

CPM Assessment
Knowledge Assessment for Management
Skills Based on AMA Book of Knowledge

Applied Project Final Report

By

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Declaration

Ming Cai declare that this project report submitted by me to School of Professional Studies, New York University in partial fulfillment of the requirement for the award of the degree of Master of Science in Management and Systems is a record of project work carried out be me under the guidance of Dr. Andres Fortino, NYU Clinical Assistant Professor of Management and Systems. I grant powers of discretion to the Division of Programs in Business, School of Professional Studies, and New York University to allow this report to be copied in part or in full without further reference to me. The permission covers only copies made for study purposes or for inclusion in Division of Programs in Business, School of Professional Studies, and New York University research publications, subject to normal conditions of acknowledgment. I further declare that the work reported in this project has not been submitted and will not be submitted, either in part or in full, for the award of any other degree or diploma in this institute or any other institute or university.

Abstract

This project is to establish a test bank and evaluate its efficacy and effectiveness in improve the management knowledge, skills, and competency of students graduating from a STEM program. This project is to make students better prepare for AMA's Professional Management Certification exam. This project shows that many students of management-related majors graduating from New York University do not have the adequate management capacity and skills. A test bank is a useful tool to help students to have a better understanding of their learning outcome and progress. This test bank can help faculty and course teachers to modify and improve their curriculum.

Background – While higher education institutions are to equip students with the hard and soft skills to allow them to have a better preparation for the highly competitive labor market, many higher education institutions fail to do so, so many employees complain that higher education institutions should do more to improve the knowledge, skills, and competencies of students graduating from colleges or universities. The AMA Certified Professional in Management Exam is an important certification exam for managers or prospective managers. Although AMA provides lots of resources for people to learn, many of them do not know if they are competent enough to pass this certification exam.

Research questions -- We asked several questions for this research. 1) if students of management-related majors graduating from New York University have the adequate management capacity and skills; 2) what could schools do to help these students to improve their management capacity and skills to pass a management certification exam; 3) if a test bank is a useful tool to help students to have a better understanding of their learning outcome and progress,

according to which they could improve their learning outcomes; 4) if this test bank can help faculty and course teachers to modify and improve their curriculum.

Methods-- This project invites students participating in the Applied Projects capstone course in Spring 2021 and 16 of them participated and completed this project.

Index Terms – hard skills, soft skills, management competencies, certification

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1. Introduction

1.1 Company Background

New York University is one of the top private universities in New York and in the United States, which ranks 35th in QS Global World University Rankings 2021. New York University. NYU School of Professional Studies. There are lots of reputable schools under New York University. One of these is The NYU School of Professional Studies. The NYU School of Professional Studies focused on education that prepares students to become leaders of the industry. Established in 1934, The NYU School of Professional Studies has educated and prepared societies in different fields with many talents.

1.2 Information of the Project Sponsor

The sponsor is Dr. Andres Fortino, the instructor of this class. Dr. Andres Fortino is an adjunct faculty member at the NYU School of Professional Studies. He is also operating his own company, Fortino Global Education, to provide education and consulting services. He is the author of eight books and his scholarship mainly focuses on learning analytics, information systems development, intellectual property management, data networks, and the diffusion of innovation (School of Professional Studies, n.d.).

2. Problem Description/Opportunity

2.1 Background Introduction

The AMA Certified Professional in Management Exam is an important certification exam for managers or prospective managers. Certification is important for the existing and prospective managers as well as the companies in this competitive labor market environment. For the existing managers, a high-quality, well-recognized management certification can increase the management capacity and make them more resilient and flexible managers to protect their career and preserve the integrity of their team (Kelly, 2019). For prospective managers, this certificate can also increase their competitiveness in the labor market. There are also multiple benefits for this certification for the companies. Companies are provided a way to recognize the managerial competence of the managers, increase the management capacity of the existing managers, increase the productivity and morale, and reduce the turnover rate caused by the skill gaps and behavioral deficiencies in the managers (Management Centre Europe, n.d.). However, the AMA Certified Professional in Management Exam is not an easy exam to pass. AMA Certified Professional in Management Exam includes competencies in professional effectiveness, relationship management, and analytical intelligence. The pass rate of this exam is about 50%-60%. It means that many testees have yet well-prepared for this exam. In fact, many of them do not know that if they have been well-prepared for this exam even though they have studied for many hours. Many of them are lacking a tool to help them to check their learning progress and understand the gap to the basic requirement to pass this exam. However, the problem is that the school is currently lacking an effective test system to help students gain a better understanding of

their learning progress. It points out the importance of developing a system or test bank to help students achieve this purpose.

2.2 Opportunity

To help people prepare for and pass this exam, the American Management Association provides some courses and materials for people to learn and make preparation such as The Management Body of Knowledge. The Management Body of Knowledge contains several domains of knowledge such as “Professional Effectiveness”, “Relationship Management”, “Business Acumen”, and “Analytical Intelligence”. These domains contain several subsections.

In addition, there have been some tools available for people to compile and develop a test system such as Qualtrics. Qualtrics is a technology company found in 2002. It has been highly popular in academia and business. Qualtrics can allow individuals or organizations to create and conduct online surveys. Qualtrics also allows its users to develop and conduct live tests. Another powerful function of Qualtrics is its data & analysis functions that allow its users to filter, classify, and analyze the response data. There are several distinct features for Qualtrics as a survey tool. It is a free tool available for its users except some additional functions. In addition, its users do not need to install any software or program, which provides much convenience for its users. Additionally, it allows its users to upload multimedia contents that make their surveys or tests more attractive. Besides, Qualtrics is compatible with other popular software or programs such as SPSS, CSV, PDF, Word, Excel, or PowerPoint.

Besides, the sponsor is also willing to provide technical support to building a test bank. The technical support by the sponsor can make sure that this project can be undertaken easier and more smoothly.

3. Importance of the Project to the Organization

The purpose of this program is to create a computer-based tool to assess students' management skills and knowledge based on the Certified Professional Manager Certification Body of Knowledge from the American Management Association. This program will develop 63 test questions based on the Certified Professional Manager Certification Body of Knowledge from the American Management Association. This program will allow its users to examine their learning progress and their level of understanding of the management knowledge and skills as required in the American Management Association Certified Professional Manager Body of Knowledge. There are several benefits for this project.

1. To improve students' knowledge and skills in management

This benefit can be achieved by allowing students to examine their learning progress. Without this test bank system, students do not know what they have learned and how far they are to be meet the basic requirement to pass the exam. Therefore, the key to this benefit is that it can make the learning process more efficient by orienting students to the areas that still improvement instead of repeating learning the same content over and over.

2. To improve the testing ability of students

The test bank system can also help improve the testing ability of students. Although students might have taken lots of tests or exams before taking the certification exam, many of them may not have the experience taking an intense, difficult exam that tests their management capacity and skills. Therefore, this test bank system can let students be more familiar with the testing environment for this certification exam, so that they could be more preparatory for this certification exam at least psychologically.

3. To let students to gain a better understanding of their learning progress and their level of understanding regarding the knowledge of INFORMS BOK, IIBA BOK, PMI BOK, and ISACA CISA.

This is the most basic function of this test bank system. As has been argued, an efficient test bank can allow students and other users to understand their learning progress in the process of learning the materials to prepare for the exam.

4. To provide a tool for instructors in their management-related courses to evaluate and improve their teaching practice.

In addition to providing multiple benefits for the students, this test bank can also potentially benefit the instructors in the management-related courses. The instructors mainly rely on the performances of students in different assignments and tests to understand their understanding and skills in management. However, it is more efficient for course instructors to make use of the result of the test bank to evaluate their students. Therefore, this test bank can also serve as an evaluation tool for course instructors so that their teaching activities can be more focused and targeted helping their students to improve their management knowledge and skills in different aspects.

5. To improve the teaching quality and reputation of the NYU School of Professional Studies

Another additional benefit for this program is that it can potentially improve the teaching quality and reputation of the NYU School of Professional Studies. This program can achieve this goal by helping more students to pass this certification exam that is highly reputable and well-recognized. The reputation of the NYU School of Professional Studies can improve with more students passing this exam.

4. Alternative Solutions

This program proposes to develop a test bank comprising of 63 questions whose ideas are drawn from the Certified Professional Manager Certification Body of Knowledge from the American Management Association. However, there are other alternative solutions to help improve the managerial knowledge and skills of students and make them have a better preparation for the certification exam.

The first alternative solution is that the school launches a specialized training program to help students pass this exam. This specialized training program can invite some course teachers to become the tutors of students. This specialized training program can also invite some alumni who have taken and passed this exam to pass the experience for the students who want to take and pass this certification exam. The training content can also draw from the materials from the Certified Professional Manager Certification Body of Knowledge from the American Management Association. Therefore, this alternative requires compiling and developing the training materials for the trainers and the students.

There are some benefits for this alternative. First, this specialized training program can give opportunities for teachers to improve their teaching practice and methodology. This specialized training program can also help them establish and reinforce the connection with other teachers. These teachers can learn from each other to improve their teaching methodology and practices. The teachers participating in compiling and developing the training materials can also help them gain a better understanding of the training and teaching of management certification. This knowledge can help them improve their teaching practices in their courses. Second, this specialized training program can also help reinforce the connection between the students and the alumni while inviting alumni to take part in this training program. The increased connection

between the students and the alumni can create a social network for them, which may provide additional opportunities for the existing students to obtain better jobs and careers. Third, this specialized training program can directly benefit the students participating in this training program who wants to pass the certification exam. The students could receive specialized training to improve their knowledge and skills in management

The second alternative solution is to launch a school quiz bowl. A quiz bowl is a game in which “two teams compete head-to-head to answer questions from all areas of knowledge, including history, literature, science, fine arts, current events, popular culture, sports and more” (NAOT, 2021). A quiz bowl will allow students to spend more time in preparing and competing with others. The sense of competition can inspire them to take more painstaking efforts to adopt more aggressive strategies to learn the materials. In addition, the quiz bowl will take the form of team competition. Competition in the form of a team can reinforce communication and collaboration, which can also foster more active and constructive learning behavior.

There are also some benefits for this alternative. First, a quiz bowl is a popular form of competition among students, so this kind of activity can attract lots of students to participate. Second, a quiz bowl can motivate students to actively learn the learning materials, so that they could gain a better understanding of the contents. Third, a quiz bowl can foster cooperation and coordination, so that students can learn from each other.

5. Selection Rationale

To select the best option among these alternatives, some important criteria have been determined. The first criterion is cost. Cost is an important criterion for any project. A project can run the risk of exceeding the established budget. This is especially important for this project with relatively limited budget. Another important criterion is time. A project can also run the risk of exceeding the planned time or schedule. Exceeding the planned time or schedule tend to have large impacts for this project. First, failing to finish this project as per the schedule would lead to the failures in reaching the established goals and objectives. Second, failing to finish this project as per the schedule can also run the risk of increasing the cost. Still another significant criterion is its sustainability. This project will try to benefit students at this school in the upcoming years to help them to make better preparations for this exam. Still another criterion is effectiveness, which means that this project can help students make a better preparation for the certification exam. The last criterion is that this option should be inclusive enough to cover as many as students as possible.

		Test bank		Specialized training program		School quiz bowl	
<i>Criteria</i>	Weighting	Score	Total	Score	Total	Score	Total
Time	2	4	8	3	6	4	8

Cost	3	5	15	2	6	4	12
Sustainability	4	5	20	5	20	4	16
Effectiveness	5	5	25	5	25	3	15
Inclusivity	4	5	20	4	20	2	8
	Total		88		77		59

Table 1: is the selection matrix showing the alternative options, criterion, weight, total scores.

