

-RESEARCH PAPER-

## USING SIMULATION PROGRAMS AS CAPSTONE PROJECT IN BUSINESS ADMINISTRATION EDUCATION: A CASE STUDY

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### Abstract

*Other than the theoretical knowledge that given the students there is a strong need for gaining knowledge in the real-world business environment especially for the BA students. Simulation programs enable students to set up a virtual company and manage the company like a real business. Although there are many simulation programs in the education field "Marketplace" simulation is chosen because the simulation is prepared by the Tennessee University's faculty. This course was a Capstone course for students to understand the strategic marketing process that is applicable to any organization about marketing their products or services. The case study methodology was used for this study and 13 senior BA students participated. The feedback received by the students and interviews' answers were collected and analyzed for the evaluation of the course content, the ease and the usefulness of the program. This study confirmed that simulation programs enable students to transform theoretical knowledge into practices.*

**Keywords:** Business Administration, Education, Simulation, Capstone.

**JEL Code:** M1.

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### İŞLETME EĞİTİMİNDE SİMÜLASYON PROGRAMLARININ BİTİRME PROJESİ OLARAK KULLANIMI: VAKA ANALİZİ

### Öz

*Diğer alanlarda olduğu gibi, öğrencilerin işletme yönetimi alanında da dört yıl boyunca edindikleri tüm bilgileri uygulayabilmeleri çok önemlidir. Öğrencilere verilen teorik bilgiler kadar, gerçek dünyadaki iş ortamında tecrübe edinmelerine ihtiyaç duyulmaktadır. Simülasyon programları öğrencilerin sanal bir şirket kurabilmelerini ve kurdukları şirketi gerçek bir iş olarak yönetmelerini sağlar. Böylece ihtiyaç duyulan deneyimi elde etmiş olurlar. Eğitim dünyasında birçok simülasyon programı olmasına rağmen, bu çalışma da Tennessee Üniversitesi öğretim üyeleri tarafından hazırlanan Marketplace isimli program kullanılmıştır. Bu ders öğrencilerin ürün veya hizmetlerini pazarlama hakkında herhangi bir organizasyon için geçerli olan stratejik pazarlama sürecini anlamaları için Capstone dersi olarak tasarlanmıştır. Bu çalışma için vaka analizi metodolojisi kullanılmış ve 13 işletme son sınıf öğrencisi katılmıştır. Dönem sonunda öğrencilerden alınan geri bildirimler, ve öğrencilerle yapılan görüşmeler*

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*ders içeriğinin değerlendirilmesi, programın kolaylığı ve programın yararlılığı için toplanmış ve değerlendirilmiştir. Bu çalışma simülasyon programlarının işletme eğitiminde kullanımı öğrencilerin öğrendikleri teorik bilgileri gerçek iş dünyasında uygulayabildiklerini ispatlamıştır.*

**Anahtar Kelimeler:** İşletme Yönetimi, Eğitim, Simülasyon, Bitirme Projesi

**JEL Kodları:** M1

## 1. INTRODUCTION

Technology's significance in the classroom is obvious now and more than ever and rapid technological changes are leading new teaching tools daily. Ever-changing technologies are challenging educators' lecturing and course materials. According to Lin, Yen, and Wang (2018, 30-40), these challenges are leading to dramatic changes in lecturing and studying styles in the education field. As Pando-Garcia, Periañez-Cañadillas, and Charterina (2016, 1731–1736) summarize that the education in business administration is changing rapidly and building on the acquisition of skills in a diverse group of on-site and off-site subjects using miscellaneous teaching and learning systems. Because of the globalization context, international marketing courses have become more important than before. Yağcı and Özkan (2014, 31-43) point out that there is a need for BA departments to educate their students for them to be active in today's competitive global market.

As Carr (2003, 195-212) explains people expect education to equip young people with the skills required for their professional life. Although theoretical knowledge is important in education, practical knowledge or hands-on experiences also play an important role. Practical knowledge becomes a very important skill, especially for business administration students. Practical knowledge increases their chance for placement in a labor market and put all of the learned knowledge together. Pratt and Hahn (2016, 10-18) stated that "Many business schools have recognized the need to make courses relevant to students' future employment by incorporating industry skills and knowledge" (p. 10). Because of that almost all of the BA programs require certain credit hours of internship during the four years. We all agree that internship is a way of learning and experiencing about how a business functions and is having a good reference in a job application. One of the drawbacks of an internship is that an intern works for a specific department and gains experiences on about that department such as HR, marketing, etc. Cosenz and Notob (2018, 468-482) used simulation on Strategic Management (SM) and entrepreneurship in their research. They discussed that:

"SM and entrepreneurship are challenging fields in which people are usually trained by studying handbooks and making internships to learn how things are usually done by experienced managers. The start-up world does not allow young entrepreneurs to assist experienced strategists and entrepreneurs to understand how to start new businesses and make them successful.... each business venture presents its own organizational characteristics that prevent one to set and apply general rules for managing them" (p.481).

Usually, BA interns chose a department of their interest or internship availability in an organization to fulfill their required internship. That's why interns fail to see organizations' other functions. As it is mentioned before, other than theoretical knowledge that is given to the students, there is a strong need for gaining knowledge in a real-world like business environment among the BA students. Simulation programs have become an important tool which gives students a chance to establish a company and run it as a real business. Additionally, simulation programs enhance students' understanding of all of the functions of a company. Today there are many educational business simulation programs in the market and in this study, Marketplace simulation is used for a Capstone course. Marketplace simulation has been developed by the Tennessee University's faculty, especially for educational purposes.

This study was conducted at a public university, located in the Anatolia region in Turkey and BA courses offered in English. This type of educational tool has never been offered before at the university where this study is conducted. Thus students were not familiar with it and it was a new way of learning for the students. The study is designed as a case study to observe students success and test their knowledge before the completion of their degree in BA. According to Zhang (2015, 154-162), while using simulation programs, monitoring students' knowledge, and performance and their level of participation are important. In this study student's logins are monitored as well. As it is mentioned before the simulation program is offered first time in the university at the BA department. Based on the results of this study the department will be able to decide if the simulation programs will be offered or not in the future.

