



Spring 2020

Business Student Research Showcase

To encourage student engagement in business research, foster both creative and critical thinking, and help students enhance their public communication skills and professional development

Friday May 15, 2020

Business & Economics Research Committee

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General Schedule

Introduction

4:00 pm – 4:10 pm	Set-up Opening Remarks (Dr. Bernard McSherry, the Founding Dean of the School of Business) Introduction of Judges
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Student Research Presentation Competition (4:00 – 6:55 pm)

4:10 pm – 4:20 pm	Manage Bias & Risk with AI when Evaluating Data Suppliers <ul style="list-style-type: none"> Uzma Shaikh, Pablo Baiza, Gercy Sorto, Raymond Garcia, Ivyannah Tsuma, Elisa Villalpando and Leander Petroci
4:20 pm – 4:30 pm	Jersey City Board of Education Bus Routes <ul style="list-style-type: none"> Mohamed MakaLou and Edgar Youssouf Ba
4:30 pm – 4:40 pm	Marketing Students Fight Back With Creativity <ul style="list-style-type: none"> Brianna McCray and Camille Boisliveau
4:40 pm – 4:50 pm	GAPs Analysis on Gillette Company: Identifying Customer Gaps <ul style="list-style-type: none"> Elisabeth Lys
4:50 pm – 4:55 pm	Ambulance Service in Jersey City <ul style="list-style-type: none"> Cynthia Bradbury (Video presentation only)
4:55 pm – 5:05 pm	In Depth Look into Why Rural Hospitals are Closing? US Healthcare in a Closer Look <ul style="list-style-type: none"> Yong Sang Cho
5:05 pm – 5:15 pm	Union City NJ Transit Improvement <ul style="list-style-type: none"> Juan Eusebio and Miguel Rosado
5:15 pm – 5:25 pm	Stock Index Volatility and Its Ability to Predict Financial Market <ul style="list-style-type: none"> Wenxi Wu, Aycha Edwards, and Amgad Hanna
5:25 pm – 5:35 pm	10-min Break
5:35 pm – 5:45 pm	Best Buy Company Incorporated Financial Statements Analysis <ul style="list-style-type: none"> Felicia Masihdas
5:45 pm – 5:55 pm	Sanctions Screening <ul style="list-style-type: none"> Hina Mahmood
6:05 pm – 6:15 pm	Financial Statement Analysis - Dunkin Brands Group & Starbucks Corporation <ul style="list-style-type: none"> Amanda Mischczuk
6:15 pm – 6:25 pm	Who Says Accountants Are Boring? <ul style="list-style-type: none"> Eduardo Alay
6:25 pm – 6:35 pm	Ambulance Service's Slow Response Time, the Problems and the Consequences of the City of Paterson, NJ <ul style="list-style-type: none"> Angelica Suarez, Maria Youssef and Yaina Solorzano
6:35 pm – 6:45 pm	Hoboken's Ambulance System <ul style="list-style-type: none"> Eloy Vera Ortiz (Video presentation only)
6:45 pm – 6:55 pm	Maximizing Parking spaces in the City of Jersey City <ul style="list-style-type: none"> Jolane Alexis, Domenica Garboa, and Riyamira Z. Lugada

Award Ceremony (6:55 – 7:05 pm)

6:55 pm – 7:05 pm	Teaching Award Ceremony & Closing Remarks (Dr. Bernard McSherry, the Founding Dean of the School of Business)
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Abstracts

Student Research Presentations

Major: B.S. in Accounting; B.S. in Finance; B.S. in Global Business; B.S. in Marketing; M.S. in Finance

Uzma Shaikh, Pablo Baiza, Gercy Sorto, Raymond Garcia, Ivyannah Tsuma, Elisa Villalpando and Leander Petroci

Advised by Gita Sharma

Title: Manage Bias & Risk with AI when Evaluating Data Suppliers

Information is one of the most important factors when making decisions. When obtaining information for transcendent decisions, decision-makers consider various factors such as the quality of the data, the speed at which it is obtained, the cost-opportunity of acquiring requested data, the risk of relying on the data due to bias, and more. For financial institutions that have a diversified business model that focuses on innovation to deliver leading performances, the information is particularly crucial as it is used to create value for their clients and communities. Therefore, the data suppliers that provide such resources play an essential role in the overall success of the institutions.