Based on the results of Table 1, it can be seen that the option of test bank obtains the highest total score with high weighted scores in different criteria including time, cost, sustainability, effectiveness, and inclusivity. The school quiz bowl obtains the lowest total score mainly due to its lower performance in inclusivity and effectiveness. To organize and launch a school quiz bowl also requires lots of time and resources. While launching a specialized training program is an attractive idea, it tends to requires extensive times and resources. It needs to spend lots of time in recruiting and mobilizing teachers to adjust their time and schedule to participate in this program. Therefore, this option might not be appropriate for this project.

6. Approach and Methodology

This project will create a test bank based on the Management Body of Knowledge. This project will also conduct a curriculum analysis. The SPA program provides a series of management courses such as strategic management of technological innovation, information technology & data analysis, strategic marketing, quantitative models for decision-makers, financial management, strategic communications, business analysis in the enterprise, enterprise ethics & sustainability, management complex change initiatives, and leadership. These management courses are expected to equip students with the basic management and leadership knowledge and skills. The Management Body of Knowledge contains different essential domains of management knowledge and skills including Professional Effectiveness, Relationship Management, Business Acumen, Analytical Intelligence, Ethics, Technology and Culture. The purpose of curriculum analysis is to determine the most appropriate domains associated with courses that SPS program provides.

This program is to make sure that students are more well-prepared for the management certification exam by providing them with an effective system/tool to understand their learning progress to motivate them to adjust their learning strategies and goals in the process of learning the management certification materials. This program will also find and select the most suitable courses associated with the five domains.

6.1 Curriculum Analysis

The Management Body of Knowledge has established five domains of knowledge. These five domains are Professional Effectiveness, Relationship Management, Business Acumen, Analytical Intelligence, Ethics, Technology and Culture.

There are 37 courses under the Management & System master program, and this program uses the above-mentioned five domains to match up with these courses to create a curriculum map of the Core courses. The test result can be seen in Figure 1.

Course	Type	Professional Effectiveness	Relationship Management	Business Acumen	Analytical Intelligence	Ethics, Technology and Culture	Total Score
Strategic Communications	Concentration	0.239	0.126	0.094	0.062	0.068	0.589
Business Analysis in the Enterprise	Concentration	0.062	0.110	0.185	0.094	0.076	0.528
Strategic Management of Technological Innovation	Core	0.107	0.136	0.125	0.040	0.118	0.526
Enterprise Ethics & Sustainability	Concentration	0.057	0.111	0.069	0.032	0.227	0.497
Managing Complex Change Initiatives	Concentration	0.083	0.158	0.069	0.042	0.112	0.464
Leadership	Concentration	0.084	0.086	0.083	0.072	0.120	0.445
Information Technology & Data Analytics	Core	0.060	0.114	0.113	0.077	0.075	0.440
Strategic Marketing	Core	0.076	0.055	0.184	0.021	0.033	0.368
Quantitative Models for Decision-Makers	Core	0.059	0.061	0.065	0.084	0.032	0.301
Financial Management	Core	0.006	0.054	0.179	0.011	0.028	0.278
Total		0.833	1.011	1.166	0.536	0.889	

Figure 1: Similarity test result

It can be seen from Figure 1 the courses most aligned with the five domains in the Management Body of Knowledge are Strategic Communications, Business Analysis in the Enterprise, Strategic Management of Technological Innovation, Enterprise Ethics & Sustainability, Managing Complex Change Initiatives, Leadership, Information Technology & Data Analytics, Strategic Marketing, Quantitative Models for Decision-Makers, and Financial Management. The three courses most aligned with the five domains in the Management Body of Knowledge are Strategic Communications, Business Analysis in Enterprise, and Strategic Management of Technological Innovation, all of whose similarity scores are higher than 0.5.

6.2 Program Learning Outcome Measured

To help students understand their learning outcome and progress, this program creates a test bank comprising of 63 questions concerning the five domains of knowledge from the Management Body of Knowledge. This program makes use of Qualtrics to create a test bank. After creating this test bank, this program distributes this test bank to students participating in this course to help finish this test. 16 people participated in this test and managed to finish this test. With the help of the Qualtrics, the outcomes for each participant could be retrieved easily.

6.2.2 Collected the Results

Figure 2 and Figure 3 shows the situation of the participants in terms of their starting data, ending date, their duration, their completion status, and their overall scores as well as their average scores by domain.

StartDate	EndDate	Status	IPAddress	Progress	Duration (in seconds)	Finished	RecordedDate	SC5
2021/4/7 15:11	2021/4/7 15:21	IP Address	107.77.214.150	100	632	10.5 True	2021/4/7 15:21	25
2021/4/7 15:39	2021/4/7 15:54	IP Address	142.59.166.162	100	856	14.3 True	2021/4/7 15:54	41
2021/4/7 15:28	2021/4/7 16:16	IP Address	76.67.10.91	100	2865	47.8 True	2021/4/7 16:16	75
2021/4/7 10:06	2021/4/7 19:31	IP Address	98.7.81.83	100	33940	565.7 True	2021/4/7 19:31	48
2021/4/7 22:10	2021/4/7 22:24	IP Address	119.131.53.171	100	819	13.7 True	2021/4/7 22:24	27
2021/4/8 9:56	2021/4/8 11:04	IP Address	101.86.133.75	100	4044	67.4 True	2021/4/8 11:04	35
2021/4/8 13:29	2021/4/8 17:05	IP Address	69.203.15.206	100	12951	215.9 True	2021/4/8 17:05	62
2021/4/10 12:17	2021/4/10 12:28	IP Address	207.172.164.118	100	650	10.8 True	2021/4/10 12:28	70
2021/4/10 17:16	2021/4/10 17:36	IP Address	207.172.164.118	100	1174	19.6 True	2021/4/10 17:36	75
2021/4/10 21:56	2021/4/10 22:11	IP Address	199.180.117.213	100	914	15.2 True	2021/4/10 22:11	40
2021/4/10 22:14	2021/4/10 22:31	IP Address	64.64.245.117	100	1032	17.2 True	2021/4/10 22:31	29
2021/4/12 14:02	2021/4/12 14:34	IP Address	173.56.45.37	100	1925	32.1 True	2021/4/12 14:35	62

Figure 2: Participants and total scores

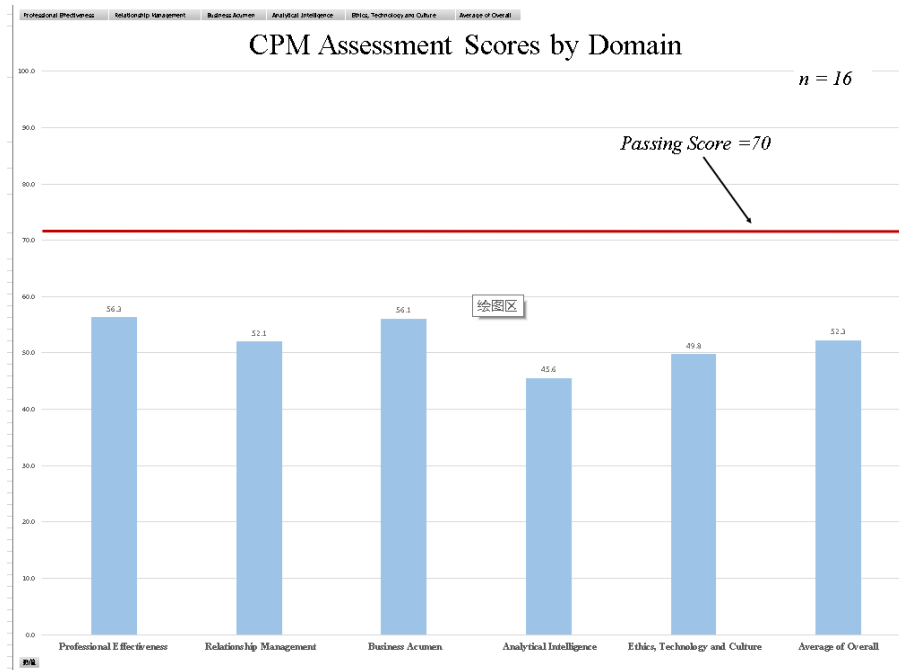


Figure 3: CPM Assessment Scores by Domain

6.2.3 Result Analysis

It can be seen that the average score for the total 16 students is 52.3 points. The average scores for the five domains are all below 70 points. This is especially the case for the domain of analytical intelligence and ethics, technology, and culture. Some students managed to finish this test very fast, but some students tend to spend lots of time on this test. 7 participants finished this test within 20 minutes. But 2 participants spent more than 2 hours finishing this test. However, the time spent on the test was not positively related to the scores obtained by the students. One student who spent more than 1 hour to finish this test failed. Many participants spending not much time finishing this exam also failed this test. The test result shows that this test was difficult for most participants with 5 out of 16 participants managing to pass this test.

Overall, this test bank was successful in allowing the participants to understand that there is a way for many of them to be qualified for the AMA Management Certification. This test bank

can also help them understand their weakest points among the five domains. This program shows that the weakest domains are analytical intelligence as well as ethics, technology, and culture. This test bank also shows the courses most aligned with the domains in the Management Body of Knowledge. This result can shed light upon the faculty and different course instructors to adjust their course contents to better help students pass this certification exam.

7. Project Objectives and Metrics

7.1 Project Goal

This project is to create a computer-based tool to assess a user's knowledge and skills based on the Certified Professional Manager Certification Body of Knowledge from the American Management Association.

7.2 Description of the Project

This project desires to develop a 50-question test bank in management skills and knowledge based on the American Management Association Certified Professional Manager Body of Knowledge. Once developed, it will be deployed as an assessment of the program and administered to students as a pilot to validate the test.

7.3 Project Objective and Metrix

Objective 1: Establish a new assessment system on time with high quality by the end of the project.

Measurement: Develop a high-quality 50-question test bank in management skills and knowledge based on the American Management Association Certified Professional Manager Body of Knowledge.

Objective 2: The new assessment system is highly accepted and welcome by the participants.

Measurement: The satisfaction rate of this assessment system by the participants is higher than 70 percent by the end of the class.

Objective 3: The new assessment system could help improve the participants' understanding of the American Management Association Certified Professional Manager Body of Knowledge.

Measurement: At least 70 percent of students agree that the new system could improve their understanding of the American Management Association Certified Professional Manager Body of Knowledge by the end of the project.

Objective 4: The new assessment system could help participants to gain a better understanding of the managerial knowledge and have a better preparation for their future career.

Measurement: At least 50 percent of students agree that the new system can help them improve their understanding of the managerial knowledge and might help them better prepare for their future career by the end of the project.

8. Risk Analysis

Project

Test Bank on the Certified Professional Manager Certification Body of Knowledge from the American Management Association

Risks

Make sure to list all risks of not completing the project on time, on budget, and with high quality. Add rows to the table for all identified risks.

<i>Number</i>	<i>Risk</i>	<i>Probability Score (1,2 or 3)</i>	<i>Impact Score (1,2 or 3)</i>	<i>Total= Prob x Impact</i>
A	Misinformation due to poor communication with the project sponsor.	2	3	6
B	Participants find it difficult to understand the questions.	2	3	6
C	Not enough participants to take this exam.	2	2	4

Risk Matrix

Place each risk in the risk matrix below. Use the accompanying spreadsheet. Take a picture of it and substitute for the blank matrix below.

