Doctor Mentoring in Artificial Intelligence, Case Studies in Computer Systems Concept, Global E-Commerce, and International Management

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Abstract

Harvard Law School, Harvard Business School, and many other MBA and Executive MBA programs created Case Studies for their students. Using Case Studies for Undergraduate and Master programs provided good outcome. For PhD candidates, they do quantitative or qualitative research for real world Case Studies. But there were few Case Studies in the literature for Computer Systems Concept, Global E-Commerce, and International Management.

At Dominican University, Global E-Commerce and International Management wereoffered for onsite Undergraduates. Computer Systems Concept was offered to Master students, at Pace University. This author is mentoring Doctoral students in Artificial Intelligence at Capitol Technology University online.

Doing Case Studies in these courses, online or onsite, with Undergraduates, Masters, PhDs, provided a sound foundation for critical thinking, leadership,and team building skills. Student reviews were good to excellent. This paper gives the summary.

Keyword: Artificial Intelligence, Computer Systems Concept, Global E-Commerce, International Management, PhD Mentoring, and Real-World Case Studies

(A) Dominican University*

Dominican University is located 14 miles northwest of New York City. Donald Hsu joined Dominican College in 1988 as an Associate Professor in the Business Division. In Spring Semester of 2023, the College enrolled 2000+ students. The Business Division offers Bachelor of Science programs in Finance (FI), Marketing (MK), Information Technology (IX), International Management (IM), and Sports Management (SM). Master Degree Business Administration (MBA) was approved,by the State of NewYork in 2008. Hsu served as the Director of Business Administration Division from 1990 to 1996, and taught courses in IX, MK and IM curriculum.

MG 355 International Management

21 people registered in Spring Semester 2023. Twomajors in IM, two in SM, six in IX, all others in Management. Sweeny and McFarlin (2015) wrote the textbook. This course aims to investigate specific issues in the governance of multinational enterprises. Topics include foundations for international management, managing across cultures, strategic planning, managing political risks, organizing operations, decision making controlling, personnel selection repatriation, training organization development, labor relations, communications, motivating human resources, Hamlet et al (2016), Hsu (2020), Owarish and Hsu (2018).

Class meets in person onsite, twice a week, for one hour and fifteen minutes each. All 13 chapters were covered. In addition to PowerPoint lectures and discussion, students worked in a team of four or five, doing in-class labs on 1) Business Week, 2) CNBC, 3) Financial Times, 4) Forbes, 5) Fortune. The team exercise provided a sound foundation of leadership and problem-solving skills. For the lecture class, PowerPoint slides were employed to cover the content of each chapter. Just reading the slides bore them. So read a few lines, and then ask them questions: Why is Apple making iPhones and iPads in China? Why is Apple moving to India now? Name the top five automakers, banks, asset management firms, retailers, and oil companies in the world. Name the four most populated countries in the world. How many people are in the European Union? What is BRIC? Is selling products in the USA the same as selling in BRICs? Can you make money starting an import/export company today? If yes, how? Why does the USA have such a huge military budget? Is Ukraine war good for business, why or why not? How do you think the endgame is for Ukraine war? Define FDI. Why is the exchange rate important in international management? This type of question keeps the lecture alive, and students are challenged to find answers. For the final projects, students worked in a group of two or threeforworld billionaires. Students did extensive Case Studies on the founder/CEO, company core business, sales, profit, financials, SWOT analysis, competitors, andfuture, see Table 1.

MG 366 Global E-Commerce

Twelve people attended in person, Spring Semester 2023. Laudon and Traver (2018) wrote the textbook. Amazon and Ebay served as examples of the American success stories for Ecommerce. Much discussion focused on the business model of: Expedia, Facebook, Google, Hulu, Instagram, JetBlue, Linkedin, Netflix, Priceline, Snapchat, Spotify, TikTok, Twitter, Yahoo, and YouTube. Chinese E-commerce firms that traded publicly in USA areAlibaba, Baidu, JD, Tencent, many others. Why are their stock prices going down since the IPO? Is Facebook a good business model? Why is Facebook and Google banned in China? Why is Samsung Galaxy so cool? Why is Uber totally failed in China? Is Fitbit a good business? Are there successful Ecommerce in Brazil, Russia, and Eastern Europe? Can you start a global E-commerce today and make money? What is the reason that people will pay for your product/service online? This type of question got students' attention. In addition, this course covered 7 non-US countries, taking E-commerce to the global level. Teaching real life success is a great motivator for E-Commerce business. In-class team exercises were done for Business Plan, Global Finance, Harvard Business Review, and Project Management. For the final projects,

they did extensive research on the company core business, sales, profit, financials, SWOT analysis, issues, competitors, the future, for E-Commerce success Case Studies in China, India, Japan, Germany, and Sweden, Table 2

(B) Pace University**

Pace University is a private university with three campuses in New York: Pace University in New York City, Pace University in Pleasantville, and Pace Law in White Plains. It was established in 1906 as a business school. Pace enrolls about 13,000 students in bachelor's, master's and doctoral programs.