One of the challenges that financial institutions face is the possible bias and risk that can be present when acquiring the desired data. Financial institutions using machine learning to improve business outcomes are particularly susceptible to skewed and subjective results if the information provided by data suppliers is contaminated. To meet this challenge, a scorecard consisting of four variables was devised to evaluate and access the reliability of different data suppliers. This case model focuses on quantitative data that can be compatible with artificial intelligence (AI). It is the biggest factor that has influenced and revolutionized technology and is transforming the banking process. Financial institutions utilizing the scorecard can obtain different outcomes in order to meet the user needs. The scorecard's methodology has been flexibly designed so that overall weights can be modified, and other variables can be added, as per the user's needs. While the methodology remains consistent, it is an adaptable model.

Major: B.S. in Management; B.S. Sports Management

Mohamed MakaLou and Edgar Youssouf Ba

Advised by EunSu Lee

Title: Jersey City Board of Education Bus Routes

Student transportation is arranged in a manner that poses the most convenience in terms of transportation distance according to the area situation of the school. All factors being equal, a student is transported by a school bus poised to operate within a known vicinity to a given school. The educated supposition of those who have conducted this research is to posit that the most optimal routes for student transportation have not been realized, which gives rise to the conduction

of this research. This research is designed to take into account the distance relationship between all high schools and all zip codes in Jersey City in order to establish which students should be transported to which school based on the zip code in which they reside with the purpose of minimizing school bus travel distance.

Major: B.S. in Global Business; B.S. in Marketing

Brianna McCray and Camille Boisliveau

Advised by Kathleen Rennie and Bridget Esposito

Title: Marketing Students Fight Back With Creativity

When classes at NJCU switched from in-person instruction to online instruction during the COVID-19 pandemic, Marketing professors redirected their curriculum to provide a creative outlet for students while accomplishing course learning objectives. Utilizing COVID-19 related assignments as a learning technique as well a coping mechanism, students recommitted themselves to Marketing creativity. Two Marketing students then developed one interactive newsletter to feature selections from the professors' archives of the best student work from MKTG 360 (Writing for Marketing and Public Relations) and MKTG 340 (Visual Communication for Integrated Marketing Communication) during online instruction. The interactive newsletter communicates students' agility in adapting their Marketing capabilities to new projects (and challenging times) and showcases the strength and creativity of Marketing students in the NJCU School of Business.

Major: B.S. in Supply Chain, Logistics, and Maritime Port Management

Elisabeth Lys

Advised by Sujin Song

Title: Gaps Analysis on Gillette Company: Identifying Customer Gaps

This paper is the case study of Gillett Comapny based on the Gaps model. Gaps model is proposed to identify customer gaps between service provider and its customers. Since customer perception and satisfaction derives from various aspects, this Gaps model offers a framework to understand and improve service quality of the company. The research method I used is surveying people and getting men who are Gillette's targeted market to find the gap between Customers and Gillette's way of communication and the message that they are sending to their customer base and more importantly, if Gillette's intended message is translating well with them and it is needed. Also, women were asked on what the advertisement meant to them and if they found it to be genuine. The findings highlight Gap 1 (listening gap) and Gap 4 (communication gap) that a company needs to listen to their customer base and needs to communicate effectively. This study found that Gillette needs to remember that men are a much-needed part of the dialog when it comes toxic masculinity. Gillette should foster an environment where it is not only normal to talk about such a heavy topic to make customers part of the bigger picture but to involve them in the discussion

and get their opinions. This is how it should have been handled from the beginning and they could have avoided so much controversy and the conversation would have felt more authentic and less of an attack.