### **1.1. Literature Review**

For this paper, the literature review is based on simulation programs that are used for Business Educations. Simulations have been used within various disciplines (Hughes, Scholtz 2015, 350-361) for decades (as cited in Jones, 1998, 331-341; Rosen, 2008, 157-166), around the world specifically within business education since the 1950's Hughes, Scholtz, (as cited in Gredler, 2004, 571-581) as an educational tool. Effectiveness and benefits of any kind of educational tools are important for all educators. Rusu (2012) discovered the benefits of enterprise simulation programs on trainees. One of the most important benefits was the simulation program providing experiences to future entrepreneurs. Although there are challenges using simulation programs such as time pressure on learners (Nisula and Pekkola, 2012, 39-49) and instructors according to Vos (2015, 57- 74), considerable benefits on students cannot be ignored. Since education prepares the student to their professional life, gaining certain skills is very important to be able to marketable in the business world. Gatti, Ulrich and Seele (2018, 667-678) and Bell and Loon (2015, 119-127) suggested the simulation programs help learners developing critical thinking skills and generate emotional involvement. Pasin and Giroux (2011, 1240-1254) confirmed that simulation programs are more effective in developing decision-making abilities for managing complex and dynamic situations for students. Polyakova (2016, 289-294 ) used a business simulation program in teaching foreign language and found that business simulations increased intercultural competence,

strengthened communicative components and helped in acquiring the socio-cultural knowledge and skills necessary for effective cross-cultural communication among students. Borrajo, Bueno, Pablo, Santos, Fernández, García, and Sagredo (2010, 498-506) found that simulation programs can be successfully used for teaching especially in BA education. Their study revealed that simulation programs have more advantages in learning, developing skills, and decision making than traditional business teaching.

Blackford and Shi (2015, 84-94) and Hernandez-Lara, Perera-Lluna, and Serradell-Lopez (2018, 1-13) highlighted that students now favor and expect opportunities to be actively involved in their education and more methods become available to engage students in experiential learning. As we all know motivation is one of the biggest issues among the students and traditional learning tools are not enough motivating students. Gatti, Ulrich and Seele (2018, 667-678) found that the simulation was more effective in influencing students' motivations.

Mahboubian (2010, 5403-5407) stressed the importance of simulation programs in business education. According to him, especially, in the third world and developing countries quality of teaching and training of business managers is poor because of the budget, not enough facilities, and other reasons. Therefore the faculty's teaching is based on more theoretical knowledge. As in other developing countries using simulation programs especially in the BA field is not a common educational tool in Turkey. Recently, Dereköy and Ayhün (2017, 781-792) conducted a study at a vocational college to test the benefits of using simulation on the students. They found that a simulation program as an educational tool, allowed students to transform theoretical knowledge into practice. It also enabled students to understand the processes in a business and prepared them for their career by forming a real working environment. Burdon and Munro (2017, 429-448) also stated that using business simulations reassures employability skills within the field of business.

Business simulations are not only used in education, but they are also being used in the business world. As Borrajo, and at al. (2010) found simulation programs can be successfully applied in business' practice. Recently, among other reasons, private and public institutions use simulation programs to test their choices, decide whether to enter a new market for a new product and to examine their financial situation. Jahangiriana, Eldabib, Naseera, Stergioulasa, and Younga (2010, 1-13) confirmed that simulations are applied to different sectors, for example, manufacturing, services, defense, healthcare, and public services. According to authors the second most common technique in the field of operations management. Among other companies, BMW, Coca-Cola, Disney, Delta Airlines, Eastman Kodak Company Health Imaging Div., Erickson Associates, FedEx, United States Postal Service, US Census Bureau, and Wal-Mart use Marketplace simulations. It is found that many companies are using Marketplace simulations and other types of simulations in Turkey too. For example, a simulation program called "Capsim" is widely used by large companies such as Borusan, Eczacibasi, and Bilkent University among others. It means that such companies would prefer an employee candidate who has simulation skills. Therefore, being able to use simulation programs and interpreting the simulation results would help students in placing a position in international and national

markets.

## 2. METHODOLOGY

The main goal of this study was to analyze if using business simulation programs as a capstone project is beneficial to senior BA students. Putting theoretical knowledge into practice was the key motivation for the study. Since the case study method denotes to an in-depth, detailed study of a small group of individuals it is chosen for this study. The multi-model approach is used for data collection including interviews, direct participant observations, and a review of chat logs among others. During the weekly interviews, open-ended questions are asked. After completion of the records, the data is interpreted holistically. 13 BA senior students participated in the study while taking the course as their capstone project.

The most important objective of the course was developing the skill to work effectively in teams for the students. The program allowed students optional anonymous peer evaluation. In this course, evaluations were required at the end of the semester. With the peers' anonymous evaluation of the team members' contribution and their behavior are reflected for future and past actions and submitted to the instructor. To be able to analyze the easiness and success of the students, students' performances and grades are also obtained from the other courses that they were taking in the same semester. Although their final grades for other courses are related to the subjects still analyzing their performance gave overall information about this course.

*Class Setting:* The simulation program is offered online and to be able to use the simulation program a license purchase is required. Because the university is a public university a licensing fee is paid by the school instead of students. For each quarter the simulation program offered detailed information about the business. Reading the materials and watching the videos before the next quarter is required for the students to understand the subject to be able to make critical decisions throughout the next quarter. In the program, questions and answers are also available. If students asked a question which was available in FAQ list they had to deduct \$10,000 as a consultant fee. In this way, students were forced to read the materials. During the semester, students' logins, and length of the spent time are monitored. Chat logs were also available for the instructors and it made easier to see if students were struggling in using the simulation program or understanding subjects of the course. Unlike in other courses solutions or any information that would lead students to decide for the quarter are not provided to the students by the instructor.

Whether it is wrong or right, every decision made by the students therefore, they were able to see the consequences of their decisions. The previous quarter's decisions tremendously help them analyzing the situation and making decisions for the next quarter. Each week during the class time short lectures about the subjects are given to the students by the instructor and after the lecture, questions are discussed.

*About the Marketplace Simulation:* Among other simulation programs, the Marketplace program is chosen for several reasons. First, the instructor/author is familiar with

the program and used in her classes in the US for a long time. Second, the program is developed mainly by the educators and the main purpose is educational. Later the program became very popular among the organizations. Although these types of simulations are similar to each other using the most common ones in the market would be a better choice.

