

ChoreoNova Ticketing System
(Technical Topic)

E-Commerce and the Entertainment Industry
(STS Paper)

A Thesis Prospectus Submitted to the
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Bachelor of Science in Computer Science


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On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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Peer Reviews and Comments

Throughout the process of writing my prospectus, I received valuable feedback from Professor Gorman as well as my classmate, Eldon Luk. I would like to thank them for helping guide my work into the right direction.

Professor Gorman provided me with some suggestions on topics to discuss regarding tying in my technical project to the STS prospectus, including the addition of advantages of the ticketing system I created, any difficulties it may introduce for users, and the future of e-Commerce as it relates to dance, theater, and other forms of entertainment. Due to his suggestion, I created a new section to connect my technical project and STS prospectus. In this section, I discuss the advantages and disadvantages of the ticketing system and how my group is working to mend any issues that may occur during development.

Eldon Luk provided me with some feedback on my first draft of the prospectus. He pointed out areas where I could expand upon my point. Thanks to Eldon's suggestions, I added more information in my conclusion section regarding Actor Network Theory. Additionally, Eldon suggested I talk about Taylor Swift and her clash with Spotify in the paragraph where I discuss e-Commerce and its effect on the music industry. Although this topic is interesting, I decided not to include this new topic in my prospectus since it does not directly relate to the STS topic I chose.

Gathering feedback from Professor Gorman and Eldon Luk helped me make my prospectus more clear and interesting. I would like to thank them again for their help during this semester.

Introduction

From gladiator fights to modern day movies, humans have always found ways to keep themselves entertained. As times have evolved, so have forms of entertainment, which are getting progressively more accessible and intertwined with everyday life. We are now entering the digital age, where technology is seamlessly being integrated with all aspects of society. With this integration comes the development of e-Commerce, the buying and selling of goods and services using the internet, which revolutionized the way people interact with the online market, including their consumption of various forms of media. From an outside perspective, it is easy to see the relationship between e-Commerce and the entertainment industry. It is evident that e-Commerce has had a strong impact on the entertainment industry due to the rise in technological innovation along with the ease of purchasing goods online, acting as a catalyst for sales and even creating competitors for the leaders of the industry.

My STS topic will focus on more closely analyzing the relationship between e-Commerce and the entertainment industry. To do this analysis, I will split my prospectus into three sections: the development of e-Commerce, modern day entertainment with the influence of e-Commerce, and new forms of entertainment that have emerged from e-Commerce. I believe looking into these topics will allow me to have a strong grasp on the relationship between e-Commerce and entertainment. I will then utilize Actor Network Theory to analyze the factors that have an impact on the relationship between these two components. I would also like to analyze what would happen if a certain actor within the network was removed to see how powerful the relationships in the network are.

My technical topic involves the development of a ticketing system for ChoreoNova, a contemporary dance company. My team and I are working to create a functional product that will be a cohesive addition to ChoreoNova's existing website. We were given the freedom to design and build the entire web application around the main requirements of the client. ChoreoNova has requested a system that would allow them to create events for their shows and seminars. These events will be displayed on the main page of the ticketing website, where customers will be able to scroll through and select the event they would like to attend. Customers will be able to purchase tickets through a payment system that accepts credit card or PayPal. After confirmation of purchase, a QR code serving as the ticket will be sent to the email address provided at the time of purchase.

Connecting Technical Project to STS Topic

My STS topic was influenced by my work in the Computer Science Capstone Practicum. I feel that writing my STS topic on a subject related to my technical project will give me a better perspective when completing my project. It will allow me to have a deeper understanding of what the client and users of the application are looking for in the system. This will assist in the design of the system as we keep the desires of the user in mind.