Major: B.S. in Marketing; B.S. in Management

Cynthia Bradbury

Advised by EunSu Lee

Title: Ambulance Service in Jersey City

Jersey City is a large population center that has diverse health care needs. As the population continues to grow in Jersey City, this paper focuses on whether the needs of the residents are being met where it concerns emergency ambulance services. Demographic information was collected, as well as raw data regarding the number of ambulance request calls Jersey City receives in a specific time period. Descriptive statistics were used to analyze the data. An account of the number of calls and ambulance response times per census tract block for Jersey City was performed. The data collection, interpretation, and analysis that was conducted supports that Jersey City is currently meeting the needs of its residents when it comes to ambulance services. Cynthia Bradbury is fully responsible for the preparation of this report. Raw data needed to be obtained, filtered, and interpreted for use. Any errors in the data is due to author limitations and errors. Limitations include using a relatively small data set from a six-month time period. Data collection and analysis was not collectively exhaustive.

Major: B.S. in Management

Yong Sang Cho

Advised by EunSu Lee

Title: In Depth Look into Why Rural Hospitals are Closing? US Healthcare in a Closer Look

While specialized medical offices such as dental or optometric offices are thriving in count, large hospitals that are in the rural regions are closing. There are many factors that contribute to this problem. The biggest contributor has to be the fact that these hospitals are performing very poorly in their financials. The hospital closures reduced local residents' access to care, especially emergency care. While inpatient hospitals in these and other communities may not be sustainable, without new models of health care delivery in place, hospital closures can lead to gaps in access. The closures led to an outmigration of health care professionals and worsened pre-existing challenges around access to specialty care. Some communities were able to adapt to fill in gaps in access to primary care. Elderly and low-income individuals were more likely than others to face transportation challenges following the closures and were thus more likely to delay or forgo needed care (Wishner & Solleveld, 2016). That is resulting in abrupt incline in hospital closures throughout the nation. Just in 2019 alone, 18 rural hospitals have closed within the nation

according to statistics published by University of North Carolina. There are dire healthcare circumstances that American citizens have to suffer from by this incidence. This paper will attempt to explain and explore the fundamentals of United States healthcare system as well as the impact that it has on the suburban hospitals.

Major: B.S. in Management

Juan Eusebio and Miguel Rosado

Advised by EunSu Lee

Title: Union City NJ Transit Improvement

Union City is known for its small density and high population in the state. Union City though is also known to be the best to be when transporting to New York City. The bus service is very important for the residents as it is the most commonly used in the city by commuters. The bus service has been lacking often when it comes to focusing on being on time or ignoring commuters and continue to the next stop even with bus on service. Sadly, with the small density and high population of the city it plays a big part of the bus service on NJ Transit which puts them at a disadvantage of the small bus service who takes the lack of service of NJ Transit as an advantage. The study will purpose a network flow model to find better routing for NJ Transit to take so buses run a lot of smoothly to different cities as well as to New York city the state visited the most from commuters. Union City will benefit from this study to help with the residents and commuters using the bus service in the city.

Major: M.S. in Business Analytics/Data Science

Wenxi Wu, Aycha Edwards, and Amgad Hanna

Advised by Li Xu

Title: Stock Index Volatility and Its Ability to Predict Financial Market

Using S&P 500 historic data from 1950 to 2020, the researchers attempting to use empirical method to calculate volatility using ARCH models. The results would show if volatility could impact stock market or not. The financial prediction models combined with good level of personal experience or sound advices would to shape strong portfolio, good profit to the investor and make the economy stronger.

Major: M.S. in Accounting

Felicia Masihdas

Advised by Mingshan Zhang

Title: Best Buy Company Incorporated Financial Statements Analysis

When making investment decisions it is important to understand trends and kinks in a business's financial statements in order to better predict outcomes. Simply because a company is doing well in one year is not sufficient enough to make decisions because there needs to be an evaluation of how this company can weather market conditions and what was done in the past to adapt to change. Comparisons to competitors in the market can be useful in appropriately assessing threats and challenges. In the technology industry, there has been much change in recent years with the range of products and services available to the public. The way that products are bought with the convenience of online purchasing at relatively no additional cost also presents a challenge to businesses like Best Buy. With Best Buy being a large competitor in a lucrative industry, investing would fairly sound.