	Risk (exposure)			
Probability (of occurrence)		1. Slight	2. Moderate	3. High
	1. Very Unlikely			

	2. Possible		C	A, B
	3. Expected			

Contingency Plan

<i>Risk</i>	<i>Description</i>	<i>Probability</i>	<i>Exposure</i>	<i>Contingency Plan</i>
<i>A</i>	Misinformation due to poor communication with the project sponsor.	2	3	Maintain close contact with the sponsor to make sure that all information is correct.
<i>B</i>	Participants find it difficult to understand the questions/answers.	2	3	Check each question carefully to make sure that all questions and answers are easy to be understood. Make emails or other communication channels available so that the participants can ask questions when necessary.
<i>C</i>	Not enough participants to	2	2	Make sure that the contact

	take this exam.			list is available and actively connect with those who have yet been connected.
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9. Issues Encountered

With the support and guidance of the sponsor, this project, overall, ran smoothly. At the beginning of this project, I found the tasks of this project daunting and difficult to reach. Before engaging in this project, I never worked on a similar project before such as creating a test bank although I have had the experience of doing a survey distributing interview. The sponsor guided me to finish this project. However, I still encountered some issues in the process of doing this project. Although more than one year has passed after the outbreak of the COVID-19 pandemic, this pandemic is still affecting many people in the world. The United States and the world are still waiting for the disappearance of the pandemic so that the world could be back to normal as soon as possible. Many universities and colleges as well as other schools are still enclosure and most of the teaching activities are still conducted online. This course was also mainly conducted online although the project was involved with some technical issues. This created many barriers for my communication with the sponsor and my peer taking this class. In the process of relying on principally online channels to communicate with the sponsor and my peer, some technical problems such as the internet problems or the problems of my personal computers were also barriers for me to finish this project effectively.

I think time management was also a problem for me to finish this project. Time management has long been my weakness. Although online learning tends to give me more flexibility and freedom to take the class and finish the assignments, online learning is also a test for me. Although online learning allows me to maintain connections with the teachers and students as well as other people regularly, I found that I was more likely to be distracted by other things on the internet. I tended to waste lots of time on social media and other things not related

to the tasks for this course and for other courses, which somewhat decreased my productivity and performance in this course.

In addition, I also encountered some technical issues. After inputting all of the questions and answers to Qualtrics, I encountered some problems in the process of testing the questions. I then checked if there are some grammar errors or anything else that needed fixing, question by question. I needed to make sure that I could get the correct answers properly identified. In this process, I tried a few times while connecting actively with the sponsor and my peer. I repeated the following processes several times: 1) first answer every question right to see that we get 100% in the test and then take again and 2) answer every other question wrong. In this process, I also checked the functions to make sure that the functions were correct and appropriate. At last, I made it; I was excited to see that my overall score can show properly in this test bank. I then tested a few times to reaffirm that this test bank ran well.

10. Lessons Learned

I learned many skills and knowledge in this project. The first thing I learned is the entire process of planning and doing an entire project. There were multiple tasks and missions in this project from project proposal, project charter, to test bank development, testing, and implementation. Finally, the project has its large phase. Before doing this project, I tended to have a vague understanding of different phases of a project. This was especially true after I started to do the work breakdown structure assignment. Before doing this assignment, I thought that conducting a work breakdown structure tended to be difficult. Doing this assignment allows me to understand how to do a work breakdown structure more properly. In the process of doing the work breakdown structure assignment, I also explored some software or tools to draw the work breakdown structure.

This project also allows me to have some understandings of the process and importance of change management and risk management. According to Perkins (2018), project managers “view change management as the process used to obtain approval for changes to the scope, timeline, or budget of a project”. According to Pratt (2019), change management is “a systematic approach to dealing with the transition or transformation of an organization’s goals, processes or technologies”. In the process of doing this assignment, I learned different aspects of change management such as the process of change management which occurs in six steps including “Submit written change request”, “Review CRs and approve or reject for further analysis”, “If approved, perform analysis and develop a recommendation”, “Accept or reject the recommendation”, “Accept or reject the recommendation”, “If accepted, update project documents and re-plan”, and “notify the sponsor of the change”. I think these steps of change

management are most useful when cooperating and coordinating with the other project members. Change management needs to consider the impact of the changes.

I think risk management remains an important issue to consider in the process of doing a project. Project risk is defined by Raz, Shenhar, and Dvir (2002) as “undesired events that may cause delays, excessive spending, unsatisfactory project results, safety or environmental hazards, and even total failure”. This project allows me to understand that risk management was equally important to project management. Before doing this project, I never had the idea of risk management. I think a good project risk management has a good understanding of the potential risks and their probability and impact. A good risk management plan also has a proper contingency plan to plan how to respond to a variety of risks. This is to make sure that the project manager could respond to different risks timely and effectively and mitigate the impacts and consequences of different risks.

Additionally, I also understood how to use Qualtrics to construct a quality test bank and learn how to solve different problems in this process. I think this process was rewarding for my future academic career and my future career in the workplace, which may require me to conduct similar tasks. The experience using Qualtrics may increase my competitiveness in the labor market.

11. Conclusion and Summary

It is my honor to be a member of this project to construct a test bank and make contributions to the school system possibly currently lacks an effective test bank system to help students to evaluate and know their learning outcomes. The AMA's Professional Management Certification exam is a difficult exam for many people of management-related majors, so the pass rate for this certification exam tends to be low. The outcome of this project shows that a test bank is a useful tool for students to evaluate and check their learning outcomes. A test bank can also improve their learning efficiency and effectiveness by making their learning process more targeted. Without this tool, some students may waste their time repeating the same or similar learning contents. In addition, this tool can let students understand if and how far they reach to the degree to which they are qualified to pass AMA's Professional Management Certification Exam, according to which students can adjust their learning strategy and learning plan to make their learning process more effective.

12. Limitations, Recommendations and Scope for Future Work

There are some limitations to this project. Above all, this project is restricted by time and budget. This project is a part of the Applied Research course of the School of Professional Studies. This course lasts for three to four months which required students to do researches or studies to solve real-life issues. This project contains lots of tasks, so students were required to engage in and finish these tasks within a limited time, so this project tended to give much time pressure for students especially for students who lack the experience and expertise to conduct a complete project. The time pressure might affect the quality of different tasks for the students. In

addition, the quality of this project is also subject to budget. The budget for this project is limited, which mainly relies on the resources provided by the sponsor and additional websites or tools to develop a test bank. The limited budget tended to reduce the flexibility and options for students to select the more desirable materials for them to experiment with. The lack of budget also made it difficult for students to distribute the test to more students through different channels. This was one of the reasons the number of participants taking this test was limited, which merely reached 16 people. The limited number of participants is also a major disadvantage for this project. According to Faber and Fonseca (2014), a low sample size may “prevent the findings from being extrapolated”. The low sample size may be a reason why most of the participants in this research failed this exam.

For subsequent researchers, the findings from this research might inspire them to examine the effectiveness of a test bank to evaluate their learning outcome or progress. Future scholars can place more emphasis on comparing and contrasting different alternatives to improving the learning outcomes of students. This applied research project simply conducted one experiment.

13. Literature Review

Introduction

The literature review is to review and discuss the methods and tools to assess the knowledge, skills, and competencies of students, and, in more particular, of students with management and leadership-related degrees. The purpose is to shed light upon the assessment of the knowledge and competency of students under the Management and Systems degree program based on the Certified Professional Manager Certification Body of Knowledge from the American Management Association.

The controversy over the cost and return of higher education degree programs

For many people, attending college is a good investment for them although the fees for higher education have been on the increase in recent years. According to a 2012 Pew research, although 75% of adults admitted that college tends to be too expensive to afford for Americans, “84% of college graduates say that the expense of going to college was a good investment for them” (Anderson, Boyles, and Rainie, 2012). However, it has been a controversy as to if higher education is worthy of the cost given the rising expenses of higher education. Another survey covering 340,000 American adults by Gallup and the Strada Education Network shows that merely 62 percent of graduates of bachelor’s degree programs thought that the higher education degree programs were worth the costs, which is less than the respondents who were graduates of non-degree vocational programs (70 percent) (Fain, 2019). Many respondents maintained that they anticipated educational programs should “connect directly with their career paths” (Fain, 2019). With the growing number of people with higher education degrees, a key

issue is to “ensure positive learning outcomes through performance-based or outcome-based education” and make sure that college graduates are well prepared for their careers (Drisko, 2014, p.415). All of these emphasize the importance of the employment of the model of competency assessment to assess the learning outcomes and professional competencies of college graduates.

Types of certification and its benefits

Certifications can be defined as “designated credentials earned by an individual to verify their legitimacy and competency to perform a job” (Indeed, 2020). Certification is to prove that one has the competency to fulfill a series of tasks. Certification tends to serve as a complement for education (Indeed, 2020).

There are several kinds of certifications including corporate certifications, product-specific certifications, and profession-wide certifications (Indeed, 2020). The first type of certification is corporate certification, which is certification specifically for one particular company and cannot be transplanted to other companies; another type of certification is product-specific certification, which means that certification is for some particular products and can be carried with the holder across companies; still another type of certification is profession-wide certification, which is a type of certification that allows its carrier to be recognized in a particular industry (Indeed, 2020). Based on this classification, the Certified Professional Manager Certification Body of Knowledge from the American Management Association can be said to be a profession-wide certification. The Certified Professional Manager Certification Body of Knowledge from the American Management Association can help professionals to increase their knowledge and understanding to management and data analysis, increase their competitiveness

as compared to others who are not certified, increase their value and contribution to their team members and even the entire organization as a whole (AMA, 2021).

In addition to The Certified Professional Manager Certification Body of Knowledge from the American Management Association or AMA Certificate, there are other certificates for management professionals including, but not limited to PMP Project Management Professional, Certified Scrum Master, Certified Business Process Associate, Professional, or Leader, and AIPMM Certified Brand Manager (Kelly, 2019). These certifications tend to have different focuses targeting different skills and expertise for management professionals in different industries.

There are different benefits of certification (Indeed, 2020). First, certification can increase one's competitiveness in the labor market, which is also an important factor for one to be promoted in the workplace. Second, certification can help one update and keep up with the latest trends and technology that help them integrate and use new methods and processes into their current jobs or tasks. Third, certification can also help establish and increase one's professional credibility among one's employer or client and in a particular industry (Indeed, 2020). All of this highlights the importance and benefits of certification for people wanting to increase their competencies and competitiveness in the labor market and the workplace.

Competencies and their assessment. Competence can be defined as the capacity of a person to perform and finish a task properly, fully, and efficiently and effectively (Drisko, 2014). Competency can be broken down into knowledge, values, and skills (Drisko, 2014). While there is little doubt that the acquisition of knowledge is a central part of many competencies, skills and values are also significant parts of competence. Values refer to how and why people apply knowledge (Drisko, 2014). Skills are "abilities to act, acquired or developed through training or

experience” (Drisko, 2014). Knowledge is often a part of skills (Drisko, 2014). Based on this definition of competency, many Qualifications framework for university degrees has been formed in colleges and universities in different countries. For example, the European Qualifications Framework “offers an approach to combining competencies that students should acquire, that is, knowledge, comprehension, and skills, with other evidence, such as entry requirements and study duration for different degrees” (Zlatkin-Troitschanskaia, Shavelson, & Kuhn, 2015, p.394). Zlatkin-Troitschanskaia, Shavelson, & Kuhn (2015) examine the approaches of higher education in different countries including in the United States to measure competencies. According to them, the measurement of higher education can be classified into direct and indirect approaches for assessments. On the one hand, indirect assessments tend to rely on “respondents’ self-reports or self-perceptions and self-evaluations” (Zlatkin-Troitschanskaia, Shavelson, & Kuhn, 2015, p.399); on the other hand, direct assessments focus on directly testing the generic and domain-specific competencies of students of different degrees. Allen (2004) also makes a distinction between direct measures and indirect measures for competency measurement: direct measures include standardized tests and assignments and portfolios of students’ work; and indirect measures include surveys, reflective essays, interviews, and other indirect measures.

