

**Capstone: Milestone Project**

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**Executive Summary:**

The purpose of this project is to propose the creation of a project-based University to develop a telecommunications network plan for the curriculum that will provide students with on-the-job training opportunities while attending classes virtually, specifically Northrup Grumman. This curriculum will be designed in collaboration with this company to ensure that students receive the necessary skill and knowledge required for employment. According to the DeVry University news post, 70,000 cyber security jobs need to be filled. However, new graduates need help with companies asking for degrees and work experience. Students will gain the necessary skills by creating a project-based university curriculum that provides on-the-job training.

For example, Companies ask for degrees and years of experience. When, in fact, how can students get the years' experience when fresh out of college, expecting to gain employment with the degree they process? My project will address the skills gap and improve employment opportunities for graduates. There are several business options available for implementing this project-based university curriculum into Northrup Grumman company. One option is to partner with this company to provide on-the-job training opportunities. Another is collaborating with multiple companies to provide various training opportunities; a third option is creating a new business entity to facilitate the project-based university.

This project will outline the reasons for this proposal, the available business options, expected benefits, expected dis-benefits, budget estimate, schedule estimate, investment appraisal, and significant risks. Now, the problem of designing a telecommunications network over a given geographically dispersed area is a significant practical problem that involves engineering and economic aspects (see Kawasumi et al., 2007; Lee et al., 2001; Nazem et al., 1994)

Currently, many university graduates need more practical skills for employment. Many employers have expressed concern about the gap between academic education, real-world work experience, and my duties. This has led to high unemployment rates among graduates and a need for more qualified workers for companies. An objective function reflecting the decision maker's interests is optimized subject to satisfying a set of constraints that the network design should meet.

The other problem underlying the binary mathematical programming approach is that the system that will be designed is usually massive. Therefore, the size of the binary mathematical programming problem in real-world situations can lead to a sizeable computational burden (see Lee et al. 1994; Nazem et al. 1994, 1996).

Given that the indicators of acceptability are primarily measured in different units (e.g., operating costs in monetary units, health care according to a qualitative index), the first and necessary step for constructing the aggregated index of acceptability is to normalize the different performances achieved by the candidate hubs considered. A simple and pragmatic normalization procedure is successfully used in other contexts (see Dı´az-Balteiro and Romero 2004) for an ecological context).

By particularizing the distance function (2) for the metrics p = 1 and p =? The following results are obtained: Distance Manhattan. Concerning these distance functions, defined by lineal mathematical expressions, you can note that: The first expression adds the normalized and weighted degrees of proximity of all the criteria to their outstanding value, verifying that when the metric p increases, more importance is given to the more considerable deviations; whereas, the second is limited to finding the maximum degree of normalized and weighted proximity of all criteria to their outstanding value.

The solution that assigns the lowest numerical value to the distance for p = 1 (: = compromise solution for p = 1) is a solution of maximum utility, i.e., the solution that maximizes the normalized and weighted sum of the obtained values for the acceptability indicators considered. The solution that assigns the lowest numerical value to the distance for p =? (: = compromise solution for p =?) is a solution of complete equality, i.e., the solution that maximizes the balance between the achievements of the different acceptability indicators considered.

**Milestone 1:**

The compromise solutions for p = 1 and p =? define a subset called compromise set, and the solutions for other values of metric p belong to this set (see Blasco et al. 1999; Yu 1973 for a justification of this crucial property of the compromise sets). Taking this into account, to calculate in a computational sim, and to successfully manage change within an organization, the strategy must be tailored to its unique requirements and culture while keeping its larger objectives and goals in mind (Krishan et al., 2018). It can be accomplished by enlisting the help of an organizational change specialist or by employing tried-and-true change management approaches. These techniques provide frameworks and instruments for changing project design, implementation, and evaluation (Ashrari, 2019). Additionally, excellent communication is required during the transformation process. Clear and upfront communication helps to create trust, manage demands, and tackle any worries or resistance to change. Including staff and interested parties in the change, manipulation is also critical, as their feedback and involvement can boost the likelihood of effective implementation (Ashrari, 2021). Managing organizational change necessitates a deliberate strategy considering the organization's unique needs and culture. Companies like Target and Walmart may boost the likelihood of successful strategic change projects by incorporating the six pictures of managing shift understanding the demands for change, mitigating unintended consequences, and adopting effective communication tactics.