Major: M.S. in Business Analytics/Data Science

Hina Mahmood

Advised by Li Xu

Title: Sanctions Screening

The purpose of this study is to develop a model that will help in minimizing failure of risk to detect True match against SDNs list. The main purpose of creating a model is to screen transactions and data against SDN list for maximizing true positive and reducing the risk of non-compliance. Natural Language processing algorithms using R and Excel will be used to fulfill objective. This research paper is divided into two parts.

1. Research Thesis

For purpose to introduce the literature, current practice and problems associated with Sanction screening in the process of combating against money laundering & terrorist financing.

2. Data Processing & Modelling

For the purpose to explain the process of obtaining the Sanction Data, obtaining, cleaning & consolidation of data and creating the model and deriving the results.

The point to be noted that in there are plenty of complex sanctions Screen models are available for financial institutions to adopt/buy/purchase, these models are very expansive, complex and most of the time are not tailor made to suit everyone, every financial institution own data base system has some limitation and data accuracy problem that always results in failure to non-compliance and resulted in huge penalties imposed by Federal Reserve Bank(FRB)/Office of Comptroller of the Currency (OCC) and Department of Financial Services (DFS).

The Sanction screening data is regularly updated & obtained from Office of Comptroller of the Currency (OCC). Below is the link.<https://www.treasury.gov/resource-center/sanctions/sdn-list/pages/default.aspx>. As the Financial institutional data is proprietary, the consumer data was obtained from Consumer Financial Protection Bureau (CFPB) website: <https://www.consumerfinance.gov/data-research/consumer-complaints/>, and sdn data was injected into that to create a mock data set for sanctions screening.

Major: M.S. in Accounting

Amanda Mischuk

Advised by Mingshan Zhang

Title: Financial Statement Analysis - Dunkin Brands Group & Starbucks Corporation

This project is a financial statement analysis of Starbucks Corporation and Dunkin Brands Group using financial data from the last 5 years. This analysis goes over a number of ratios related to profitability, liquidity, and solvency. It also compares changes in the balance sheet and income statement for both companies over the past five years. This analysis then led to a conclusion of whether or not investing in either company would be a profitable decision. This analysis also took into account current events such as the corona virus outbreak and how it would affect both companies in the long-run.

Major: M.S. in Accounting

Eduardo Alay

Advised by Nava Cohen

Title: Who Says Accountants Are Boring?

We live in a world where people judge others based on their choice of career without even knowing what that profession itself is truly about. Stereotypically, accountants have always been seen as boring individuals by non-accountants. Just because numbers and analyzing information may seem boring to several, it does not mean that the person behind the completion of these tasks represent that perception. The objective of my research topic is based on this impression that is held with the burden of being an accountant, which is known as being a "boring" individual. To further analyze this theory that many non-accountants proclaim, I decided to create a three section survey that included several personality and personal experience questions. I was able to get 135 accounting professionals to participate in this experiment. The answers of this survey were used to help further analyze the true perception of what an accountant is really like. The research conducted within this topic will also help explain on how the original boring perception came to be what it is today. Additionally, this paper will introduce several recommendations that will/can help future and current accountants exhale further in their careers.

Major: B.S. in Finance; B.S. in Management

Angelica Suarez, Maria Youssef and Yaina Solorzano

Advised by EunSu Lee

Title: Ambulance Service's Slow Response Time, the Problems and the Consequences of the City of Paterson, NJ

The ambulance service provided by the Paterson Fire Department has a challenging response time to the patients, which results in delayed treatment for the patients. Furthermore, the delay from the ambulance service will result in delayed treatment at the hospitals potentially putting the lives of many at risk. It also covers the inequality in response time by the ambulance service. The objective of this study is to cover multiple aspects and issues resultant of the problem of slow emergency response time for Paterson's Ambulance. There is a need to consider the Emergency Medical Service (EMS) involving various decision making patterns for optimizing the location station that needs ambulance services. There is a need for pre-arrival instructions including the directions and techniques to stabilize the patients. Hence it has concluded that the ambulance response system faced by Paterson needs to consider the proposed model that the referral system to their services.