As to direct and indirect measures of learning outcomes, Calderon (2013). Compared and contrasted the results from direct and indirect measures in a social work graduate program across two campuses of a single university; he found that direct and indirect measures tend to have different focuses in evaluating students’ competencies and outcomes. According to the author, the direct measure is a more reliable approach to assess the competencies and learning outcomes of students; and the indirect measure tends not to reflect the actual learning outcomes of students but their learning experience. It means that students who perceived that they have good learning

outcomes do not necessarily perform well in their actual learning. Therefore, the author concludes that the knowledge and skills acquisition of students can be better evaluated by direct measures, whereas indirect measures are more appropriate to measure the learning experiences of students.

Multiple-choice test, Multiple-choice test is a kind of test requiring a subject to select the correct answer from several alternatives (Rasmussen, 2010). A multiple-choice test is to examine if a learner has sufficient knowledge of the learning contents regarding some easily confused words or expressions; to answer these multiple-choice questions, the learner needs to take reference from the learning contents (Rasmussen, 2010). Therefore, a multiple-choice test is helpful to examine students' comprehension and understanding of the designated learning contents.

According to Weimer (2018), There are both pros and cons for multiple-choice tests. A multiple-choice test allows a test to include a wide range of questions that can help examine the breadth of a student's knowledge, which can also objectively rate the competency and knowledge of a student. However, the downsides for multiple-choice tests are the probability of lucky guesses, the probability of using some test skills to answer the questions instead of the genuine knowledge, the interference of students for the subsequent thinking about the content.

To overcome these shortcomings and increase the effectiveness of a multiple-choice test, Weimer (2018) suggests that test designer can perform a pre-test for people who do not take the course to see how many correct answers they could achieve and how they can obtain the right answers; test designers should carefully design questions that may be too easy to achieve the right answers, which should try to get students to think. Furthermore, test designers should also avoid using alternative answers that are wrong. It means that test designers should carefully

design each question and different alternatives to improve the effectiveness of a test to evaluate the competencies and knowledge of students.

Conclusion

This literature review shows that direct tests can assess the competency, knowledge, and skills of students as compared to indirect tests. In addition, there are both pros and cons for the multiple-choice test, so test designers should carefully design each question to make it more effective and valid to assess the competencies of students.

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Appendices

Project Acceptance Form and the Other Documents

Project Sponsor Acceptance

Sponsor's Project Acceptance Document

This document is the means by which your project sponsor formally agrees that your project has been satisfactorily completed and that it meets the project goal and objectives that were set at the onset of the project. It is therefore important that you describe the goal, objectives, and related metrics in the appropriate section below. The "PLAN" section is to be prepared at the beginning of the project and the "RESULTS" and "ACCEPTANCE" sections after your project has been completed. Your sponsor should provide input and sign where indicated. The signed document will also be a required section in your Project Final Report. This document is a template whose sections may be expanded as necessary.

Project Name: CPM Assessment - Knowledge assessment for Management based on AMA BOK

Student Name: Ming Cai

Sponsoring Organization: New York University School of Professional Studies

Project Sponsor Name and Title: Dr. Andres Fortino/ Clinical Associate Professor and ACP Leader

Project Sponsor Contact Information (email and phone): agf249@nyu.edu

PROJECT PLAN

PLAN At project start, show the project goal; the project objectives and related metrics to be used to show successful project completion. Sponsor should sign to indicate agreement.

Project Goal: Create a computer-based tool to assess a user's knowledge and skills based on the Certified Professional Manager Certification Body of Knowledge from the American Management Association.

Objective #1: Establish a new assessment system on time with high quality by the end of the project.

Objective #2: The new assessment system is highly accepted and welcome by the participants.

Objective #3: The new assessment system could help improve the participants' understanding of the American Management Association Certified Professional Manager Body of Knowledge.

Objective #4: The new assessment system could help participants to gain a better understanding of the managerial knowledge and have a better preparation for their future career.

I agree with the above planned project goal, project objectives, and related metrics.

Andres Fortino

2/24/21

Project Sponsor Signature

Date:

PROJECT RESULTS

Planned Start Date: ____

Planned End Date: ____

Actual Start Date: ____

Actual End Date: ____

If actuals differ from planned dates, the revised dates (Actual) are accepted by the sponsor if initialed here: **Sponsor Initials** *AGF*

PROJECT GOAL

Was the project goal achieved as planned? Yes No, Reason missed: ____

If NO, please explain why this is an acceptable deviation. ____ **Sponsor Initials** *AGF*

Project Objective #1: < Establish a new assessment system on time with high quality by the end of the project.> Did the student's project meet this objective with associated measures and metrics as

established at project inception? **Objective#1** has or has not been met. **Sponsor Initials** *AGF*

If not met please explain why this is or is not an acceptable deviation.

Project Objective #2: < The new assessment system is highly accepted and welcome by the participants. > Did the student's project meet this objective with associated measures and metrics as established at project inception? **Objective#2** has or has not been met. **Sponsor Initials** *AGF*

If not met please explain why this is or is not an acceptable deviation.

Project Objective #3: < The new assessment system could help improve the participants' understanding of the American Management Association Certified Professional Manager Body of Knowledge.> Did the student's project meet this objective with associated measures and metrics as established at project inception? **Objective#3** has or has not been met. **Sponsor Initials** *AGF*

If not met please explain why this is or is not an acceptable deviation.

Project Objective #4: <The new assessment system could help participants to gain a better understanding of the managerial knowledge and have a better preparation for their future career. > Did the student's project meet this objective with associated measures and metrics as established at project inception? **Objective#4** has or has not been met. **Sponsor Initials** *AGF*

If not met please explain why this is or is not an acceptable deviation.

Sponsor's Overall Evaluation of student's performance: A <expand, as necessary>

PROJECT ACCEPTANCE

- Project was completed satisfactorily and is hereby accepted
 - Project was completed satisfactorily but did not meet all objectives, as shown above.
- The Project is, nevertheless, accepted.

ACCEPTANCE

Project Sponsor Signature	Date:
<i>Andrea Fortino</i>	4/25/21
Student Signature	Date:
<i>[Signature]</i>	April 14, 2021

New York University
MS in Management and Systems
Applied Project
Project Sponsor Agreement

1. Goals of the Program

For Participating Organizations

- Begin relationship with New York University
- Receive help from highly trained NYU graduate student
- Provide internship opportunity for NYU graduate student
- Receive assistance at no cost

For NYU Graduate Students

- Manage and implement a meaningful project aligned with their professional and educational goals
- Hands-on experience interacting with a start-up or operational small business or organization
- Earn credit toward completion of graduate degree by conducting an unpaid Applied Project under the mentorship of an NYU-SCPS professor.

2. Project Sponsor and Student Responsibilities

- Student prepares project planning documents
- Sponsor reviews and approves student's project plan
- Student submits project plan to faculty supervisors for approval
- Student conducts project according to plan
- At predetermined milestones sponsor reviews and approves status reports submitted by student
- Status reports reviewed and evaluated by faculty supervisors to assure student effort and project meet course requirements
- Project sponsor and student participate in periodic project reviews with NYU
- At project completion project sponsor completes evaluation forms
- Student prepares final report

3. Project Selection Process

- Project Evaluation Committee reviews proposed projects
- Projects are:
 - Relevant to MS degree course content
 - Significant to the participating organization
 - Substantial in terms of duration and scope
 - Challenging to the student
 - Capable of being measured against predetermined goals

4. The MS in Management and Systems

Concentrations in:

- Strategy and Leadership
- Systems Management
- Database Technologies
- Enterprise Risk Management

Students Study Courses in:

- Business Management

- Project Management

Typical Participating Student Profile

- Students selected to participate in this program meet stringent criteria
- Have completed all coursework
- High achievers with highest level GPAs and strong academic credentials
- 2-10 years of business experience
- Highly motivated for success

5. Sponsor and Project Information

Type of Organization	<input type="checkbox"/> For Profit <input type="checkbox"/> Not for Profit				
Name of Organization	NYU School of Professional Studies				
Address	7 East 12 Th Street				
City	New York	State	NY	Zip	10003
Project Sponsor	First Name	Roy	Last Name	Lowrance	
	First Name	Hui Soo	Last Name	Chae	
Phone					
Email	Roy Lowrance: roy.lowrance@gmail.com Hui Soo Chae: hc3279@nyu.edu				
Web Site					
Type of Business					

Student Name	Ming Cai
Project Title	CPM Assessment - Knowledge assessment for Management based on AMA BOK

Description of Project	
NYU MASY desires to develop a 50-question test bank in management skills and knowledge based on the American Management Association Certified Professional Manager Body of Knowledge. Once developed, it will be deployed as an assessment of the MASY program and administered to students as a pilot to validate the test.	
Estimated Hours of Student Participation	250 hours

Anticipated Results	
Objective 1: Establish a new assessment system on time with high quality by the end of the project.	
Objective 2: The new assessment system is highly accepted and welcome by the participants.	
Objective 3: The new assessment system could help improve the participants' understanding of the American Management Association Certified Professional Manager Body of	

Objective 1: Establish a new assessment system on time with high quality by the end of the project.
 Objective 2: The new assessment system is highly accepted and welcome by the participants.
 Objective 3: The new assessment system could help improve the participants' understanding of the American Management Association Certified Professional Manager Body of Knowledge.
 Objective 4: The new assessment system could help participants to gain a better understanding of the managerial knowledge and have a better preparation for their future career.

Knowledge and expertise student will need to be able to complete the project

- Project Management: For this project, I will use methodologies, technologies, and techniques for managing projects in an information technology environment.
- Business Analytics: I will use the skills I learned in my business analytics course to turn business data into actionable information and communicate insights through visualizations.
- Quantitative Models for Decision Maker: I will use the skills I learned to analyze operational and strategic business situations and select appropriate and optimal courses of action.

Will the project sponsor be available for periodic meetings with NYU to review progress, address questions and concerns with the professor supervising the program? <i>This is a requirement for the program</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------

Describe the form and frequency of supervision of the student by the Project Sponsor.

As the person who is in charge of this project, I and Dr. Fortino hold a weekly meeting when necessary, and I present take key inputs before moving to the next steps and brief summary progress reports.

6. Sponsor Agreement

Students are interns, not professional consultants. NYU is not responsible for the outcomes of projects undertaken by students. Work is on a best-efforts basis; no guarantees or warranties are expressed or implied. Organization is responsible for evaluating work presented, determining its value and whether to use it or not. Some projects may require on-going management or even re-work by the Organization after the student completes their Applied Project.

Please note that in order to post an unpaid position, the internship must encompass all 6 components below:

4. The employer that provides the training derives no immediate advantage from the activities of the intern; and on occasion its operations may actually be impeded;
5. The intern is not necessarily entitled to a job at the conclusion of the internship; and
6. The employer and the intern understand that the intern is not entitled to wages for the time spent in the internship.

I have read and agree with the information shown in the Terms and Conditions for employers contained on the following web page(s): <http://www.nyu.edu/life/resources-and-services/career-development/employers/post-a-job/terms-and-conditions.html>

Please complete and sign this form in the space provided below and return to the course professor via the student who will upload the document to the course drop-box. For any questions, please email the professor: Prof. Israel Moskowitz im36@nyu.edu.

I agree to the all of the above

Participating Organization Applied Data Science, LLC Date 2021-03-08

By (signature): 
Project Sponsor

Printed Name: Dr. Roy Lowrance

Title: CEO

Participating Organization _____ Date _____

By (signature): _____
Project Sponsor

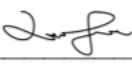
Printed Name: Dr. Hui Soo Chae

Title: _____

7. Student Agreement

Students who are planning to conduct an unpaid Applied Project must read and agree to the "Important Considerations Before Accepting a Job or Internship" contained on the following

Student Name (Print): Ming Cai Date: Feb,9 2020

Signature: _____


Project Charter

Project Manager: Ming Cai

Sponsor: Dr. Andres Fortino, Dr. Roy Lowrance

Prepared by: Student

Name and Location of Client Organization:

Dr. Andres Fortino

NYU School of Professional Studies is located at 7 East 12Th Street, NY, NY

Revision History

<i>Revision date</i>	<i>Revised by</i>	<i>Approved by</i>	<i>Description of change</i>

Project Goal

To create a computer-based tool to assess a user's knowledge and skills based on the Certified Professional Manager Certification Body of Knowledge from the American Management Association.