**Charter:**

The purpose of this project is to propose the creation of a project-based University to develop a telecommunications network plan for the curriculum that will provide students with on-the-job training opportunities while attending classes virtually, specifically Northrup Grumman. This curriculum will be designed in collaboration with this company to ensure that students receive the necessary skill and knowledge required for employment.  According to the DeVry University news post, 70,000 cyber security jobs must be filled. However, new graduates need help with companies asking for degrees and work experience. Students will gain the necessary skills by creating a project-based university curriculum that provides on-the-job training. For example, Companies ask for degrees and years of experience. When, in fact, how can students get the years' experience when fresh out of college, expecting to gain employment with the degree they process? My project will address the skills gap and improve employment opportunities for graduates.

**Project Overview:**

Several business options are available for implementing this project-based university curriculum into Northrup Grumman company. One option is to partner with this company to provide on-the-job training opportunities. Another is collaborating with multiple companies to provide various training opportunities; a third option is creating a new business entity to facilitate the project-based university.

This project will outline the reasons for this proposal, the available business options, expected benefits, expected dis-benefits, budget estimate, schedule estimate, investment appraisal, and significant risks. Now, the problem of designing a telecommunications network over a given geographically dispersed area is a significant practical problem that involves engineering and economic aspects (see Kawasumi et al., 2007; Lee et al., 2001; Nazem et al., 1994)

Currently, many university graduates need more practical skills for employment. Many employers have expressed concern about the gap between academic education, real-world work experience, and my duties. This has led to high unemployment rates among graduates and a need for more qualified workers for companies. Consequently, an objective function reflecting the decision maker's interests is optimized subject to satisfying a set of constraints that the network design should meet. The other problem underlying the binary mathematical programming approach is that the system that will be designed is usually massive. Therefore, the size of the binary mathematical programming problem in real-world situations can lead to a sizeable computational burden (see Lee et al. 1994; Nazem et al. 1994, 1996).

Given that the indicators of acceptability are primarily measured in different units (e.g., operating costs in monetary units, health care according to a qualitative index), the first and necessary step for constructing the aggregated index of acceptability is to normalize the different performances achieved by the candidate hubs considered. A simple and pragmatic normalization procedure is successfully used in other contexts (see Dı´az-Balteiro and Romero 2004) for an ecological context).

**Milestone 2:**

By particularizing the distance function (2) for the metrics p = 1 and p =? The following results are obtained: Distance Manhattan. Concerning these distance functions, defined by lineal mathematical expressions, you can note that: The first expression adds the normalized and weighted degrees of proximity of all the criteria to their outstanding value, verifying that when the metric p increases, more importance is given to the more considerable deviations; whereas, the second is limited to finding the maximum degree of normalized and weighted proximity of all criteria to their outstanding value.

**Design Document:**

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Consequently, to successfully oversee change within an organization, the strategy must be tailored to its unique requirements and culture while keeping its larger objectives and goals in mind (Krishan et al., 2018). It can be accomplished by enlisting the help of an organizational change specialist or by employing tried-and-true change management approaches. These techniques provide frameworks and instruments for changing project design, implementation, and evaluation (Ashrari, 2019). Additionally, excellent communication is required during the transformation process. Clear and upfront communication helps to create trust, manage demands, and tackle any worries or resistance to change. Including staff and interested parties in the change, manipulation is also critical, as their feedback and involvement can boost the likelihood of effective implementation (Ashrari, 2021). Managing organizational change necessitates a deliberate strategy considering the organization's unique needs and culture. Companies like Target and Walmart may boost the likelihood of successful strategic change projects by incorporating the six pictures of managing shift understanding the demands for change, mitigating unintended consequences, and adopting effective communication tactics.