Pace University offers about 100 majors at its six colleges and schools, including the College of Health Professions, the Dyson College of Arts and Sciences, Elisabeth Haub School of Law, Lubin School of Business, School of Education, and Seidenberg School of Computer Science and Information Systems

CS 604 Computer Systems and Concepts

This course is offered for the students in Computer Science, Master program, Seidenberg School of Computer Science and Information Systems The course was taught in Zoom, Thursday evenings, Spring 2023.

Course Description: This course provides an integrated survey of fundamental ideas in the areas of computer architecture, operating system, programming language, and translation.

Learning Outcomes and Major Topics

- Computer Abstractions Technology
- Language of the Computer
- Arithmetic for Computers
- The Processor
- Exploiting Memory Hierarchy
- Parallel Processors from Client to Cloud
- Introduction Operating Systems
- Memory Management Systems
- Virtual Memory Systems
- Process Management
- Process Synchronization
- Concurrent Process
- Device Management
- File Management

Two textbooks were employed, Patterson and Hennessy (2017) on Hardware, Design, Assembly language, C language; McHoes and Flynn (2018) on Operating Systems, Process and Device Management.

21 people enrolled, majority from India. Covering two books, 14 chapters is a challenge.

Every week, students asked/answered questions actively via Zoom class online, Zoom (2023). There was a weekly post from the chapter every week. Students replied to get credits. Three homework assignments were graded.Some students spent many hours to work on these assignments. For the 10 homework questions, 5 were team and 5 were individual. They workedwith their team members and manager to submit answers for team questions. On individual question, students submitted on their own. Advanced students could help/guide the weaker students. Four teams were assigned on week one. Each team had 4 to 5 members, with one team manager. For 15 weeks, they developed critical thinking and team building skills. This strategy worked out very well.

Final project consists of papers and PowerPoint presentations: (1) Android, (2) C Programming, (3) C# Programming, (4) Java Programming. Each project involved a program with at least 100 lines of codes, in these programming languages. They compiled, ran, executed, and explained how the program worked. The final paper grade is the same for the group. But PowerPoint presentation grade is individual. Students did great work in this course. The evaluation was excellent, see Table 3.

(C) Capitol Technology University**

Capitol Technology University is a private university in South Laurel, Maryland near Washington, DC. The university was founded in 1927 as the Capitol Radio Engineering Institute by a former US Navy Radioman. CREI changed its name to Capitol Institute of Technology in 1964, changed its name again to Capitol College in 1987, and assumed its present name in 2014.

Capitol offers undergraduate and graduate programs specializing in engineering, computer science, information technology, and business. It is classified among "Special Focus Institutions—Schools of Engineering"and is a National Center of Academic Excellence in Information Assurance Education.

Capitol Technology University, through its Department of Computer Science, provides degree programs in the concentration areas of Computer Science, Artificial Intelligence and Data Science, at each of the bachelors, masters, and doctoral levels of study.

Capitol currently offers thirty-eight doctoral programs. For Artificial Intelligence, it is a research-based doctorate PhD degree where student will be assigned an academic supervisor to guide through the program and is based on mostly independent study through the entire program. It typically takes a minimum of two years but typically three years to complete if a student works closely with their assigned academic advisor. Under the guidance of academic supervisor, student will conduct unique research in the chosen field before submitting a thesis or being published in three academic journals agreed to by the academic supervisor.

This author started mentoring doctoral students at College of Doctoral Studies (2023), University of Phoenix, since July 2016. 20 people obtained their doctoral degrees in Business Administration, Education Leadership, Management Organization Leadership, Information Systems Technology, Healthcare Administration, and Industrial Psychology, Hsu (2023). Through connections from Linkedin (2023), in January 2021, this author learned about the

Capitol doctoral program, and was hired as a doctoral mentor/academic supervisor.

There are three semesters in a year. The first one starts January 1 through April 30, second one May 1 through August 31, third one September 1 through December 31. Each semester is about 4 months, or 16 weeks. Ten courses are required for the doctoral degree. So, it is possible to complete it in three years and four months or sooner, if the student takes two courses in any given semester.

Using code to protect student privacy, JS for John Smith.MM needed a mentor on technical content and mathematics. He signed up to be my first doctoral student in May 2021. His topic is Cyber Security. I spend one hour in Zoom with MM, every week, Monday 2 to 3 pm. We discussed his research questions, technical content, and his approach to solving the problems. After three to six courses, he developed his own IoT model, using Java programming codes. He passed both the ARB and IRB requirement from Capitol. Now MM is close to defending this doctoral thesis.

In January 2022, three students came on board. VH is doing Quantum Computing (QC), BR is doing Artificial Intelligence (AI), KN is also doing AI. After several courses, VH passed both ARB and IRB, and now is writing her doctoral thesis. KN just passed his ARB.

In September 2022, 2 joined the group. AH is studying AI, MN is doing Space Cybersecurity (SC). I am not an expert in this field. But in a short two months, MN was able to find 30+ papers on SC, very interesting development.