Problem/Opportunity Definition

The school system lacks an effective metric to know students' level of understanding regarding to American Management Association Certified Professional Manager Body of

Knowledge in order to find out the best solution to facilitate students and improve their management skills.

Proposed Project Description

Desires to develop a 63-question test bank in management skills and knowledge based on the American Management Association Certified Professional Manager Body of Knowledge. Once developed, it will be deployed as an assessment of the program and administered to students as a pilot to validate the test.

Project Sponsor

I am s student at NYU SPS and Dr. Andres Fortino is my instructor of applied project class in Spring 2021. NYU SPS offers this opportunity to work for them as a pro-bono consultant to create a computer-based tool to assess a user's knowledge and skills based on the Certified Professional Manager Certification Body of Knowledge from the American Management Association.

Objectives:

Technical Objectives:

Help the sponsor achieve the goal of developing a viable test bank to examine the capacity of students.

Timing objectives

Complete the entire project before May 05

Resource objectives:

Utilized the required resources to finish the project on time

Budget objectives

Entire cost of the project is not to exceed \$3,000

Budget objectives:

	<i>Planned</i>	<i>Actual</i>
Labor	\$100,000	No cost (pro- bono engagement)
Equipment	\$50,000	No cost (pro- bono engagement)
Other costs	\$50,000	No cost (pro- bono engagement)
Total	\$200,000	0

Scope objectives:

Help the sponsor develop a viable test bank to examine the capacity of students. Deliver the final report before May 05.

Project Selection & Ranking Criteria

Project benefit category:

Compliance/Regulatory Efficiency/Cost reduction Revenue increase

<i>Portfolio fit and inter-dependencies:</i>
The normal activities of the project would be slightly affected by this project.
<i>Project urgency</i>
Moderate

Cost/Benefit Analysis

<i>Tangible Benefits</i>	
Benefit: \$300,000 revenue in the first year of operation.	
Value & Probability: $6 * 60\% = 3.6$	
Assumptions Driving Value: Our product and service will be in high demand among the target market.	
<i>Intangible Benefits</i>	
Benefit: Increase brand awareness and equity	
Value & Probability: $4 * 80\% = 3.2$	
Assumptions Driving Value: The increase of the brand awareness and equity requires high-quality marketing programs.	
<i>Cost Categories</i>	<i>Amount</i>
Internal Labor hours 8 hours	

External costs -----	<i>\$200,000</i>
Labor (consultants, contract labor) \$100,000	
Equipment, hardware or software \$50,000	
List other costs such as travel & training \$50,000	

Financial Return

This project is expected to take 300 hour of project work. Although there will not any out of pocket costs, it could be compared projects that nominally would cost for a consultant about \$30,000. Additionally it would take 2 hr/ per week of manager’s time to implement changes, and obtain feedback in weekly review meetings over a 14 week period. There are no additional costs involved or implemented in this project.

There is no direct revenue or cost savings which can be identified for this project, however intangible benefits such as :

Help business make easy decisions

Categorize employers in 2 groups :

Provides Work Authorization

Hires US citizens only

Track students who decide to further study in 5 years

Provide a viewpoint to incoming students and parents on the NYU schools.

Categorize students with and without experience

Sources used to secure a job

Track students working Full-time and Part-time

Field of Study

This project overall will give an overview of all the factors that helps students sec

Other Business Benefits

no additional identifiable benefits

Assumptions

There is no/limited change for the Certified Professional Manager Certification Body of Knowledge from the American Management Association in the near future.

The sponsor does not change the development plan in the near future.

Scope

Quality

Develop a high-quality 63-question test bank in management skills and knowledge based on the American Management Association Certified Professional Manager Body of Knowledge

The satisfaction rate of this system is at least 70 percent by the end of the time.

Time

Finalize the project by the end of early March

Finish the report by the end of May

Resource Allocation

Utilize the resources to select more representative test questions

Utilize the resources to develop a well-functioned test bank

Out of scope activities

The sponsor may adjust the test bank based on its own expectations and requirements.

Constraints

The school is lack of an effective metric to know students' level of understanding regarding American Management Association Certified Professional Manager Body of Knowledge, which may make it hard for the school to compare and evaluate this system.

This project is also constrained by time and resources.

Risks and Mitigation Strategies

RISK: The normal activities and routines of the sponsor may be affected; there might be conflicts in schedule.

Strategies: It is important to reinforce communication with the sponsor to reduce the conflicts in time and schedule.

Communications Plan

Frequency: once or twice per week

Method: Affected by the epidemic, the main communication methods are email, Zoom, and FaceTime

Content: Status report; Milestone notification; Project update; Calling for assistance; etc...

Schedule Overview

<i>Project Start Date:</i> 2/3/2021, Monday
<i>Estimated Project Completion Date:</i> 5/19/2021
<i>Major Milestones</i>
Deliverable: Submit project charter
Milestone: Project plan approval
Milestone: Go Live
<i>External Milestones Affecting the Project</i>
Interviews Execution - 3/21/2020

Resources Required

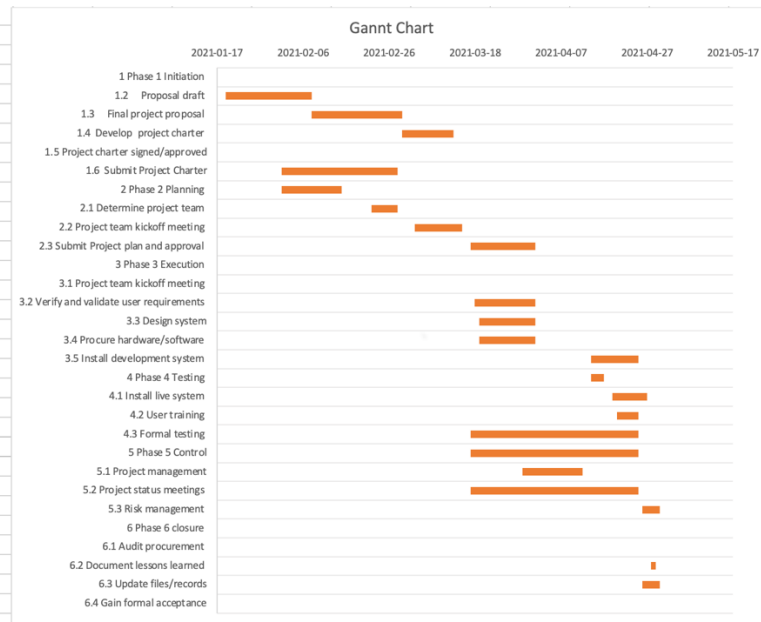
Hardware, software, Consultant, ama-cpm-candidate-handbook			

Facilities , Software, Hardware and other Resources

GitHub test solution

Procedures/Methodology

Level	WBS	Start	End	Days to Complete
1	1 Phase 1 Initiation			
2	1.2 Proposal draft	2021-01-10	2021-01-17	7
2	1.3 Final project proposal	2021-01-19	2021-02-08	20
2	1.4 Develop project charter	2021-02-08	2021-03-01	21
2	1.5 Project charter signed/approved	2021-03-01	2021-03-13	12
2	1.6 Submit Project Charter	2021-03-15	2021-03-15	0
1	2 Phase 2 Planning	2021-02-01	2021-02-28	27
2	2.1 Determine project team	2021-02-01	2021-02-15	14
2	2.2 Project team kickoff meeting	2021-02-22	2021-02-28	6
2	2.3 Submit Project plan and approval	2021-03-04	2021-03-15	11
1	3 Phase 3 Execution	2021-03-17	2021-04-01	15
2	3.1 Project team kickoff meeting	2021-03-17	2021-03-17	0
2	3.2 Verify and validate user requirements	2021-03-17	2021-03-17	0
2	3.3 Design system	2021-03-18	2021-04-01	14
2	3.4 Procure hardware/software	2021-03-19	2021-04-01	13
2	3.5 Install development system	2021-03-19	2021-04-01	13
1	4 Phase 4 Testing	2021-04-14	2021-04-25	11
2	4.1 Install live system	2021-04-14	2021-04-17	3
2	4.2 User training	2021-04-19	2021-04-27	8
2	4.3 Formal testing	2021-04-20	2021-04-25	5
1	5 Phase 5 Control	2021-03-17	2021-04-25	39
2	5.1 Project management	2021-03-17	2021-04-25	39
2	5.2 Project status meetings	2021-03-29	2021-04-12	14
2	5.3 Risk management	2021-03-17	2021-04-25	39
1	6 Phase 6 closure	2021-04-26	2021-04-30	4
2	6.1 Audit procurement	2021-04-26	2021-04-26	0
2	6.2 Document lessons learned	2021-04-27	2021-04-27	0
2	6.3 Update files/records	2021-04-28	2021-04-29	1
2	6.4 Gain formal acceptance	2021-04-26	2021-04-30	4
2	6.5 Archive files/documents	2021-04-30	2021-04-30	0



Project Evaluation

Project schedule: Report to the project sponsor every week

Project weekly status report and dashboard: Confirm project progress about twice a month.

Project communication plan, issues log, risk register: Always check and update the communication plan. Report to the sponsor when encountering some problems or issues in time.

Project monthly status report: A comprehensive reporting meeting is required every month, and everyone involved in this project needs to attend this meeting.

Measure of success

- Deliverable a new assessment system on time with high quality by the end of the project with metrics develop a high-quality 63 question test bank in management skills and knowledge based on the American Management Association Certified Professional Manager Body of Knowledge.

b) Deliverable the new assessment system is highly accepted and welcome by the participants. With metrics, the satisfaction rate of this assessment system by the participants is higher than 70 percent by the end of the class.

c) Deliverable the new assessment system could help improve the participants' understanding of the American Management Association Certified Professional Manager Body of Knowledge. with metrics At least 70 percent of students agree that the new system could improve their understanding of the American Management Association Certified Professional Manager Body of Knowledge by the end of the project.

d) Deliverable the new assessment system could help participants to gain a better understanding of managerial knowledge and have better preparation for their future careers. with metrics, At least 50 percent of students agree that the new system can help them improve their understanding of managerial knowledge and might help them better prepare for their future careers by the end of the project.

The Industry— Testing & Educational Support Industry

Testing and Educational Support Industry is an industry in which “operators in this industry provide noninstructional support services for education industries” (Le, 2021). This industry also includes software designers who design and develop education support software (Le, 2021). The main products and services provided in this industry are testing services, education support or consulting services, and others (Le, 2021). The testing and educational support industry in the United States has a modest growth in the past few years from 2015 to

2020 as can be seen in Figure 1. The market size of the testing and education support industry in the United States as of 2019 is 16.5 billion U.S. dollars (Le, 2021).

In the past five years, the industry achieved modest growth under the influence of different factors such as the increasing per capita disposable income, the higher demand of testing and education support products and services with the modest growth in college student enrollment, and the support from government subsidies and contracts (Le, 2021). With the growing enrollment in higher education, the demand for education support services was also been on the increase. However, the modest growth of this industry in the past few years was greatly affected by the coronavirus outbreak in 2020. During this period, many popular exams such as the ACT and SAT have been delayed or canceled, which caused the decline of revenues and profits in this industry (Le, 2021). Due to the higher demand for testing and education support products and services in this industry, this lucrative industry attracts many large and small operators to enter this industry.