Additionally, rubrics are designed to help instructors assess their students' performance on several activities that can be overlaid on a Marketplace business simulation. The description of these activities and the learning goals that can be assessed are extensively discussed in the literature available to instructors upon login. The Association to Advance Collegiate Schools of Business (AACSB) requires that business schools specify their learning objectives and measure how well they will meet these objectives. Fortunately, Marketplace simulations offer many assessment tools that address these requirements. They are designed to gauge students' progress and learning during the simulation and to help faculty improve the educational outcomes of the exercise.

*Using the Marketplace Simulation Program:* The Strategic Corporate Management business simulation is used for the capstone project. In this course, students competed against their peers. The simulation provides students with a reflective understanding of the entire business enterprise in the global market environment. This business simulation challenges students to make tough decisions in: Accounting, Finance, Advanced Marketing, Advanced Manufacturing, Quality Control, Human Resource, Management, E-Commerce, Business Partner Negotiations, and Financial Analysis as well (<https://www.marketplace-simulation.com/strategic-corporate-management>)

In the Strategic Corporate Management simulation, students are provided with the seed capital to start up their business. They build a factory, open up distribution channels, design brands, as well as advertising and web marketing campaigns. They hire workers and decide on the compensation packages, deal with demand projections, production scheduling, and quality control issues. After the first simulated year in business, students' firms can receive additional funding from the Venture Capitalists. They can invest this money in new R&D, bring out improved products, and expand their distribution and production capacity in order to maximize their performance in the second year of business (<https://www.marketplace-simulation.com/strategic-corporate-management>).

In the program, there is a total of 8 quarters that students would make strategic decisions. Without completing the previous quarter they cannot move to the next quarter. To be able to see and analyze their own current results every team has to submit their decisions. Even one team's missing submission would hold the entire class's results. This way every team pays great attention to the deadlines. After the all submissions are completed the program releases the results for each team and provides useful graphs (See figure 1) such as each team's strength and weakness for the quarter (See figure 2).

Figure 1

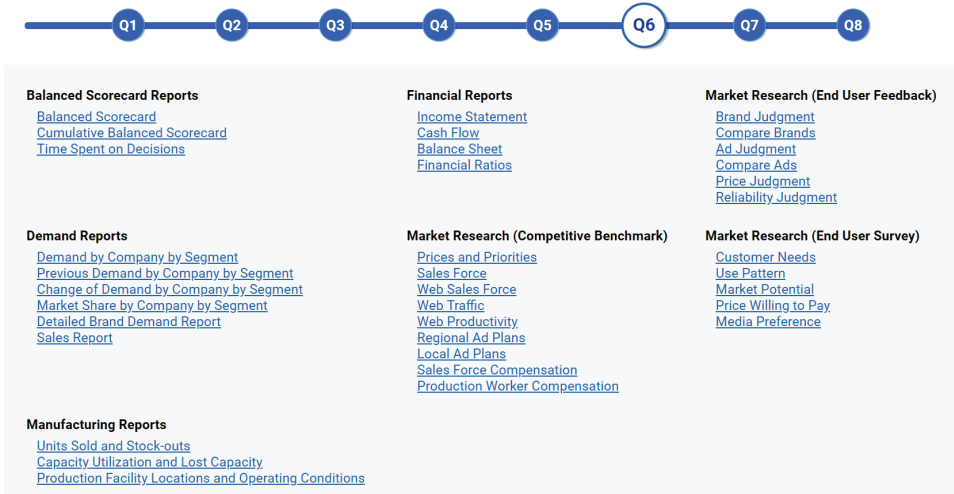
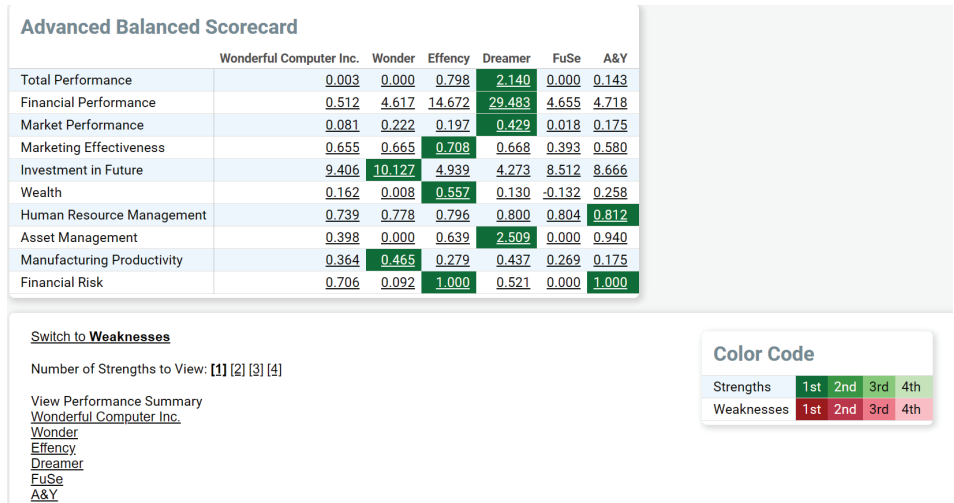


Figure 2



In the first meeting students' teams are set and each executive team is responsible for providing the investment capital to start up the business. They invest \$1,000,000 in each of the first four quarters. An additional \$5,000,000 becomes available in quarter 5 from venture capitalists, for a total of \$9,000,000. They are able to use this money to build a factory, open sales offices, and design brands.

In the first quarter students have to organize a start-up laptop company with four different products which are set by the simulation. In this quarter they have to name their company, design a logo, assess team skills, and work styles, and then assign corporate responsibilities

and leadership, organize the work and establish personal goals, determine how to manage the organization and establish team norms, sell common stock to executive team and finally contract for market survey. They also have to decide where to build the factory among the given 4 regions as well. All of the quarters were adapted by following the recommendations of the simulation program (<https://www.marketplace-simulation.com/strategic-corporate-management>).