In January 2023, three people were on board. MW is doing AI, DF doing QC, SF is also doing QC. I met the students(AI and QC) weekly in the Zoom, for one hour. Due to the popularity of ChatGPT, there is paper, video, books, on AI almost every day, if not every hour. QC is gaining popularity due to IBM, MIT, and global competition for faster computer research and development.

In May 2023, two more joined. EC is doing QC, and JL is going AI. Some students did not attend every semester, due to personal or financial reasons. As a Chair, and their mentors, I benefit much from working and learning from their paper submissions and their weekly feedback. It was a very rewarding experience.

Conclusion

Students/professionals learn the theory and need to connect it to the real world. 54 people completed Global E-Commerce, International Management, andComputer Systems Concept, at two Universities. 11 candidates are pursuing their doctoral degrees in Artificial Intelligence, Cyber Security, Quantum Computing, and Space Cybersecurity. Teaching and learning strategies included in-class use of Business Plan, Business Week, CNBC, Financial Times, Forbes, Fortune, Global Finance, Harvard Business Review, Internet Search, Project Management, and YouTube. Final projects involved a written paper for a specific Case Study and the PowerPoint

presentation by a team or an individual. These tools and reports contributed to the success in an E-Learning environment.Students/professionals raved about the experiences.

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*Full-Time Position **Part-Time Consultant

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Table 1	MG 355 International Management		Final Group Projects May 10, 2023
Group A	***Topic***	***Group B***	***Topic***
Adiele*	**Carlos Slim Helu**	**Owen**	**Amancio Ortega**
Rodney	**Amer Movil, Mexico**	**Pirana***	**Zara, Spain**
Remigio			
Group C	***Topic***	***Group D***	***Topic***
Brooks	**Shanshan Zhong**	**Davis**	**Bernard Arnault**
DeCoster*	**Nongfu, China**	**Mehn***	**LVMH, France**
Group E	***Topic***	***Group F***	***Topic***
DiMarsico*	**Francoise B. Meyers**	**Bryant ***	**Tadashi Yanai**
Carabetta	**L'Oreal, France**	**Miller**	**Uniqlo, Japan**
Group G	***Topic***	***Group H***	***Topic***
Diego*	**Yiming Zhang**	**Chimenti**	**Dieter Schwarz**
Frica	**Tiktok, China**	**Haas***	**Lidl, Germany**
Group I	***Topic***	***Group J***	***Topic***
Nikollaj	**Mukesh Ambani**	**Smith**	**Giovanni Ferrero**
Santiago*	**Reliance, India**	**Vara***	**Nutella, Italy**
	*** Manager**		

Table 2	MG 366 Global E-Commerce	Final Projects, May 11, 2023	
Group A	***Topic***	***Group B***	***Topic***
Medina	**Alibaba**	**Monzon**	**Shein**
McReynolds*	**China**	**Long***	**China**
Group C	***Topic***	***Group D***	***Topic***
Merrill*	**Spotify**	**Obanyoun***	**Flipkart**
Solano	**Sweden**	**Ogbo**	**India**
Group E	***Topic***	***Group F***	***Topic***
Garcia-Nunez	**Zalando**	**Rotondo**	**Rakuten**
Tavarez*	**Germany**	**Silva***	**Japan**
	**** Manager***		

Table 3. Student Evaluation, CS 604, Spring 2023
Instructor questions - Score analysis

Question	Average			Instructor (DonaldHsu)			Subject (CS)		
	Response Count	Mean	Standard Deviation	Response Count	Mean	Standard Deviation	Response Count	Mean	Standard Deviation

Question	Average			Instructor (DonaldHsu)			Subject (CS)		
	Response Count	Mean	Standard Deviation	Response Count	Mean	Standard Deviation	Response Count	Mean	Standard Deviation
The instructor was well-prepared and organized.	12	5.00	0.00	46	4.07	1.24	1506	4.44	0.92
The instructor explained material clearly and thoroughly.	11	5.00	0.00	45	3.98	1.36	1470	4.37	1.01
The instructor encouraged questions, comments, and discussion.	11	5.00	0.00	45	4.16	1.26	1476	4.49	0.89
The instructor seems knowledgeable in the subject area.	11	5.00	0.00	45	4.29	0.92	1474	4.53	0.84
The instructor made effective use of class time.	11	5.00	0.00	45	4.02	1.39	1444	4.41	0.97
The instructor displayed respect for each student.	11	5.00	0.00	45	4.20	1.04	1464	4.55	0.82
The instructor seems to know if the class understands.	11	5.00	0.00	45	3.76	1.49	1468	4.34	1.01
Overall	-	5.00	0.00	-	4.07	-	-	4.45	-

What did you find most valuable about this course?

Comments
Teacher explains the lecture easily.
professor is very knowledgeable
N/A

What suggestions can you offer to improve the course?

Comments
Nope. Thank you for teaching us.
NA
N/A