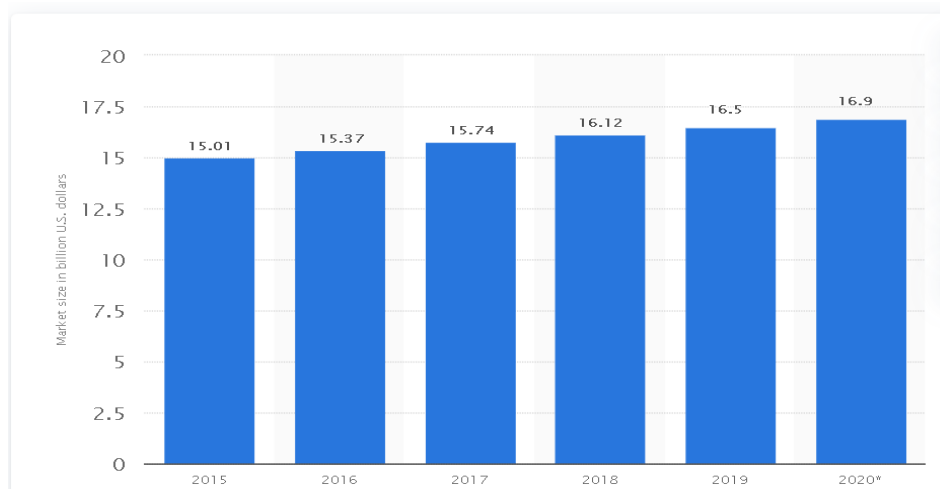


Figure 4: Market size of the testing and educational support industry in the United States from 2015 to 2020 (Statista, 2021)

Industry Trends

There are both positive and negative prospects for the testing and educational support industry. While this industry has been greatly influenced by the covid-19 pandemic especially in early 2020, the federal government has gradually loosened the control over the restriction on the activities in this industry (Le, 2021). This is expected to recover and increase the demand for products and services of this industry. In addition, this industry would also be bolstered by the consistent growth in “US elementary, secondary and postsecondary schools” (Le, 2021). However, this industry is expected to become a more competitive industry. The outbreak of the pandemic might probably inspire operators to “offer further online education support programs”, which is also bolstered by the high internet and computer penetration rates in the United States across different regions and areas (Le, 2021). The growth prospects of this industry will also be affected by the relevant laws and regulations to increase the transparency of expenses and other requirements.

The Customer

There are several major markets in this industry. The largest market in this industry is English language and professional students, who account for early half of the total market in this industry (48%). English language and professional students require different products and services in this industry to pass English language tests such as Test of English as a Foreign Language (Le, 2021). Government is the second largest market in this industry, accounting for about 19.5% of the total revenue of this industry mainly in the form of government subsidies (Le, 2021). Other important markets in this industry include postsecondary students, K-12 students, and private donors, and others (Le, 2021). In comparison, the products and services for college students preparing for a variety of certifications and other professional exams tend to be limited.

The Competitors

There are many competitors in this industry. The largest players in this market are Educational Testing Service (7.3%), Pearson (6.4%), and other players (Le, 2021). However, there are limited organizations that specifically provide products and services for college students to help them pass the exams and achieve the Certified Professional Manager Certification Body of Knowledge from the American Management Association.

The Company – “The Organization”

Our company is specialized in designing and developing a variety of certification testing and preparation software to help college students have good preparation for different certification and professional examinations. Our company is a company that cherishes diversity and corporate social responsibility. We develop an inclusive and open corporate culture, which has attracted and developed many talented employees. Our company also attaches great significance to developing and maintaining the relationship with our clients. We resort to different channels and means to connect and engage with the clients.

SWOT Analysis

Strengths	Weaknesses
Specialized in designing and developing a variety of software and programs to help college students prepare for certification and professional exams. A strong professional team with high expertise and experience.	Relatively poorer financial capacity as compared to the large players in this industry. Low brand awareness

Opportunity	Threat
The increasing college enrollments rate may spur the demand of our products.	The industry might become increasingly more competitive.

Cost/Benefit Analysis

<i>Tangible Benefits</i>	
Benefit: \$300,000 revenue in the first year of operation.	
Value & Probability: $6 * 60\% = 3.6$	
Assumptions Driving Value: Our product and service will be in high demand among the target market.	
<i>Intangible Benefits</i>	
Benefit: Increase brand awareness and equity	
Value & Probability: $4 * 80\% = 3.2$	
Assumptions Driving Value: The increase of the brand awareness and equity requires high-quality marketing programs.	
<i>Cost Categories</i>	<i>Amount</i>
Internal Labor hours 8 hours	
External costs -----	<i>\$200,000</i>
Labor (consultants, contract labor) \$100,000	
Equipment, hardware or software \$50,000	
List other costs such as travel & training \$50,000	
<i>Financial Return</i>	<i>\$100,000</i>
<i>Breakeven analysis</i> (if appropriate)	

Outline View

- 1** ***Phase 1 Initiation***
 - 1.1 Proposal draft
 - 1.2 Final project proposal
 - 1.3 Develop project charter
 - 1.4 Project charter signed/approved
 - 1.5 Submit Project Charter
- 2** ***Phase 2 Planning***
 - 2.1 Determine project team
 - 2.2 Project team kickoff meeting
 - 2.3 Submit project plan and approval
- 3** ***Phase 3 Execution***
 - 3.1 Project team kickoff meeting
 - 3.2 Verify and validate user requirements
 - 3.3 Design system
 - 3.4 Procure hardware/software
 - 3.5 Install development system
- 4** ***Phase 4 Testing***
 - 4.1 Install live system
 - 4.4 User training
 - 4.5 Formal testing
- 5** ***Phase 5 Control***
 - 5.1 Project management
 - 5.2 Project status meetings
 - 5.3 Risk management
- 6** ***Phase 6 closure***
 - 6.1 Audit procurement
 - 6.2 Document lessons learned
 - 6.3 Update files/records
 - 6.4 Gain formal acceptance
 - 6.5 Archive files/documents

Work Breakdown Task Definition and Schedule

Work Breakdown Structure

Level	WBS	Task Description	Assigned To	Start	End	Definition
1	1	Phase 1 Initiation				
2	1.1	Proposal draft	Project manager	2021-01-20	2021-01-27	Basic direction of the project.
2	1.2	Final project proposal	Project manager	2021-01-19	2021-02-08	Determine the basic direction of the project.
2	1.3	Develop project charter	Project manager	2021-02-08	2021-03-01	Project Manager to develop the Project Charter.
2	1.4	Project charter signed/approved	Project manager	2021-03-01	2021-03-13	The Project Sponsor signs the Project Charter which authorizes the Project Manager to move to the Planning Process.
2	1.5	Submit Project Charter	Project sponsor	2021-03-15	2021-03-15	Project Charter is delivered to the Project Sponsor.
1	2	Phase 2 Planning	Project manager and project sponsor	2021-02-01	2021-02-28	The work for the planning process for the project.
2	2.1	Determine project team	Project manager and project sponsor	2021-02-01	2021-02-15	The Project Manager determines the project team and requests the resources.
2	2.2	Project team kickoff meeting	Project manager and project sponsor	2021-02-22	2021-02-28	The planning process is officially started with a project kickoff meeting which includes the Project Manager, Project Team and Project Sponsor.
2	2.3	Submit Project plan and approval	Project manager	2021-03-04	2021-03-15	Project Manager submits the project plan for approval.
1	3	Phase 3 Execution	Project manager and project team members	2021-03-17	2021-04-01	Work involved to execute the project.
2	3.1	Project team kickoff meeting	Project manager	2021-03-17	2021-03-17	Project Manager conducts a formal kickoff meeting with the project team, project stakeholders and project sponsor.
2	3.2	Verify and validate user requirements	Project manager	2021-03-17	2021-03-17	The original user requirements is reviewed by the project manager and team, then validated with the users/stakeholders. This is where additional clarification may be needed.
2	3.3	Design system	Project manager and project team members	2021-03-18	2021-04-01	The technical resources design the new widget management system.
2	3.4	Procure hardware/software	Project team members	2021-03-19	2021-04-01	The procurement of all hardware, software and facility needs for the project.
2	3.5	Install development system	Project manager	2021-03-19	2021-04-01	Team installs a development system for testing and customizations of user interfaces.
1	4	Phase 4 Testing	Project manager and project team members	2021-04-14	2021-04-25	The system is tested with a select set of users.
2	4.1	Install live system	Project manager and project team members	2021-04-14	2021-04-17	The actual system is installed and configured.
2	4.4	User training	Project manager	2021-04-19	2021-04-27	All users are provided with a four-hour training class. Additionally, managers are provided with an additional two-hour class to cover advanced reporting.
2	4.5	Formal testing	Project manager	2021-04-20	2021-04-25	tested with a select set of users.
1	5	Phase 5 Control	Project manager and project team members	2021-03-17	2021-04-25	The work involved for the control process of the project.
2	5.1	Project management	Project manager	2021-03-17	2021-04-25	Overall project management for the project.
2	5.2	Project status meetings	All team members	2021-03-29	2021-04-12	Weekly team status meetings.
2	5.3	Risk management	Project manager	2021-03-17	2021-04-25	Risk management efforts as defined in the Risk Management Plan.
1	6	Phase 6 Closure	Project manager	2021-04-26	2021-04-30	The work to close-out the project.
2	6.1	Audit procurement	Project manager	2021-04-26	2021-04-26	An audit of all hardware and software procured for the project, ensures that all procured products are accounted for and in the asset management system.
2	6.2	Document lessons learned	Project manager	2021-04-27	2021-04-27	Project Manager along with the project team performs a lessons learned meeting and documents the lessons learned for the project.
2	6.3	Update files/records	Project manager	2021-04-28	2021-04-29	All files and records are updated to reflect the widget management system.
2	6.4	Gain formal acceptance	Project manager	2021-04-26	2021-01-30	The Project Sponsor formally accepts the project, by signing the acceptance document, included in the project plan.
2	6.5	Archive files/documents	Project manager	2021-04-30	2021-04-30	All project related files and documents are formally archived.

Risk Management Plan

Project

Test Bank on the Certified Professional Manager Certification Body of Knowledge from the American Management Association

Risks

Number	Risk	Probability Score (1, 2 or 3)	Impact Score (1, 2 or 3)	Total = Prob x Impact
A	Misinformation due to poor communication with the project sponsor.	2	3	6
B	Participants find it difficult to understand the questions.	2	3	6
C	Not enough participants to take this exam.	2	2	4

Risk Matrix

		Risk (exposure)		
		1. Slight	2. Moderate	3. High
Probability (of occurrence)	1. Very Unlikely			
	2. Unlikely			

	2. Possible		C	A, B
	3. Expected			

Contingency Plan

Risk	Description	Probability	Exposure	Contingency Plan
A	Misinformation due to poor communication with the project sponsor.	2	3	Maintain close contact with the sponsor to make sure that all information is correct.
B	Participants find it difficult to understand the questions/answers.	2	3	Check each question carefully to make sure that all questions and answers are easy to be understood. Make emails or other communication channels available so that the participants can ask questions when necessary.
C	Not enough participants to take this exam.	2	2	Make sure that the contact list is available and actively connect with those who have yet been connected.

Change Management Plan



New York University

Project Change Management
Rev. 2.1, 29/3/2021

PROJECT CHANGE MANAGEMENT PLAN

Project Name:	Test Bank on the Certified Professional Manager Certification Body of Knowledge from the American Management Association
Prepared by:	Ming Cai
Date (MM/DD/YYYY):	29 March 2021

1. Purpose

The purpose of this Change Management Plan is to:

- Ensure that all changes to the project are reviewed and approved in advance
- All changes are coordinated across the entire project.
- All stakeholders are notified of approved changes to the project.

All project Change Requests (CR) must be submitted in written form using the Change Request Form provided.