In the second quarter, they evaluate market opportunities, set up operations, and prepare for a test market. They need to analyze market survey results and evaluate segments, markets, potential competition, and market opportunities. They also have to establish corporate goals and strategic direction, select target segments, write mission statement, specify and rank order corporate goals, establish strategic direction, create customer value, design initial brands for test market, evaluate impact of different components on changeover costs and scale economies, open international sales offices, set up manufacturing operations, compare regional cost differences of labor and distribution on plant location and evaluate economy and liquidity of different capacity investments, build plant, invest in fixed plant capacity and sell common stock to executive team.

In the 3<sup>rd</sup> quarter, they go to a market to test strategy and market assumptions. They also work on human resources to establish a sales force compensation package and factory worker compensation package; sales office management, hire salespeople, choose segment training, set brand prices and price promotions, set sales priority, choose POP displays, open new sales offices, hire and assign web-center staff, select web traffic and productivity tactics, advertising, ad copy design, media placement and ad frequency, establish production plan for quarter, forecast demand by brand, set the current quarter production schedule, operating capacity, target and replenish points and production rules, run factory simulation, budget market research, sell common stock to executive team and compute pro forma cash flow.

To evaluate test market performance and revise strategy, the 4<sup>th</sup> quarter includes the following tasks; evaluate financial performance (profitability analysis), evaluate market performance (customer opinion, brand designs, prices, advertising, and sales force, market demand—by company, brand and per salesperson, competitor tactics—segments targeted and selection of marketing tactics), budget market research, revise marketing tactics as needed, and continue test marketing (brand designs, brand prices, price promotions, priority, and POP displays, sales office locations, sales force numbers and assignments, web marketing tactics, compensation packages, advertising copy, media placement and frequency), manufacturing (review production results from the previous quarter, operating capacity, target and replenish points, production rules, run factory simulation, quality Improvement, changeover investment, invest in fixed plant capacity), budget market research, sell common stock to executive team, and compute pro forma cash flow.

In the 5<sup>th</sup> quarter, students seek external funding, prepare a business plan and negotiate equity investment. They evaluate financial and market performance, develop a two-year business plan. Above tasks includes customer opinion; brand designs, prices, advertising, and sales force, market demand; by company, brand and per salesperson, competitor



tactics; segments targeted and selection of marketing tactics, develop two year business plan; goals, marketing, financial and ownership, marketing strategy, manufacturing strategy, financial strategy, pro forma cash flows and financial statements, size of equity request, number of shares offered, and share price. In this quarter each team automatically get a venture capital investment of \$5million to invest it all in R&D. Until this quarter students make decisions on setting up a company. In this quarter and the following quarters become more complicated and students have to make strategic decisions.

In the quarter 6 teams monitor, improve, and execute their decisions. This quarter involves evaluating the team; self-assessment of roles played, contributions made, and adjustments needed, evaluating performance, financial, marketing, and competitive, adjusted strategy, unanticipated competitive moves, and financial capability. Teams make incremental changes in tactics by using activity-based costing to evaluate the profitability of brands and sales offices and conduct demand analysis to estimate brand, price, advertising, and sale force for marketing. In brand design, the teams continuously improve component selection (R&D), introduce new brands with new R&D components and explore R&D licensing opportunities and strategic alliances. The teams also evaluate compensation packages, sales offices, salesforce, web marketing tactics, customer satisfaction, ad copy ratings, media placement, and frequency. For manufacturing the teams improve production economies in quality Improvement, changeover investment, invest in fixed plant capacity. Budgeting market research, computing pro forma cash flow and preparing tactical plan are conducted by the teams as well.

In the 7<sup>th</sup> and 8<sup>th</sup> quarters, teams continue to monitor, improve, and execute their plans. During these two quarters, the teams manage strategies about unanticipated competitive moves and financial capability, incremental changes in tactics for marketing and improving judgment ratings (brand rating, pricing, ad copy, reliability). As in the other quarters the teams keep monitoring and improving compensation packages, manufacturing (improve production economics, quality improvement, changeover investment, invest in fixed plant capacity), budget market research, compute pro forma cash flow and prepare a tactical plan.

In the final quarter, the teams report to the board. The report includes evaluating team performance (self-assessment of roles played, contributions made, and adjustments needed), evaluating financial performance (profitability analysis), evaluating market performance (customer opinion; brand designs, prices and advertising, market demand—by company, brand and per salesperson, competitor tactics—segments targeted and selection of marketing tactics) reporting to board on operations since presentation of business plan (market and financial performance, valuation of the firm, departures from plan, justification) and presenting a plan for the future.

Below figures 3, 4, 5, 6, 7 and 8 represent each team's results through the 5<sup>th</sup> quarter. It can be seen that students make a strategic decision based on the previous quarter. To be able to do it students analyze and review every document before making any decisions.