**Project Overview:**

In partnership with the telecommunications corporation Northrup Grumman, the project intends to propose the development of a project-based university curriculum to provide students with possibilities for on-the-job training while enrolled in online classes. The curriculum aims to close the skills gap and increase graduates' career prospects by bridging the gap between academic study and practical work experience. The executive summary of the project emphasizes the significant demand for cybersecurity employment and the need for practical skills among recent graduates. Including training opportunities in the curriculum for students will enhance their chances of success in their careers. Additionally, the summary highlights business opportunities for implementing the project, including partnering with Northrup Grumman or other companies, and even establishing a resolute company specifically for the project-based university (Laffont & Tirole, 2001).

The project employs a mathematical programming methodology to construct a communications network over a geographically distant area. This method optimizes an objective function while a set of constraints is met. The statement outlines a decision-making approach by considering price, effectiveness, and efficiency. Depending on the value of parameter p, the optimal choice is determined by finding the option with the value for the distance metric. It delivers a fair and balanced result by preventing one signal from dominating the others. Giving students credit for their time spent in school as job experience is the project's goal and basis for existence. Python illustrates how the curriculum is implemented and used, highlighting the value of programming expertise in the workplace (Laffont & Tirole, 2001).

The organizational goals emphasize the value of open, honest communication in fostering trust and managing change. The project scope statement recognizes the information's preliminary nature and promises to be elaborated upon as the project progresses. The project's advantages—including assisting graduates in gaining experience and standing out in the job market—as well as its advantages in supplying firms with a pipeline of qualified workers—are emphasized in the objectives and success criteria. While the constraints section discusses people, money, time, or equipment restrictions, the needs section requests a list of high-level project requirements. The project's assumptions are described in detail, and its hazards are mentioned to consider any unknowns. The deliverables are outlined to ensure that everyone is clear on what is anticipated at the end of the project (Warf, 1989).

The summary budget summarizes the overall cost components, while the milestone calendar offers an expected timetable for the project's significant milestones. As the project develops and additional information becomes available, the timetable and the budget are subject to change. The project overview concludes by emphasizing the necessity for a project-based university curriculum to close the knowledge gap between the classroom and the workplace. It explores how to construct a communications network using a mathematical programming method and strongly emphasizes the value of effective communication and change management. The project's objectives, scope, requirements, restrictions, assumptions, risks, deliverables, timetable, and budget are all thoroughly explained in the overview (Freeman, 2005).

**Project Purpose and Justification:**

This project aims to suggest constructing a project-based university curriculum with a Northrup Grumman partnership that focuses on creating a communications network design. The main objective is to provide students with opportunities for on-the-job training as they take courses online.

Real-world job experience is added to the curriculum to reduce the skills gap among recent college graduates and improve their employment chances in the rapidly changing labor market. Over 70,000 cyber security jobs are available, indicating an increasing demand for competent candidates. Many fresh graduates struggle because firms increasingly want degree holders and experience. Thus, students face a Catch-22: they need experience to find a job yet can only gain experience by working. This loop may be broken by integrating on-the-job training into the academic curriculum (Craigen et al., 2014).

This initiative is important because it bridges academic training with workforce needs. Traditional university courses typically need more firsthand experience and prepare students for the workplace. Graduates thus often need help to live up to employers' expectations, which raises unemployment rates and causes a scarcity of skilled employees for businesses. The initiative ensures that students are exposed to industry-relevant procedures and technology by working with Northrup Grumman, a reputable telecommunications business. Through this strategic cooperation, it is possible to customize the curriculum to the requirements of the business precisely, giving students knowledge and abilities that will be useful in their future jobs. Through this direct instruction, students will be better equipped to face problems in their study area and contribute to the organizations they join (Craigen et al., 2014)

The initiative's primary goal is to establish a condition where students and businesses may benefit equally. Graduates will have a degree and appropriate job experience, significantly increasing their employability. On the other hand, employers will profit from a pool of competent applicants who are theoretically knowledgeable and skilled, lowering the costs and time needed for onboarding and training inexperienced staff. Different business strategies have been investigated to guarantee the project's effective execution.

One option is to join Northrup Grumman, enabling the institution to benefit from the organization's resources, knowledge, and infrastructure. Thanks to this partnership, the curriculum will align with business requirements and industry norms, giving students access to innovative information and abilities (Carley, 2020).