[Link To Project Change Request Form](#)

The project team should keep a log of all Change Requests

[Link To Project Change Request Log](#)

2. Goals

The goals of this Change Management Plan are to:

- Give due consideration to all requests for change
- Identify define, evaluate, approve, and track changes through to completion
- Modify Project Plans to reflect the impact of the changes requested
- Bring the appropriate parties (depending on the nature of the requested change) into the discussion
- Negotiate changes and communicate them to all affected parties.

3. Responsibilities

<i>Those responsible for Change Management</i>	<i>Their Responsibilities</i>
• Project Manager (with the Project Team)	Developing the Change Management Plan



3. Responsibilities	
Those responsible for Change Management	Their Responsibilities
<ul style="list-style-type: none"> Project Manager 	Facilitating or executing the change management process. This process may result in changes to the scope, schedule, budget, and/or quality plans. Additional resources may be required.
<ul style="list-style-type: none"> Project Manager 	Maintaining a log of all CRs
<ul style="list-style-type: none"> Project Manager 	Conducting reviews of all change management activities with project sponsor on a periodic basis
<ul style="list-style-type: none"> Project Manager 	Ensuring that adequate resources and funding are available to support execution of the <i>Change Management Plan</i> Ensuring that the <i>Change Management Plan</i> is implemented

4. Process
<p>The Change Management process occurs in six steps:</p> <ol style="list-style-type: none"> 1. Submit written Change Request (CR) 2. Review CRs and approve or reject for further analysis 3. If approved, perform analysis and develop a recommendation 4. Accept or reject the recommendation 5. If accepted, update project documents and re-plan 6. Notify the sponsor of the change. <p>In practice the Change Request process is a bit more complex. The following describes the change control process in detail:</p> <ol style="list-style-type: none"> 1. Any stakeholder can request or identify a change. He/she uses a <i>Change Request Form</i> to document the nature of the change request. 2. The completed form is sent to a designated member of the Project Team who enters the CR into the <i>Project Change Request Log</i>. Link To Project Change Request Log 3. All new pending CRs are reviewed at the meeting with the sponsor. Possible outcomes: <ul style="list-style-type: none"> <ul style="list-style-type: none"> ▪ <i>Reject:</i> <ul style="list-style-type: none"> • Project sponsor is scheduled to consider the CR on a given date • Project sponsor reviews the CR at their meeting ▪ <i>Defer to a date:</i>



4. Process

- *Accept for analysis:*
 - Project managers review and revise the CR based on the recommendation given by the project sponsor plus his or her analysis.

5. Notes on the Change Control Process

1. A Change Request is:

- Included in the project only when both Sponsor agree on a recommended action.

2. The CR may be:

- *Low-impact* – Has no material affect on cost or schedule. Quality is not impaired.
- *Medium-impact* – Moderate impact on cost or schedule, or no impact on cost or schedule but quality is impaired. If impact is negative, Sponsor review and approval is required
- *High-impact* – Significant impact on cost, schedule or quality. If impact is negative, Executive Committee review and approval is required

3. For this project:

- *Moderate-impact* – Fewer than X days change in schedule; less than \$XX change in budget; one or more major use cases materially degraded
- *High-impact* – More than X days change in schedule; more than \$XX change in budget; one or more major use cases lost.

4. All project changes will require some degree of update to project documents:

- *Low-impact* – Changes likely require update only to requirements and specifications documents
- *Moderate- or high-impact* – depending on the type of change, the following documents (at a minimum) must be reviewed and may require update:

Type of Change: Documents to Review (and update as needed):

- | | |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> ▪ Scope | <ul style="list-style-type: none"> ▪ Scope Statement and WBS ▪ Budget ▪ Project Schedule ▪ Resource Plan ▪ Risk Response Plan ▪ Requirements ▪ Specifications |
| <ul style="list-style-type: none"> ▪ Schedule | <ul style="list-style-type: none"> ▪ Project Schedule ▪ Budget ▪ Resource Plan ▪ Risk Response Plan |



5. Notes on the Change Control Process

<ul style="list-style-type: none"> ▪ Budget 	<ul style="list-style-type: none"> ▪ Budget ▪ Project Schedule ▪ Resource Plan ▪ Risk Response Plan
<ul style="list-style-type: none"> ▪ Quality 	<ul style="list-style-type: none"> ▪ Budget ▪ Project Schedule ▪ Resource Plan ▪ Risk Response Plan ▪ Quality Plan ▪ Requirements ▪ Specifications

5. Project documents:

Whenever changes are made to project documents, the version history is updated in the document and prior versions are maintained in an archive. Edit access to project documents is limited to the Project Manager and designated individuals on the Project Team.

- For this project, all electronic documents are kept in (select one of the following and describe it in the adjacent space provided)

Version Control System:

Central storage available to the Project Team:

Other:

- For this project, all paper documents are kept in (select one of the following and describe it in the adjacent space provided):

Project file maintained by the Project Manager:

Other:

- The following individuals have edit access to project documents:

Role	Documents
<ul style="list-style-type: none"> ▪ Project Manager 	<ul style="list-style-type: none"> ▪ All current documents ▪ Project archive
<ul style="list-style-type: none"> ▪ 	<ul style="list-style-type: none"> ▪
<ul style="list-style-type: none"> ▪ 	<ul style="list-style-type: none"> ▪
<ul style="list-style-type: none"> ▪ 	<ul style="list-style-type: none"> ▪
<ul style="list-style-type: none"> ▪ 	<ul style="list-style-type: none"> ▪



6. Project Change Management Plan / Signatures			
Project Name:	Test Bank on the Certified Professional Manager Certification Body of Knowledge from the American Management Association		
Project Manager:	Ming Cai		
<i>I have reviewed the information contained in this Project Change Management Plan and agree:</i>			
Name	Role	Signature	Date (MM/DD/YYYY)
Ming Cai	Project Manager		March 29, 2021

The signatures above indicate an understanding of the purpose and content of this document by those signing it. By signing this document, they agree to this as the formal Project Change Management Plan.

Status Report A

Project Status Report

<Departmental Move> Status Report –Month <March 2021>

To: Dr. Andres Fortino

cc:

From: Ming Cai

Date: March 29, 2021

YOUR ANTICIPATED COMPLETION DATE: ____ May 10, 2021 ____
COMPLETION SEMESTER: ____ Summer 2021 ____

Project Status Areas:	Execution Week <x>		
	Green	Yellow	Red
1. Overall Project Status	Green		
2. Project Schedule	Green		
3. Project Deliverables	Green		
4. Issues	Green		
5. Project Risks	Green		
6. Resources & Collaboration	Green		
7. Change Status	Green		

**see Assessment Guidelines on the last page of this doc.

Project Status Report

1 – Overall Project Status	
Status – Overall	
<ul style="list-style-type: none"> The project has in Phase 3 namely execution phase. Until now, I have finished the initiation and the planning phases. Based on the breakdown structure, there are five tasks in Phase 3 including "Browse through the AMA BOK book", "similarity test to identify the top courses related to management domains", "test bank creation", "test bank validation", and "install development system". I think I have finished the first four steps and have finished developing and validating a test bank. The test bank is waiting for the final approval and will be developed into a test system. So far, the project goes relatively smooth and different items have been and are being done as planned. 	

2 – Project Schedule	
Tasks that are not on schedule per workplan	Impact
1. Revised some problems in the book about the wording and expression of the assigned book.	1. After easy research and investigation, the problem was easily identified and corrected.

3 – Project Deliverables
COMPLETED DELIVERABLES: Phase 1 Initiation; Phase 2 Planning; the first four steps of the Phase 3 Execution.
UPCOMING DELIVERABLES: The last step of Phase 3 Execution; Phase 4 Testing; Phase 5 Control; Phase 6 Closure

4 – Issues
Inadequate efforts were put to some assignments or projects such as the Work Breakdown Structure, so that it was returned to revise and got approval by the project sponsor or professor. Some other assignments were also returned to revise and improve based on the suggestions of the project sponsor. Most of problems were easily identified and resolved.

5 – Project Risks	
Potential Risks	Possible Mitigation
Miscommunication with the project sponsor or lack of understanding of some assignment requirements	When there are questions, ask the teachers immediately for clarification.
Technical problems such as computer breakdown or virus	It is important to back up the file regularly for fear that the documents or other materials were lost due to some technical problems.

Project Status Report

6 – Resources and Collaboration

- This project is being done under the guidance of the project sponsor.
- This project also uses the AMA Bok book which is a highly informative and useful book.

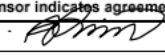
7 – Change Status

Scope Changes	Status (Requested Approved Completed)
No changes were submitted.	

Comments/Actions

It is important to take each assignment seriously.

8 – Sponsor Signoff

Sponsor indicates agreement with the above status report.	
	3/29/21

Assessment Guidelines

The assessment is designated by one of the three "Traffic Light" colors utilizing the following guidelines:

Each project should establish the appropriate project slippage metrics for yellow vs red status

Executive Summary:	Assessment		
	Green	Yellow	Red
Overall Project and Most status areas	No major issues, minimal risk to project, on target with expected outcomes, project on schedule, everyone satisfied with progress.	Some major issues, moderate risk to project, must monitor closely, some internal <i>or</i> external dissatisfaction with progress. Project plan slipping by 2+ days.	Significant issues, serious risks to project, significant intervention must occur to achieve success, potential for stoppage of project activity. Project slipping by 5+ days, and resources uncommitted to meet deliverables.

In your filename for this document, prefix with Green-, Red-, or Yellow-. G- or R- or Y- and show the date and your name

For example [G- Mary_Smith_Nov2099_Status.doc](#)

Status Report B

<Departmental Move> Status Report –Month <November 2025>

To: Dr. Andres Fortino

From: Ming Cai

Date: April 9, 2021

YOUR ANTICIPATED COMPLETION DATE: _____ May 10, 2021 _____

COMPLETION SEMESTER: __ Spring 2021 _____

Project Status Areas:	Execution Week <x>		
	Green	Yellow	Red
1. Overall Project Status			
2. Project Schedule			
3. Project Deliverables			
4. Issues			
5. Project Risks			
6. Resources & Collaboration			
7. Change Status			

**see Assessment Guidelines on the last page of this doc.

1 – Overall Project Status	
Status – Overall	
<ul style="list-style-type: none"> • A test bank was established • The test bank has been imported and tested on Qualtrics and it goes well. • The test bank has been sent to my peers and I am waiting for the result. 	

2 – Project Schedule	
Tasks that are not on schedule per workplan	Impact
I encountered some problems when testing the test bank, so I debugged for several times.	The impact was limited because I debugged and tested for three times, and it was finally passed.

3 – Project Deliverables	
COMPLETED DELIVERABLES: <i>Test bank creation, test bank validation, install development system</i>	
UPCOMING DELIVERABLES: <i>Formal testing, analysis, user survey</i>	

4 – Issues	
I encountered some problems when testing the test bank, so I debugged for several times until it was passed.	

5 – Project Risks	
Potential Risks	Possible Mitigation
Misinformation due to poor communication with the project sponsor.	Maintain close contact with the sponsor to make sure that all information is correct.

Project Status Report

Participants find it difficult to understand the questions/answers.	Check each question carefully to make sure that all questions and answers are easy to be understood. Make email or other communication channels available so that the participants can ask questions when necessary.
Not enough participants to take this exam.	Make sure that the contact list is available and actively connect with those who have yet been connected.

6- Resources and Collaboration

- This project has been under the assistance and help by the sponsor.

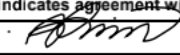
7 - Change Status

Scope Changes	Status (Requested Approved Completed)

Comments/Actions

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8 - Sponsor Signoff

Sponsor indicates agreement with the above status report.	
	4/10/21

Assessment Guidelines

The assessment is designated by one of the three "Traffic Light" colors utilizing the following guidelines:

Each project should establish the appropriate project slippage metrics for yellow vs red status

Executive Summary:	Assessment		
	Green	Yellow	Red
Overall Project and Most status areas	No major issues, minimal risk to project, on target with expected outcomes, project on schedule, everyone satisfied with progress.	Some major issues, moderate risk to project, must monitor closely, some internal or/and external dissatisfaction with progress. Project plan slipping by 2+ days.	Significant issues, serious risks to project, significant intervention must occur to achieve success, potential for stoppage of project activity. Project slipping by 5+ days, and resources uncommitted to meet deliverables.