Figure 3

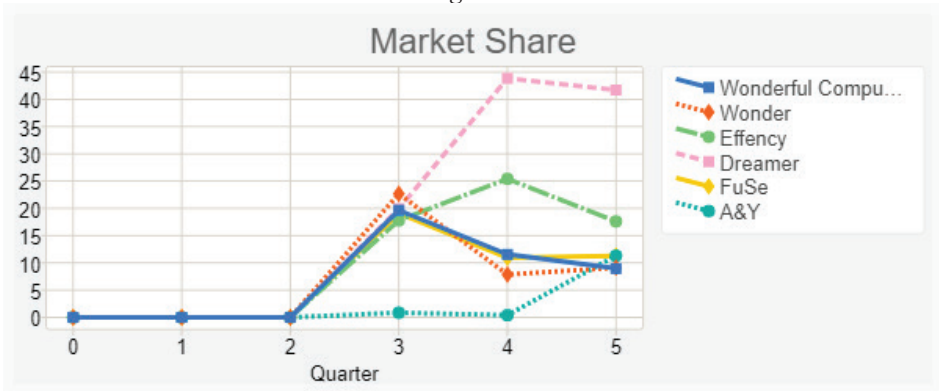


Figure 4

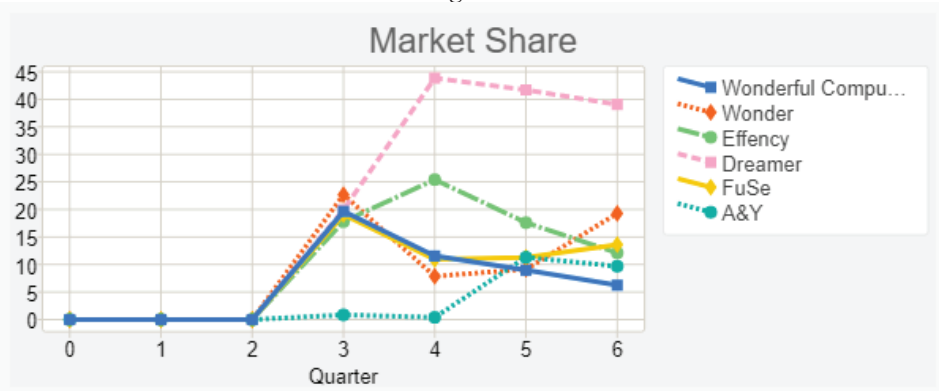


Figure 5

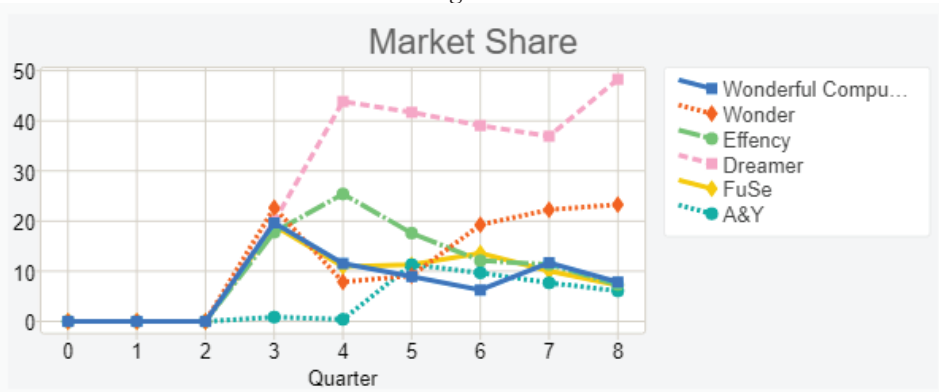


Figure 6

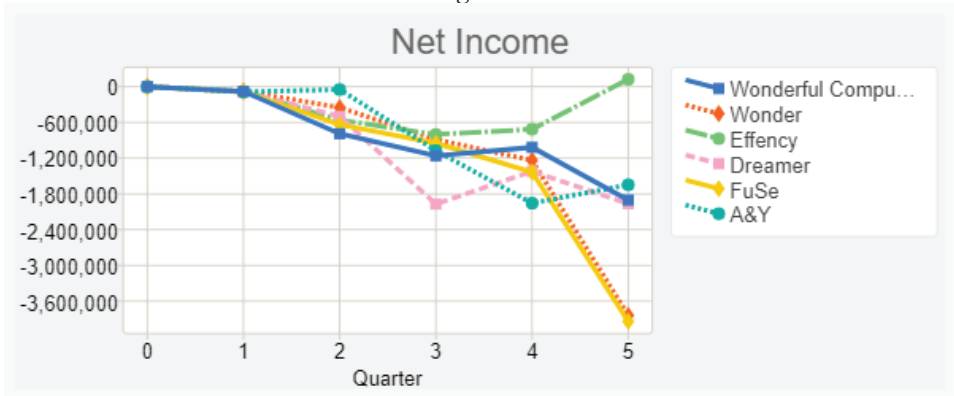


Figure 7

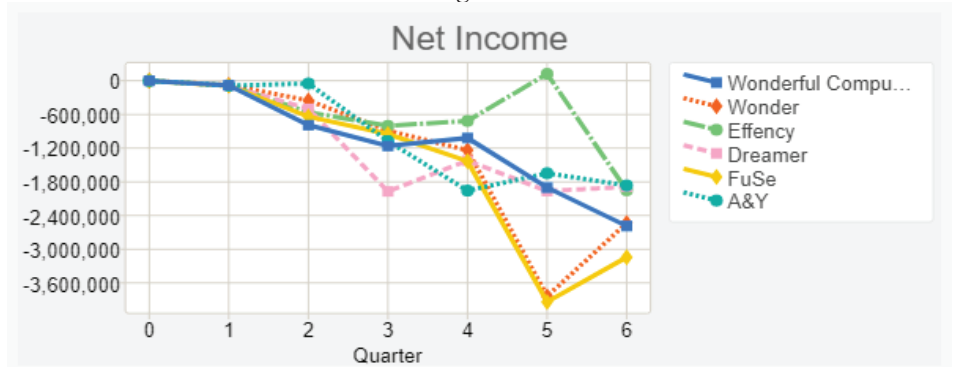
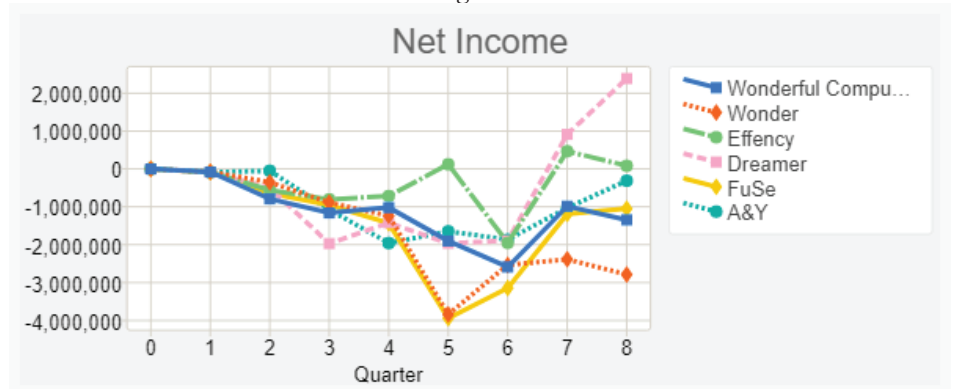


Figure 8



As can be seen in the detailed information above, students run a startup company and they make critical and important decisions from the first day to the first 2 years of the company. It is impossible to be involved in all of those steps in any type of internships programs. Therefore we can say that students gain insights into the real business world by using business simulation programs.

