major in the Jones College of Business?

☐ yes

☐ no

What is your academic class standing?

☐ Freshman

☐ Sophomore

☐ Junior

☐ Senior

☐ Graduate

What is your gender?

☐ Female

☐ Male

☐ Non-binary

☐ Prefer not to answer

What year were you born?

How would you describe yourself?

☐African American or Black

☐American Indian or Alaska

☐ Asian

☐ Hispanic or Latinx

☐ Middle Eastern or North African

☐ Native Hawaiian or another Pacific Islander

☐ White

☐ Prefer not to answer

What is your GPA?

☐ 1.9 or less

☐ 2.0-2.9

☐ 3.0-3.5

☐ 3.6-3.9

☐ 4.0

What is your enrollment standing?

☐Part time

☐Full time

What is your current major?

Have you ever switched your major?

☐Yes

☐No

What major(s) did you have before? Why did you switch to a business major?

Part II: Computer Self-Efficacy Test

Please rate the following in terms of how much you agree or disagree with each statement. (Ranging from strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, and strongly disagree).

1. I can always manage to solve difficult computer problems if I try hard enough.

2. If my computer is "acting-up," I can find a way to get what I want.

3. It is easy for me to accomplish my computer goals.

4. I am confident that I could deal efficiently with unexpected computer events.

5. I can solve most computer problems if I invest the necessary effort.

6. I can remain calm when facing computer difficulties because I can rely on my abilities.

7. When I am confronted with a computer problem, I can usually find several solutions.

8. I can usually handle whatever computer problem comes my way.

9. Failing to do something on the computer makes me try harder

10. I am a self-reliant person when it comes to doing things on a computer.

11. There are a few things that I cannot do on a computer.

12. I can persist and complete most any computer related task.

What is your level of computer experience?

☐ Beginner

☐ Intermediate

☐ Expert

Part III: Motivation for Selecting Major

What was your motivation behind selecting your major?

Select your primary reason for choosing your business degree

☐I am interested in this type of work.

☐Good opportunities with this major.

☐ "Good fit" with my abilities.

☐To help me run my own business someday.

☐Projected earnings are favorable with this major.

☐Reputation of this major at my school.

☐Perceived quality of instruction.

☐My parent's influence.

☐Amount and type of promotional information.

☐My friends' influence.

Does your desired career field have a focus on technology?

☐ Yes

☐ No

If yes, what career? Please explain

Appendix B: Survey Solicitation

Dear Potential Survey Participants,

Hello,

I hope your school year is off to a great start! My name is Rebecca Jones, and I am sending you an email asking for your participation in my survey. I am writing an honors thesis, studying computer self-efficacy amongst MTSU's business majors. Self-efficacy is the confidence you have in your ability to complete a task at hand. With technology growing more prevalent in today's world, I thought it would be interesting to study the computer self-efficacy of students at MTSU. I will be comparing and understanding which business degrees have the highest and lowest computer self-efficacy. In addition, this survey explores other topics as to what motivates a student to select one business major over another. By participating in this survey, you are not only helping support my research but also representing your major!

Please read the details of the survey below. Thank you for your time!

Survey Link:

https://mtsu.ca1.qualtrics.com/jfe/form/SV_0DFqCm9AxIXdeJ0

Target Participant Pool: To participate, you must be 18 years or older. You must also be an undergraduate business major.

Risks & Discomforts: We do not anticipate that you will experience any discomforts or risk from this survey.

Benefits: There are no direct benefits to individuals that take this survey. However, we hope that by participating in this survey, you will gain a new understanding for computer self-efficacy.

Additional Information:

· The entire study should not take more than 5-10 minutes.

· This is an anonymous online study. Your name will not be collected.

· Your participation in this online survey is voluntary.

· Participants for this survey are reached through email, word of mouth, and club social media postings.

Compensation: The participants will not be compensated except for extra credit for research participation upon your course instructor's approval.

Contact Information:

If you should have any questions about this research study or injury, please feel free to contact Rebecca Jones by email at rjj2w@mtmail.mtsu.edu, OR my faculty advisor Dr. Harris at Amy.Harris@mtsu.edu. You can also contact the MTSU Office of compliance via telephone at (615) 494-8918, or by email at compliance@mtsu.edu. This contact information will be presented again at the end of the experiment.