Collaboration with several telecom carriers is an additional strategy. With this choice, students are exposed to a wider variety of training possibilities and various job situations and difficulties. The project-based university can keep up with the most contemporary trends and technology by connecting with diverse industry actors and increasing the curriculum and educational experience. As an alternative, the idea suggests developing a brand-new company that would exist purely to support the project-based institution. This strategy could provide more autonomy and flexibility in curriculum creation, enabling a customized and quick response to changing market demands. Additionally, it creates the possibility of future partnerships with several businesses across numerous industries, not only the telecommunications industry, which will increase the prospects accessible to students.

To ensure the project's sustainability and success, the budget estimate, schedule estimate, investment evaluation, and risk assessment must be included. A detailed financial analysis will identify the resources needed to develop the curriculum, set up infrastructure, and train faculty (Carley, 2020). The estimated timeline will make providing enough time to develop the curriculum, manage the available resources, and recruit students easier. Additionally, a project's long-term sustainability and prospective returns on investment will be evaluated by undertaking an investment evaluation. This appraisal is crucial for stakeholders to commit to and support the project. The project will be protected against setbacks and uncertainties by initiative-taking risk mitigation techniques that may be implemented after identifying substantial internal and external risks.

The project aims to bridge the skills gap among new college graduates and boost their employability in a tough job market. The initiative collaborates with Northrup Grumman to design a project-based university curriculum to provide students with valuable on-the-job training. The curriculum is aligned with industry demands to give graduates a competitive edge, thanks to the strategic cooperation with Northrup Grumman. The project also includes forming a specific corporate entity and other commercial choices, such as cooperating with several industry participants or joining forces with only one organization. These possibilities highlight the project's versatility and flexibility to satisfy various objectives and promote long-term success (Singer & Friedman, 2014).

The project also highlights the significance of risk assessment, investment evaluation, schedule planning, and budget projection in assuring the feasibility and sustainability of the project. The project can traverse risks and stay on pace to accomplish its goals by anticipating potential problems and taking initiative-taking measures to overcome them (Singer & Friedman, 2014). By incorporating direct learning and real-world experience into the curriculum, the proposed initiative has the potential to transform higher education altogether. The initiative seeks to develop graduates who are prepared for the workforce and can contribute significantly to innovation in the telecoms sector and beyond by arming students with both theoretical knowledge and practical abilities.

**Project Objectives:**

The proposed initiative attempts to create a project-based university curriculum that tackles the urgent problem of the gap between academic training and real-world job experience for university graduates. The project's main commercial goals, especially with Northrup Grumman, revolve around giving students access to on-the-job training opportunities as they attend courses digitally.

By attaining these goals, the initiative hopes to eliminate the skills gap, improve graduate job prospects, and promote a smooth transition from the classroom to the workplace. One of the project's primary drivers is recognizing the need for applicants with real-world experience and academic credentials. According to a news article from DeVry University, there is a significant need for cybersecurity specialists since there are now 70,000 open positions. Fresh graduates who need practical experience face a massive barrier since many firms prefer candidates with degrees and job experience (Mahasneh & Alwan, 2018).

The initial commercial goal of the initiative is to create a project-based university curriculum that offers students possibilities for on-the-job training. The program may be customized to match employers' particular knowledge and skill needs by working with sector-leading corporations like Northrup Grumman. By ensuring that students obtain insightful knowledge about business methods, innovative technology, and practical problems, this strategic cooperation improves students' employability and prepares them for the job market. The second corporate goal is to credit students for years of work experience based on their academic accomplishments. With this novel strategy, theoretical information acquired via formal schooling is valued and converted into practical job experience. The initiative seeks a fair and impartial method for assessing graduates' credentials by giving them credit or academic achievements, such as an associate's, bachelor's, master's, or Ph.D. degree (Mahasneh & Alwan, 2018).

The initiative anticipates several commercial opportunities for implementing the university's project-based curriculum. One option is to collaborate with Northrup Grumman to provide on-the-job training opportunities via the business. Another option is to work together with other telecom businesses to offer a wide variety of training possibilities.