### 3. RESULTS

The simulation program has created opportunities for students to gain experience in a real business world setting, the value of cause and effect and business decision making by a team as well. The teaching method was created to foster students' learning environment. The simulation presented a business environment where 5 laptop companies compete for 2 years, shortened into weekly quarters. Each week during the class time short lectures about the subjects are given to the students by the instructor and after the lecture, questions are discussed. It is observed that at the beginning students were nervous about making decisions and they were looking for an easy answer. Later the teams became more comfortable about using the simulation and making decisions. Before the class ends each team gave a presentation and a short report to the executives. The presentation helped them summarizing their decision results and making a strategic leap for the next quarter.

This study confirmed with Liviu Ciucan-Rusua's study conducted in 2012. As in their study a real team-building approach, participation in activities and negotiation on decisions are observed in their study. The results of this study are also in agreement with their study on students paying more interest to the change in Profit, Turnover, and market share in the decision making practice.

After finishing a quarter, students were able to observe how other teams were performing in the market in the previous quarter. Analyzing the market share, balanced scorecard, other's product features and other information they started competing very strongly. They acted like they were running a real business and wanted to be successful and beat the other teams. They worked very hard on capturing the market and among others and came up with strategic plans. Even some teams which were close to filing bankruptcy in the quarter 6 and during the following quarter the team made tactical decisions and saved the company. It was obvious that the teams analyzed the situation well to save the company.

The feedback that was collected from the students included the followings: They wished that the simulation program was offered in the earlier years of their study. All of them found the simulation very useful and they were able to apply all the knowledge that they gained during the four years. Students did not like calling the simulation "simulation game", they thought that the word of the game sounded like playing a game. Thus the simulation program was something more serious than a game. They wanted the work with a real company as a project thus; they would feel they worked on something more valuable. Students felt more comfortable and confident about finding a job because of gained skills in the course. They also said that they absolutely would recommend using this type of simulations when they start working for a company in the future. They mentioned that they spent lots of time outside of the classroom and read materials from outsources. Presentation and exhibit to the companies' managers and executives were another motivation to be successful in the course.

### 4. DISCUSSIONS and CONCLUSION

First of all, the simulation program provided an exciting and technologically rich context

for firsthand learning to the students. According to the results of this study, the BA department agreed upon using the Marketplace simulation and including in the curriculum for the future. Teams and students who spent more time than others made better decisions and run the company successfully. It is also observed that students who performed poorly in the course were not successful in their other classes. Thus, failing in this course was not exactly related to the simulation and its easiness. Students were impressed with the simulation program and strongly believed that because of its usefulness and be able to taking free risks this kind of tools must be used in every organization in Turkey.

Some of the limits are considered in this study. One of them is the sample size, and because of the size, the results cannot be generalized. In further studies, a larger sample size might be used to collect more data for better results.

In general, licensing fees are paid by the students in many countries, and the team can fire a member in the simulation. A fired member has to repurchase a new license and play against a computer. Afraid of being fired, the students make equal contributions to each step, fulfill the responsibilities, attend every class meeting and work well with others. In this study, the university paid the license fee and the students might not be concerned about being fired and repurchase a new license. A paid license may have had an impact on students' efforts. Thus, a new study might be included paid and unpaid license fee to observe if it makes a difference in students' performance.

Location is also considered as another limitation in this study. Additional studies should take place in other locations for comparisons. Additionally, further studies would be conducted in different environments such as in business environments other than educational environments.

## REFERENCES

- Carr, D. (2003). Philosophy and the meaning of education. *Theory and Research in Education*, V. 1(2), 195- 2 12.
- Cosenz, F., Notob, G. (2018). Fostering entrepreneurial learning processes through Dynamic Start-up business model simulators. *The International Journal of Management Education* 16, 468–482. <https://doi.org/10.1016/j.ijme.2018.08.003>
- Bell, R., Loon, M. (2015). The impact of critical thinking disposition on learning using business simulations. *The International Journal of Management Education*. 13, 119-127. <http://dx.doi.org/10.1016/j.ijme.2015.10.003>
- Blackford, B., Shi, T. (2015). The relationship between business simulations in capstone management courses and standardized test scores. *The International Journal of Management Education*. 13, 84-94
- Borrajó, F., Bueno, Y., Pablo, I., Santos, B., Fernández, F., García, J., and Sagredo, I., (2010). SIMBA: A simulator for business education and research. *Decision Support Systems*. 48, 498–506.
- Burdon, W. M., Munro, K. (2017). Simulation is it all worth it? The impact of simulation from the perspective of accounting students *The International Journal of Management Education* 15, 429-448. [doi.org/10.1016/j.ijme.2017.07.001](https://doi.org/10.1016/j.ijme.2017.07.001)
- Dereköy, F. and Ayhün, S.E (2017). Simulation implementation in development of business and accounting education-virtual enterprise: A case study. *International Journal of Economics and Administrative Studies* (16. ÜİK Özel Sayısı):781-792 ISSN 1307-9832.
- Gatti, L., Ulrich, M., and Seele, P. (2018). Education for sustainable development through business simulation games: An exploratory study of sustainability gamification and its effects on students' learning outcomes. *Journal of Cleaner Production* 207, 667-678. <https://doi.org/10.1016/j.jclepro.2018.09.130>
- Gredler, M. E.(2004). Games and simulations and their relationships to learning. In D.H. Jonassen (Ed.), *Handbook of research on educational communications and technology* (2nd ed.). (pp. 571-581). Mahwah, NJ: Lawrence Erlbaum Associates.
- Hernandez-Lara, Perera-Lluna and Serradell-Lopez (2018). Applying learning analytics to students' interaction in business simulation games. The usefulness of learning analytics to know what students really learn. *Computers in Human Behavior*. (pp. 1-13) <https://doi.org/10.1016/j.chb.2018.03.001>
- Hughes, S., Scholtz, F.(2015). Increasing the impact of a business simulation: The role of reflection. *The International Journal of Management Education* 13, 350-361. <http://dx.doi.org/10.1016/j.ijme.2015.06.001>
- Jahangiriana, M., Eldabib, T., Naseera, A., Stergioulasa, L. K., and Young, T. (2010). Simulation in manufacturing and business: A review. *European Journal of Operational Research* (1-13). [doi:10.1016/j.ejor.2009.06.004](https://doi.org/10.1016/j.ejor.2009.06.004).
- Jones, K. (1998). Simulations as examinations. *Simulation & Gaming*, 29(3), 331e341. <http://dx.doi.org/10.1177/1046878198293010>.
- Lin, H., H., Yen, W., C., and Wang, Y., S. (2018). Investigating the effect of learning