Please enter the survey by clicking the link in the top or bottom of the email. You will be given a chance to read the entire informed consent to assist you to make a final determination.

Thank you so much for considering participating in this study!

<u>Survey Link:</u>

https://mtsu.ca1.qualtrics.com/jfe/form/SV_0DFqCm9AxIXdeJ0

Yours Sincerely,

Rebecca Jones

MTSU Information Systems & Analytics

AIS President 2022-23

IRB Details

Protocol Title: Studying Differences in Computer Self-Efficacy Amongst Business

Majors

Primary Investigator: Rebecca Jones

PI Department & College: Information Systems & Analytics, Jones College of Business

Faculty Advisor (if PI is a student): Dr. Amy Harris

Protocol ID: 22-1159 2q Approval Date: 09/08/2022 Expiration Date: 09/29/2022

Appendix C: Categorized Responses for Switching Majors

Major	Written Explanation	Categorized Answer
Information Systems	Computer science, and I switched because I wanted to pursue a tech field but without the heavy calculus	Course Load
Accounting	Finance. I switched to Accounting because it aligned more with what I wanted to do long term.	Aligned with Career Goals
Finance	Aerospace; business was more mentally challenging so I thought I would prefer it as a career	Course Load
Marketing	I had a major in computer science, I switched majors because I realized I have a deep passion for digital marketing.	Interest/Passion
Business Management and Leadership	I was in English then Organizational Communication. I switched because I took some gen-ed business classes and found them more interesting than my in-major classes.	Interest/Passion
Marketing	Biology, chemistry, biochemistry, aerospace, fashion design, changed to marketing because it seems more practical after graduating	Good Opportunities with this Major
Information Systems	Political Science. Better jobs.	Good Opportunities with this Major
Finance	Video and Film Production, switched to have more career path options	Aligned with Career Goals
Supply Chain	Undecided, previous school didn't have the program	Course Load
Finance	Business. I wanted something more specific.	Desiring a More Specific or Less Specific
Marketing	Psychology. I lost interest in Psychology	Interest/Passion
Business Administration	Civil engineering, couldn't get pass calculus 2 and calculus based physics	Course Load
Business Administration	Geography major. Business Administration will provide more opportunities to me upon graduation.	Good Opportunities with this Major
Marketing	Speech and Language Pathology. I switch because I liked marketing in high school.	Interest/Passion

Finance	I had a Music major, I switched because there are more job opportunities with business and music was more of a hobby than an actual career.	Good Opportunities with this Major
Information Systems	I was a business administration major and switched to information systems because i felt like business admin is too general and might be useless.	Desiring a More Specific or Less Specific
Information Systems	dental hygienist (i'm bad at science), marketing(wasn't interested)	Interest/Passion
Finance	Education- I wanted to be a teacher, but it is too government involved. It seems that it is no longer about students learning but about objectives and test scores.	Interest/Passion
Marketing	written e	Desiring a More Specific or Less Specific
Business Administration	Animation, Entrepreneurship. I don't want to make art for other people so I went into Entrepreneurship. I wanted a masters eventually so I switched to Business Admin.	Interest/Passion
Marketing	Accounting. Switched because I realized I would be miserable in that career field	Interest/Passion
Business Administration	Mechanical Engineering. Business is apart of everyday life and I was looking to seek education in order to start my own business. I feel like a BBA, and hopefully an MBA, would be better suited towards my goals.	Aligned with Career Goals
Risk Management and Insurance	Marketing, Switched because it fit my career goals.	Aligned with Career Goals
Marketing	I previously didn't have a major and was undecided. I chose business because it usually guarantees a job out of college.	Good Opportunities with this Major
Information Systems	Computer Science - not good at science	Course Load
Accounting	Organizational Communication was my first undergraduate degree. I changed to a business major to gain hard skills needed for advancement at my job.	Good Opportunities with this Major
Business Administration	Engineering/Robotics, it was because I wasn't really that good at math and seeing it would be one of the main subjects in the major I dropped it	Course Load