The use of an online ticketing system as opposed to selling tickets through a box office comes with many advantages. The main benefit that comes with an online program is accessibility. The system is available 24/7 and is accessible from any location.¹³ This is highly appealing to customers since they are able to purchase tickets from the palm of their hand. Using an online ticketing system also provides highly useful information gathered from customer

transactions.¹³ Data obtained can help the company determine their best selling events, most popular time-slots, and the demographic of their consumers. The company can use this data to plan future events that they know will be successful.

There can also be disadvantages that come with a reliance on an online ticketing system as the main source of sales for a company. For example, if many of the consumers are less technologically savvy, this would negatively affect sales through the online system as they would most likely prefer purchasing tickets in person. To mend this issue, my group is working on implementing an easy-to-use interface that most customers will be able to navigate through when purchasing tickets. The online system could also lead to an influx of new customers due to the ease of accessibility.¹³ If the company is too small or does not have enough resources, they will be ill-prepared to handle the new business coming in.

The Development of e-Commerce

E-Commerce, or electronic-commerce, is a fairly new platform for purchasing goods and services. The origins of e-Commerce can be traced back to the 1970s, when Michael Aldrich connected his computer to a telephone line and a television, activating a program called Teleshopping to make shopping more convenient using technology. However, Teleshopping never took off due to the scarcity of computer technology and a lack of technical knowledge in that time period.¹ The evolution of e-Commerce can be attributed to innovation in information technology.² After the invention of the World Wide Web in the 90s, internet use became more widespread throughout the American populace. This innovation, followed by the National

Science Foundation lifting its ban on commercial internet use, made e-Commerce possible and thriving by the next century.³

In 2015, sales from e-Commerce totalled up to more than \$300 billion, making up over ten percent of all retail transactions in the United States.³ Today, e-Commerce is worth over \$400 billion worldwide.¹ The success of e-Commerce can be attributed toward society's desire for comfort.² This new format of commerce makes it possible to buy anything from the comfort of your own home at any time of day. The convenience factor makes e-Commerce highly desirable over its brick-and-mortar counterparts.

Modern Day Entertainment with the Influence of e-Commerce

Seeing that e-Commerce has a large market share in the retail industry, I wanted to study its effect on the entertainment industry, focusing on movies and music. Before the penetration of e-Commerce into the movie industry, people used to turn to newspapers for movie listings and showtimes.⁴ As newspapers began being published online, movie listings followed. Through websites such as Fandango and MovieTickets.com, the act of purchasing tickets has been made more convenient and easily accessible at any time of day. Studies show that online movie ticket purchases rose 18.7% in 2018 while in-theater ticket purchases dropped by 5.4%.⁵ Today, online ticketing accounts for 25% of all tickets purchased.⁵

The story of Blockbuster, a national movie-rental chain, shows the significant impact that e-Commerce had on the entertainment industry. At its peak in 2004, Blockbuster made 6 billion dollars in revenue. However, just a short 6 years later, the company filed for bankruptcy.⁶ In a way, the rise of e-Commerce can be attributed to the failure of the movie rental company.

Subscription services such as Netflix began to challenge Blockbuster's business model. In its initial days, Netflix was a DVD by-mail subscription service.⁷ At this time, Blockbuster was strictly a brick-and-mortar company that dominated the video rental business. Blockbuster ignored the innovations that Netflix was beginning to implement, believing that the profit margins and markets were not as attractive as its established business model.⁶ Additionally, pursuing this new business model would mean a dramatic shift from what Blockbuster has built over the years. These factors solidified Blockbuster's decision to remain a brick-and-mortar operation. By the time Blockbuster adopted the new innovation of a mail subscription service, Netflix had already made a significant cut into the market, taking away from the company's customer base.⁷ Blockbuster's failure to adapt to the rapid changes in the retail industry caused by e-Commerce ultimately led to its demise.