- method and motivation on learning performance in a business simulation system context: An experimental study. *Computers & Education*, 127, 30–40.
- Mahboubian, M. (2010). Educational aspects of business simulation softwares. *Social and Behavioral Sciences*. 2, 5403-5407. doi:10.1016/j.sbspro.2010.03.881.
- Marketplace SIMULATIONS. <https://www.marketplace-simulation.com/capstone-simulations>
- Nisula, K., and Pekkola, S. (2012). ERP-based simulation as a learning environment for SME business. *The International Journal of Management Education*. 10, 39–49
- Pando-Garcia, J., Periañez-Cañadillas, I., and Charterina, J. (2016). Business simulation games with and without supervision: An analysis based on the TAM model. *Journal of Business Research* (1731–1736). <http://dx.doi.org/10.1016/j.jbusres.2015.10.046>
- Pasin, F., Giroux, F. (2011). The impact of a simulation game on operations management education. *Computers & Education*, 57, 1240–1254
- Polyakova, E., I. (2016). Business simulation as a means of developing intercultural competence. *Social and Behavioral Sciences*. 236, 289 – 294. International Conference on Communication in Multicultural Society.
- Rosen, K. R. (2008). The history of medical simulation. *Journal of Critical Care*, 23(2), 157- 166. <http://dx.doi.org/10.1016/j.jcrc.2007.12.004>.
- Pratt, M., A., Hahn, S. (2016). Enhancing hospitality student learning through the use of a business simulation. *Journal of Hospitality, Leisure, Sport & Tourism Education*. 19, 10–18. <http://dx.doi.org/10.1016/j.jhlste.2016.05.001>.
- Rusu, L., C. (2012). Action and reaction-case study from a business simulation. *Economics and Finance*. 3, 1243-1249. doi: 10.1016/S2212-5671(12)00303-6
- Vos, L. (2015). Simulation games in business and marketing education: How educators assess student learning from simulations. *The International Journal of Management Education*, 13, 57- 74. <http://dx.doi.org/10.1016/j.ijme.2015.01.001>.
- Yağcı, M. İ and Özkan, C. (2014). International marketing courses in Turkish business administration programs. *Doğuş Üniversitesi Dergisi*, 15, (1) 31-43
- Zhang, M., J., (2015). Using login data to monitor student involvement in a business simulation game. *The International Journal of Management Education* 13, 154-162. <http://dx.doi.org/10.1016/j.ijme.2015.02.003>

## İŞLETME EĞİTİMİNDE SİMÜLASYON PROGRAMLARININ BİTİRME PROJESİ OLARAK KULLANIMI: VAKA ANALİZİ

### 1. GİRİŞ

Teknolojik değişiklikler günlük olarak yeni öğretim araçlarına öncülük etmektedir. Sürekli değişen teknolojiler, eğitimcilerin ders ve kurs materyallerini zorlamaktadır. Lin,

Yen ve Wang'a (2018) göre, bu zorluklar eğitim alanında ders verme ve çalışma stillerinde çarpıcı değişikliklere yol açmaktadır. Pando-Garcia, Periañez-Cañadillas ve Charterina'da (2016), işletme yönetimi eğitiminin hızla değiştiğini ve çeşitli öğretim ve öğrenme sistemlerini kullanarak saha içi ve saha dışı konulardaki becerilerin kazanılmasının önemini özetlemektedir. Küreselleşme den dolayı uluslararası pazarlama kursları önceki yıllara göre daha önemli hale gelmiştir. Yağcı ve Özkan (2014), işletme departmanlarının, bugünün rekabetçi küresel pazarında aktif olabilecek şekilde öğrencilerini eğitmeleri gerektiğine işaret etmektedir.

Her ne kadar teorik bilgiler eğitimde önemli olsa da, pratik bilgiler veya uygulamalı deneyimler de önemli bir rol oynamaktadır. Pratik bilgi, özellikle işletme öğrencileri için çok önemli bir beceri olmaktadır. Pratt ve Hahn (2016), "Birçok işletme okulunun, endüstri becerileri ve bilgisini içeren ve öğrencilerin gelecekteki istihdamıyla ilgili kurslar açma gereğini kabul ettiğini" belirtmiştir (s. 10). Bundan dolayı, işletme programlarının tamamı dört yıl boyunca belirli bir kredilik staj süresi gerektirmektedir. Genellikle, işletme öğrencileri, zorunlu stajlarını yerine getirmek için bir kuruluşta ilgi alanlarını veya staj uygunluklarını seçmektedirler ve bu yüzden stajyerler kuruluşların diğer işlevlerini görememektedirler. Daha önce de belirtildiği gibi, işletme öğrencilerine verilen teorik bilgilerin yanı sıra öğrencilerin gerçek dünyadaki bir iş ortamında tecrübe edinmelerine ihtiyaç duyulmaktadır.

Simülasyon programları, öğrencilere bir şirket kurma ve gerçek bir işletme olarak yönetme şansı veren önemli bir araç haline gelmektedir. Ek olarak, simülasyon programları öğrencilerin bir şirketin tüm fonksiyonlarını anlamalarını sağlamaktadır. Piyasada pek çok işletme eğitiminde kullanılan simülasyon programları olmasına rağmen bu çalışmada Marketplace isimli simülasyon programı Bitirme Projesi olarak kullanılmıştır. Bu simülasyon, Tennessee Üniversitesi öğretim üyeleri tarafından özellikle eğitim amaçlı geliştirilmiştir. Bu çalışma, Türkiye'de Anadolu'da bulunan ve İngilizce eğitim veren bir devlet üniversitesinde lisans dersi olarak yürütülmüştür ve bir vaka çalışması olarak tasarlanmıştır.