Marketing	Graphic Design, I needed something I could complete from home and something that I had a higher chance getting a job in. Marketing will allow me to use all that I have learned from graphic design while still being able to begin a profitable career in my selected field.	Good Opportunities with this Major
Business Management	Information Systems- wanted to focus on leadership	Interest/Passion
Information Systems	Marketing, classes were too easy so I got bored.	Course Load
Information Systems	Aerospace Engineering. I switched to business because I was looking for a less math-intensive way to do computer work.	Course Load
Marketing	Vocal Music Education, Recording Music Industry, i switched because marketing has a broader audience and I can do the same things with marketing as I wanted to do with recording industry	Good Opportunities with this Major
Finance	Veterinary Technician. Business and finance was one thing that interested me.	Interest/Passion
Supply Chain	Computer science, I wanted something more formal and not tech base	Interest/Passion
Marketing	Sociology, Psychology, Photography. Decided it was more easily applicable to jobs and required less schooling than other majors.	Course Load
Information Systems	Electromechanical Engineering (lack of interest) computer science (wrong degree for future)	Interest/Passion
Information Systems	Computer science. I switched because it was more of what I wanted to do.	Good Opportunities with this Major
Information Systems	I had gotten an associate degree in Business Administration and wanted to go into MTSU for computer science, but then I thought that I still had an interest to business, so I chose the best of both worlds, information systems.	Interest/Passion
Information Systems	Professional Computer Science: I switched because I was hoping to get a career with more social interaction while staying in technology.	Aligned with Career Goals
Accounting	Biology, Business didn't require chemistry	Course Load

Accounting	Sports management. I switched because of a conversation I had with an accounting professor.	Influence of Others
Accounting	Business Administration. I was not sure what I wanted to major in so I started out with business administration	Desiring a More Specific or Less Specific
Business Administration	Finance - because it was not offered 100% online and I work full-time, preventing me from going to campus	Course Load
Business Management	Pre-med; switched for many reasons. There was only one Anatomy class available at my original college and I could not understand the professor to learn the material. During the duration of my time away from college I found myself stumbled upon a Human Resources career and I fell in love with it. MTSU does not offer a fully remote HR degree currently where I could take my classes while I work fulltime so the next best thing is business management with an HR specialization.	Course Load
Accounting	Business Management and I switched to something more specific.	Desiring a More Specific or Less Specific
Business Innovation and Entrepreneurship	Biology. I switched to a business major due to better understanding and wider scope of accomplishment in a career.	Good Opportunities with this Major
Business Administration	My major before I swapped to Business and Administration was Cyber Security. I swapped because I realized that I didn't want to follow that path.	Interest/Passion
HR Management	Philosophy; Accounting / Because I was trying to find a field that wasn't to easy nor too hard.	Course Load
Accounting	Nursing; I originally chose nursing because I wanted to help others, but science has never been my best subject. I feel that I can still help others with my business major, just in a different way.	Course Load
Information Systems	Business Administration. I wanted a more diverse major that offered more opportunities and technology skills.	Good Opportunities with this Major

Appendix D: IRB Approval

MIDDLE TENNESSEE STATE UNIVERSITY

September 8, 2022

Investigator(s): Rebecca Jones, Amy Harris
Investigator(s) Email: **Rebecca Jones <rjj2w@mtmail.mtsu.edu>**

Protocol Title: **Studying Differences in Computer Self-Efficacy Amongst Business Majors**
Protocol Number: 22-1159

Dear Investigator(s),

The MTSU Institutional Review Board or its representative has reviewed the research proposal identified above and has determined that the study qualifies as exempt category 2

Approval is granted from the date of this letter for 150 participants.

Please note that any unanticipated harms to participants or adverse events must be reported to the Office of Compliance. Any change to the protocol must be submitted to the IRB before implementing this change.

You will need to submit an end-of-project form to the Office of Compliance upon completion of your research. Complete research means that you have finished collecting data.

According to MTSU Policy, a researcher is defined as anyone who works with data or has contact with participants. Anyone meeting this definition needs to be listed on the protocol and needs to complete the required training. **If you add researchers to an approved project, please forward an updated list of researchers to the Office of Compliance before they begin to work on the project.**

All research materials must be retained by the PI or faculty advisor (if the PI is a student) for at least three (3) years after study completion and then destroyed in a manner that maintains confidentiality and anonymity.

Sincerely,

Aleka Blackwell and William Langston
Chairs, Institutional Review Board
Middle Tennessee State University