Major: B.S. in Management

Eloy Vera Ortiz

Advised by EunSu Lee

Title: Hoboken's Ambulance System

Hoboken is responsible for a number of famous foods, breweries, renowned artists and inventions that have transformed everyday life not only in NJ, but across the country. The ambulance service is very important to the community because it results in having a safe and free ambulance ride for the residents. HVAC has provided an excellent service but due to damages from Hurricane Sandy, funds are needed to continue providing these great services. Unfortunately, there are those that have no clue that HVAC relies heavily on funds to perform the necessary tasks. This study proposes, this objective function should demonstrate that although a linear programming model must either maximize or minimize some objective, the objective itself can be in terms of any type of activity or valuation. A strategy to help reach the funds needed and to bring recognition, so others are willing to volunteer. The residents of Hoboken will benefit from this study because it provides the information about how HVAC can continue providing free, safe, and fast service. Hoboken's nickname is the mile square city, in order to cover that much area funds are needed for new ambulances.

Major: B.S. in Management

Jolane Alexis, Domenica Garboa and Riyamira Z. Lugada

Advised by EunSu Lee

Title: Maximizing Parking spaces in the City of Jersey City.

Residents of Jersey City are in shambles over the lack of parking space in the city, the process of having to search for parking over and over again is leading to a bigger issue. This is why the city of Jersey City associated with the North Jersey Transportation Planning Authorities to find a solution to this. Throughout the years, residents and also visitors have always complained about

the parking issue that now it has increased more because of the overpopulation. The goal of this project is to catalog the existing parking supply, and determine the demand for parking in the community. Surveys are going around Jersey City to find out how many families own vehicles and how many of them use it to go to work or school. By doing this Jersey City will have a more specific number of vehicles being used and also they can determine how big the parking lots will be. The parking management plan will inform the community of the regulations of each parking and also it will help reduce traffic congestion generated by single-occupancy vehicles and align with the goals in the Circulation Element to limit land dedicated to parking uses near transit stations and encourage the use of public transit and active modes of transportation throughout the city. On average, it takes from twenty to twenty-five minutes to find a parking space in Jersey City where in other cities like Clifton it only takes five minutes to find parking. This is because there are twice more parking spaces in Clifton rather than Jersey City. By building more parking and making the street parking more accessible to everyone without putting tickets will help a lot in the community. Being able to find parking is very important and I am sure this plan will help all the residents in Jersey City.

Acknowledgement

The Business Student Research Showcase Group would like to thank Dr. Bernard McSherry, the founding Dean of School of Business, for his support and initiating the showcase. We also thank all judges for their countless efforts and contribution to assist this Showcase.

Judges for Research

- Professor Michael Stewart, Accounting Department, mstewart@njcu.edu
- Dr. Sevincgul Ulu, Assistant Professor of Marketing Department, sulu@njcu.edu
- Joshua Iannuzzi, Director of Career Services School of Business, jiannuzzi2@njcu.edu



The Business & Economics Research Committee

is pleased to announce the winners of the *VIRTUAL 2020 Research Showcase Competition* which recognizes outstanding research projects completed by NJCU business students :

Undergraduate Winners

- **1st place:** Angelica Suarez, Maria Youssef and Yaina Solorzano
- **2nd place:** Yong Sang Cho
- **3rd place:** Uzma Shaikh, Pablo Baiza, Gercy Sorto, Raymond Garcia, Ivyannah Tsuma, Elisa Villalpando and Leander Petroci

Graduate Winners

- **1st place:** Eduardo Alay
- **2nd place:** Amanda Miszczuk
- **3rd place:** Felicia Masihdas

Congratulations to this year's winners!

All entries presented engaging research topics that led to illuminating projects. All participants of the virtual showcase will receive a certificate via email.

We are also proud to announce *the Research Mentor of the year* which honors a faculty member who has shown outstanding commitment to mentoring students.

Congratulations Dr. EunSu Lee