Annotated Bibliography

Allen, P. (2004). Classroom assessment and social welfare policy: Addressing challenges to teaching and learning. *Journal of Social Work Education*, 40, 121-142.

In this book, the author provides a guide for professionals regarding the planning and implementation of the assessment of college and university academic programs. This source helps me to further understand the types of competency assessment and the specific examples in each type of competency assessment.

AMA (2021). *AMA Certified Professional in Management*. Retrieved from <https://www.amanet.org/certified-professional-in-management/>.

This is an official website of AMA. This source allows me to understand the benefits of an AMA certificate.

Anderson, J., Boyles, J. L., & Rainie, L. (2012, July 27). *The Future of Higher Education*.

Retrieved from

<https://www.pewresearch.org/internet/2012/07/27/the-future-of-higher-education/>.

This is a PEW Research article that discusses the trends and challenges of higher education. This article is useful because it provides the outcomes of a survey about people's attitudes toward the costs and returns of a college education.

Calderon, O. (2013). Direct and Indirect Measures of Learning Outcomes in an MSW Program: What Do We Measure? *Journal of Social Work Education*, 49, 408-419.

This scholarly article discusses both direct and indirect measures of learning outcome in an MSW program. It is a useful source because it not only makes a distinction between direct and indirect assessments but also analyzes the pros and cons of these types of assessments.

Drisko, J. W. (2014). Competencies and Their Assessment. *Journal of Social Work Education*, 50, 414-426.

This scholarly article explores competencies and methods for their assessment in higher education and social work's accreditation standards. This article is useful not only in that it provides a list of the definition of competency but also shed light on how to evaluate competencies.

Fain, P. (2019, November 18). *Survey of Graduates on Value of Credentials*. Retrieved from <https://www.insidehighered.com/quicktakes/2019/11/18/survey-graduates-value-credentials>.

This article discusses the survey outcomes of the value of credentials for non-degree vocational programs and bachelor's degree programs. I chose this article because it can be used to point out the current program of college education and the importance of competency evaluation.

Indeed (2020, December 28). *What are Certifications? Definition, Benefits, Types of Certifications, and Examples*. Retrieved from <https://www.indeed.com/career-advice/career-development/what-are-certifications>.

This article is about different aspects of certifications regarding their definition, benefit, and types of certifications. This article is useful because it allows me to understand the benefits of certification.

Kelly (2019, October 12). *Top Five Certifications to Advance Your Management Career*.

Retrieved from

https://www.kellyservices.us/us/business_services/business-resource-center/managing-employees/top-five-certifications-to-advance-your-management-career/.

This article introduces several kinds of certifications for a management career. This article is a good complement to Indeed's article about the concept of certification.

Rasmussen, S. L. (2010). *To Define and Inform: An Analysis of Information Provided in Dictionaries used by Learners of English in China and Denmark*. New York: Cambridge Scholars Publishing.

This is a book that provides a synthesis of lexicographical theory about bilingual and learner dictionaries and advances a radical argument about how such dictionaries are used. I referenced this source mainly to obtain a definition of multiple-choice questions.

Weimer, M. (2018, February 21). *Multiple-choice tests: revisiting the pros and cons*. Retrieved from

<https://www.facultyfocus.com/articles/educational-assessment/multiple-choice-tests-pros-cons/>.

This article discusses the pros and cons of multiple-choice tests. This article provides many useful suggestions about how to design a good, high-quality multiple-choice test.

Zlatkin-Troitschanskaia, O., Shavelson, R. J., & Kuhn, C. (2015). The international state of research on the measurement of competency in higher education. *Studies in Higher Education*, 40(3), 393-411. Doi: 10.1080/03075079.2015.1004241.

This article looks at the measurement of competencies in higher education in different countries and analyzes the challenges for competency measurement due to the high diversity of degree courses. This is a useful article for my literature review. It allows me to understand better the approaches to competency assessment for higher education in different countries and the types of competency assessment for higher education.

Test

Bank

Sample

(Qualtrics

Platform)



NEW YORK UNIVERSITY

Professional Manager Skills Assessment

This assessment is based on the Book of Knowledge of the Professional Manager Certification exam from the American Management Association. A score of 70 or better is a good indication you well prepared for a job as a Manager. If you wish to know your score and a breakdown by subject area, leave your email address at the end of the assessment. This assessment should take you about 30-35 minutes.



Powered by Qualtrics 



Q1.

Managers use communication skills both to exhibit and to encourage _____

(select the answer that does NOT fit)

- team collaboration
- emotional intelligence
- customer focus
- conflict



Q2. Communication is a transactional process in which a speaker is also often a _____.

- writer
- reader
- listener
- communicator





CPM Assessment
Knowledge assessment for
Management based on AMA
BOK

Student: Ming Cai
Date: April 29, 2021

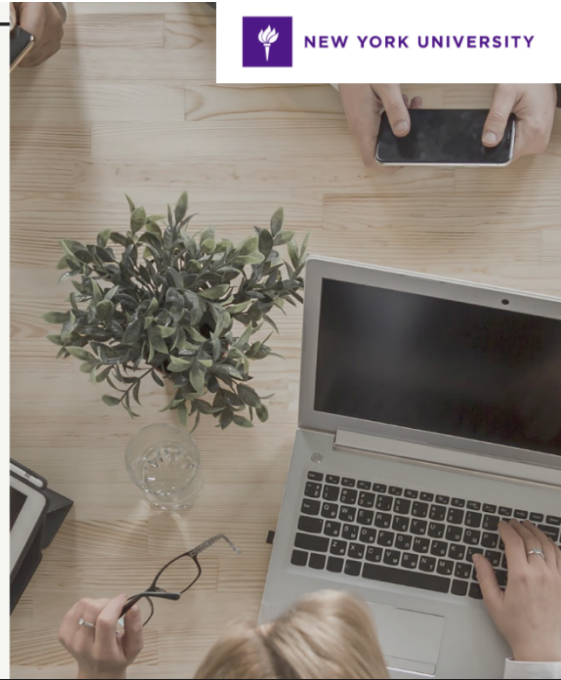


Applied Project

Presentation in fulfillment of requirements
of the NYU SPS course
Applied Project: Capstone
Spring 2021

Table of Contents

- 01 Introduction
Project Sponsor
- 02 Methods
- 03 Results
- 04 Discussion and Conclusion



01

Introduction
Project Sponsor

Project Sponsor



- **Project Name:** CPM Assessment - Knowledge assessment for Management based on AMA BOK
- **Client Organization:**
NYU School of Professional Studies and the Management and Systems program (MASY) is a New York-based learning institution
- **Client Sponsoring Professional and Title:**
Dr. Andres Fortino
Clinical Associate Professor of Management and Systems
Academic Community of Practice Leader

02

Methods

Methods



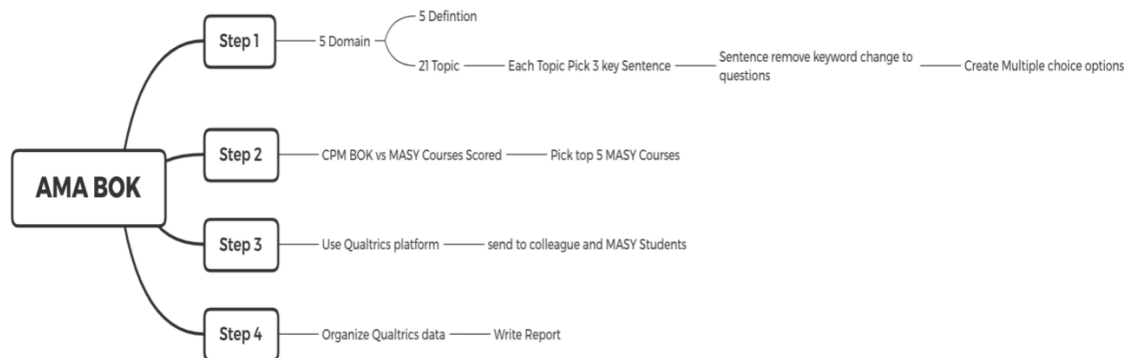
AMA BOK handbook published by the American Management Association

Five domains:

- Domain 1. Professional effectiveness
- Domain 2. Relationship management
- Domain 3. Business acumen
- Domain 4. Analytical intelligence
- Domain 5. Ethics, technology and culture

63 total questions in the test bank. Passing score: **70**

The test bank was created and made available as an online survey through the **Qualtrics** platform.



03

Results

CPM Assessment Scores by Domain

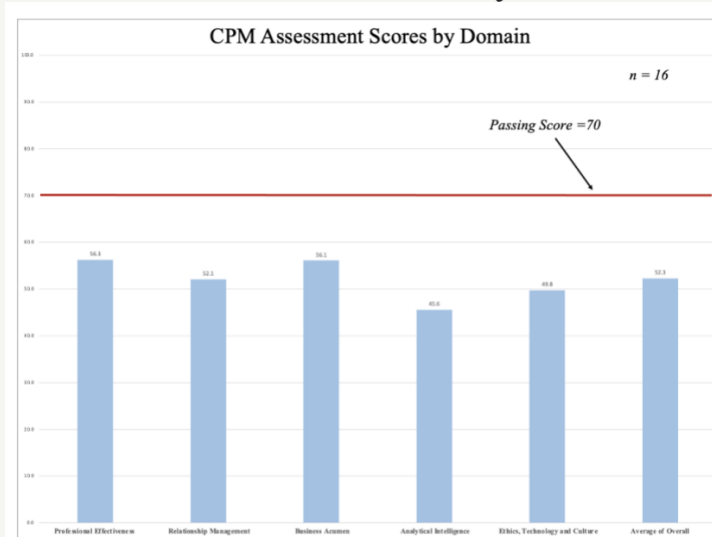


Table 1

CPM BOK vs MASY Courses Scored

Course	Type	Professional Effectiveness	Relationship Management	Business Acumen	Analytical Intelligence	Ethics, Technology and Culture	Total Score
Strategic Management of Technological Innovation	Core	0.107	0.136	0.125	0.040	0.118	0.526
Information Technology & Data Analytics	Core	0.060	0.114	0.113	0.077	0.075	0.440
Strategic Marketing	Core	0.076	0.055	0.184	0.021	0.033	0.368
Quantitative Models for Decision-Makers	Core	0.059	0.061	0.065	0.084	0.032	0.301
Financial Management	Core	0.006	0.054	0.179	0.011	0.028	0.278
Strategic Communications	Concentration	0.239	0.126	0.094	0.062	0.068	0.589
Business Analysis in the Enterprise	Concentration	0.062	0.110	0.185	0.094	0.076	0.528
Enterprise Ethics & Sustainability	Concentration	0.057	0.111	0.069	0.032	0.227	0.497
Managing Complex Change Initiatives	Concentration	0.083	0.158	0.069	0.042	0.112	0.464
Leadership	Concentration	0.084	0.086	0.083	0.072	0.120	0.445
Total		0.833	1.011	1.166	0.536	0.889	

Table 2

04

Discussion and Conclusion

Discussion and Conclusion



- Most students in this program **don't know as much about management** as the AMA thinks managers should know.
- Some areas of courses need to improve students' performance in these areas.
- The test bank is an effective tool to let students know their deficiencies to make a better preparation for the exam.
- It is also a tool to let Professor understand what areas of their courses need to improve.



Thanks

Do you have any questions?

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NYU School of Professional Studies



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