E-Commerce also had an impact on music, specifically the sales aspect of the music industry. In the 90s and early 2000s, physical tapings were the main source for listening to music.⁸ In 2000, the United States grossed over \$12 billion in annual sales of recordings, which include CDs, cassettes, and vinyl records.⁹ In later years, the music industry saw a drop of 2.6% in music sales and a massive decrease in CD sales by 36%.⁹ One of the biggest factors contributing to this change is the availability of music to be downloaded from the Internet. Studies showed that by 2001, an estimated 30 million American adults had downloaded music online.⁹ Music continued to be downloaded online until 2008, when Spotify debuted a unique and legal way to stream and listen to a collection of music. Spotify's business model revolves around letting customers listen to music without having to own the singles themselves. The subscription service provides an advertisement-free experience along with additional features

such as unlimited skips through playlists. Downloadable music and music subscription services led to a redistribution of power from major record companies to music consumers and artists.⁸

New forms of Entertainment due to e-Commerce

As the years have passed, new forms of entertainment have emerged trying to capitalize on the continued success of e-Commerce. Netflix emerged as a leader in online streaming of television shows and movies, portraying its service as “the birth of a new global Internet TV service”.¹⁰ This platform has become a major competitor to mainstream television networks and other movie production companies. Youtube is a video streaming platform that caters to 1 billion users in 88 countries and 76 languages.¹⁰ Beginning as a free platform, Youtube has evolved to take on e-Commerce qualities, providing a subscription service for users to stream exclusive content on the website. Social media can also be considered a form of entertainment, as one can spend countless hours scrolling through videos and posts by others. Applications such as Snapchat are rapidly growing, garnering over 200 million users in half the time it took Facebook, Youtube, or Twitter.¹⁰ With such a widespread reach to customers around the world, these streaming and social media platforms have transformed themselves into household names. Almost every form of streaming and social media platforms can be related to e-Commerce. Online advertising is a big influence on consumers.¹¹ This method of advertising uses the internet to communicate marketing messages to target audiences. This makes it easier for companies to spread their advertisements around the internet, promoting their services.

The development of e-Commerce over the years led to even more innovations in entertainment. Many new platforms for streaming have popped up, increasing the market for the

entertainment industry. In addition to promoting traditional forms of entertainment, e-Commerce has paved the way for new and emerging companies to enter this industry.

Looking toward the future of e-Commerce, we can predict drastic change as it relates to entertainment. At its current pace, e-Commerce is on track to gain a bigger share in the retail market. This leads to more innovations in e-Commerce to draw in additional consumers. Due to the rising popularity of big data analytics, many companies are tracking user behavior to personalize their shopping experience, with the ultimate goal of converting one-time buyers into repeat buyers.¹² This pattern can be translated to e-Commerce in the entertainment industry; user preferences for movies can be taken into account to promote ticket sales for similar movies. Additionally, businesses can recommend new types of music for the user to stream and purchase.

Conclusion

Since its origins in the 90s, e-Commerce has had an immense impact on the entertainment industry, both positive and negative. E-Commerce has shown to boost sales for movie theaters due to the ease of transaction over the Internet. It has also led to the emergence of new forms of entertainment, including Netflix, YouTube, and other social media networks. On the other hand, e-Commerce has also led to the downfall of big-name companies and technologies over the years. As seen in the short case study of Blockbuster, the company's failure to adapt to the rapidly changing technological environment led to its bankruptcy. The rising popularity of streaming services such as Spotify led to the obsolescence of physical methods of listening of music such as CDs.

The Actor Network Theory framework can be used to analyze the relationship between e-Commerce and entertainment. Significant actors in the network include computer technology, online payment systems, and companies selling their services online. In regards to the entertainment industry, there are more non-technical actors such as movies, music, and consumers. Computer technology can be used to implement online payment systems, which companies use to sell their services and goods such as movies and music. The consumers access the e-Commerce websites and are able to browse before making their final decision to purchase an item. Throughout my research, I found the main pattern to point to technology as the most important actor in this network, as it has connections to every other actor. Without technology, e-Commerce would not exist today, creating a lack of connection between e-Commerce and entertainment.

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