### 1.1. Literatür İncelemesi

Simülasyonlar, 1950'lerin Hughes, Scholtz'undan beri (Gredler, 2004'te belirtildiği gibi) dünyanın her yerindeki işletme eğitimi boyunca, özellikle on yıllardır (Jones, 1998; Rosen, 2008'de belirtildiği gibi) çeşitli disiplinlerde (Hughes, Scholtz, 2015) bir eğitim aracı olarak kullanılmaktadır. Rusu (2012) kurumsal simülasyon programlarının kursiyerler üzerindeki faydalarını ispatlamıştır. Simülasyonların en önemli yararlarından biri, gelecekteki girişimcilere deneyim kazandırmaktır. Eğitim, öğrenciyi meslek hayatına hazırladığından, iş dünyasında da başarılı olabilmesi için belli becerilerin kazanılması çok önemli bir yer tutmaktadır.

Gatti, Ulrich ve Seele (2018) ve Bell ve Loon (2015) simülasyon programlarının öğrencilerin eleştirel düşünme becerilerini geliştirmelerine ve duygusal katılım geliştirmelerine yardımcı olduğunu öne sürmüşlerdir. Pasin ve Giroux'da (2011), simülasyon programlarının öğrenciler için karmaşık ve dinamik durumların yönetilmesi



için karar verme becerilerinin geliştirilmesinde daha etkili olduğunu doğrulamıştır. Polyakova (2016), yabancı dil öğretiminde bir iş simülasyon programı kullanmış ve iş simülasyonlarının kültürlerarası yetkinliği arttırdığını, iletişimsel bileşenleri güçlendirdiğini, öğrenciler arasında etkili kültürlerarası iletişim için gerekli sosyo-kültürel bilgi ve becerileri edinmede yardımcı olduğunu bulmuştur. Borrajo, Bueno, Pablo, Santos, Fernández, García ve Sagredo'nun (2010) çalışmaları, simülasyon programlarının geleneksel işletme öğretiminden ziyade öğrenme, beceri geliştirme ve karar verme konusunda daha fazla avantajı olduğunu ortaya koymuştur.

İş simülasyonları sadece eğitimde değil aynı zamanda iş dünyasında da kullanılmaktadır. Özel ve kamu kuruluşları seçimlerini test etmek, yeni bir pazara girip girmemek ve finansal durumlarını incelemek için simülasyon programları kullanmaktadır. Simülasyonlar operasyon yönetimi alanında ikinci en yaygın teknik olarak ortaya çıkmaktadır. , Marketplace simülasyon programını BMW, Coca-Cola, Disney, Delta Havayolları, Eastman Kodak Company Health Imaging Div., Erickson Associates, FedEx, Amerika Birleşik Devletleri Posta Servisi, ABD Sayım Bürosu ve Wal-Mart kullanmaktadır. Türkiye'de de pek çok şirket de bu simülasyonu ve diğer simülasyon türlerini kullanmaktadır. Örneğin, "Capsim" adlı bir simülasyon programı, Borusan, Eczacıbaşı ve Bilkent Üniversitesi gibi büyük şirketler tarafından yaygın olarak kullanılmaktadır. Bu şirketlerin simülasyon kullanması, eleman alırken simülasyon kullanmayı bilen adayı tercih edebileceği anlamına gelmektedir. Bu nedenle, simülasyon programlarını kullanabilmek ve simülasyon sonuçlarını yorumlayabilmek öğrencilerin uluslararası ve ulusal alanda is bulabilmelerine yardımcı olacağı düşünülmektedir.

## 2. METODOLOJİ

Bu çalışmanın temel amacı, simülasyon programlarının bitirme projesi olarak kullanılmasının işletme son sınıf öğrencilerine faydalı olup olmadığını analiz etmektir. Vaka çalışması yöntemi uygulanmış ve çalışmaya 13 işletme son sınıf öğrencileri katılmıştır. Çalışmada görüşmeler, doğrudan katılımcı gözlemleri ve öğrenciler arasındaki sohbet kayıtlarının gözden geçirilmesi de dahil edilerek veri toplamak için multi-model yaklaşım kullanılmıştır. Haftalık görüşmelerde açık uçlu sorular sorulmuş ve kayıtların tamamlanmasından sonra, veriler bütünsel olarak yorumlanmıştır.

## 3. BULGULAR

Simülasyon programı, öğrencilerin gerçek bir iş dünyasında deneyim kazanması, sebep-sonuç değeri ve bir ekip tarafından iş kararlarının alınması için fırsatlar yaratmıştır. Ders süresince her hafta öğrencilere konularla ilgili bilgiler öğretim elemanı tarafından verilmiş ve ders sonunda sorular tartışılmıştır. Başlangıçta öğrencilerin karar verme konusunda gergin oldukları ve kolay bir cevap aradıkları görülmüştür. Daha sonra takımlar simülasyonu kullanma ve karar verme konusunda daha rahat davranmaya başlamıştır. Ders bitmeden önce her ekip yöneticilere bir sunum ve kısa bir rapor vermiş buda karar sonuçlarını özetlemelerine ve gelecek çeyrek için stratejik bir sıçrama yapmalarına yardımcı olmuştur.

#### 4. TARTIŞMA ve SONUÇ

Her şeyden önce, simülasyon programı öğrencilere ilk elden öğrenme için heyecan verici ve teknolojik açıdan zengin bir bağlam sağlamıştır. Diğer takımlara göre daha fazla zaman harcayan takımlar ve öğrenciler daha iyi kararlar vermiş ve şirketlerini daha başarılı bir şekilde yönetmişlerdir. Ayrıca derste iyi performans gösteren öğrencilerin diğer derslerde başarılı olamadıkları görülmüştür. Bu nedenle, bu derste başarısız olmak simülasyonun kolaylığı veya zorluğu ile tam olarak ilişkili olmadığı gözlemlenmiştir. Öğrenciler simülasyon programından etkilenmiş, faydalı bulmuş ve maddi bir kayıp yaşamadan risk alınabileceğinden bu tür araçların Türkiye'deki her organizasyonda kullanılması gerektiğini vurgulamışlardır.

1998 yılında bitirdi. 2009 yılında yönetim ve organizasyon alanında doçentlik unvanını alan Çakıcı, 2014 yılında Profesörlüğe yükseltilmiştir. Halen Mersin Üniversitesi İİBF İşletme bölümünde çalışmaktadır. “Örgütlerde Sessizlik” konusunda öncü çalışmaları bulunmaktadır. İlgili alanları insan kaynakları yönetimi ve örgütsel davranış konularıdır.

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