The idea also suggests developing a fresh company to support the project-based university, enabling flexibility in curriculum design and partnerships with diverse sectors outside of telecoms. The initiative aims to accomplish several anticipated advantages by incorporating on-the-job training into the curriculum and awarding credit for academic success. First, graduates will have meaningful job experience and academic credentials, thus increasing their employability. This will reduce the skills gap and graduate unemployment, helping students and the job market. Second, firms will have access to job-ready graduates who can contribute to their businesses. Thus, onboarding and training will take less time and money, improving productivity.

Despite the anticipated advantages, the initiative knows disadvantages and hazards. Such a project must be implemented with careful planning and resource allocation to secure satisfactory results. The project overview comprises an estimated budget, timetable, investment evaluation, and risk assessment to address these issues proactively. Finally, the project aims to assist university graduates with employment experience. Northrup Grumman and the University are creating a project-based curriculum to prepare students for the workforce. The initiative guarantees a fair assessment of graduates' credentials by crediting work experience for academic achievements and successes. The initiative intends to improve graduates' employability, satisfy industry expectations, and contribute to expanding and developing the telecoms industry and other industries via strategic collaborations and novel techniques. By completing these goals, the initiative will pave the road for students to become successful professionals, promoting the development of a knowledgeable and competent labor force.

**Scope Statement:**

The scope statement is a fundamental document describing a project's goals and limitations. It gives readers a clear idea of what is covered by those restrictions. Establishing a project-based university curriculum with a particular emphasis on telecommunications network design is within the purview of this environment. This curriculum's main objective is to provide students with in-depth information and valuable skills related to the telecommunications sector.

The project will heavily include cooperation with renowned telecommunications firm Northrup Grumman. Their knowledge and perceptions will guarantee that the program is current and adheres to industry best practices and practical needs. Additionally, including chances for on-the-job training will help students learn via experience, improving their employability and bridging the gap between academic theory and real-world application. Remembering that the scope statement will gradually be expanded upon and refined as the project moves forward is crucial. Factors including evolving technology, market trends, and stakeholder comments will be considered to ensure the curriculum is current and practical (Cordeau et al., 2010).

Regular reviews of the scope statement will be done as the project progresses to see if any changes are necessary to ensure that the final deliverables match the project's goals and stakeholders' expectations. Managing modifications within predetermined parameters is critical to prevent scope creep and preserve the project's overall coherence and viability.

**Project Schedule:**

First stage: planning phase lasts one month and is the project's initial stage. Several significant activities that establish the groundwork for the project's success are completed during this phase. Market research is the first step to determine if the project is necessary. To ascertain if there is a demand for the proposed project, data must be gathered, and market trends must be examined. The project team uses the research to better understand the target audience and spot possibilities and difficulties that may arise (Herroelen, 2009).

The next step is to create a project charter. A project charter is a document that lists the goals, stakeholders, and overarching plan of the project. It acts as a project road map and aids in coordinating the project team and stakeholders on the objectives and course of the project.

Another critical duty during the planning phase is developing a project plan. The project plan outlines the precise tasks, materials, and delivery dates necessary to accomplish the project effectively. The studies, milestones, dependencies, and deliverables are broken out in this document. The project plan acts as a roadmap for the project team, ensuring everyone is aware of their duties and responsibilities and on the same page (Herroelen, 2009). During the planning stage, financing the project is equally crucial. The project team must locate prospective financial sources, such as grants, sponsorships, or alliances. They may need to create a business case or pitch to persuade stakeholders and investors of the project's worth and return on investment.

**2nd. Stage: Construction:**

The second stage is the project's development phase, which lasts six months. Making the essential components for the project's execution is the primary goal of this phase. Creating the curriculum was one of the main jobs at this period. The project team works with subject matter experts to develop a thorough and exciting curriculum that supports the project's goals. The project's contents, learning objectives, and assessment strategies are laid out in the curriculum (Demeulemeester & Herroelen, 2006).

The development of the learning platform is another crucial duty. The project team creates a learning management system or online platform to house the curriculum and provide a user-friendly interface for teachers and students. The platform could include functions like content distribution, forums, tests, and progress monitoring. The project team also forms a strategic alliance with Northrup Grumman, which may provide the project with invaluable assistance, knowledge, and resources. Collaboration on curriculum development, mentoring possibilities, or access to business insights might all be part of this cooperation. Marketing the initiative to companies and students is another responsibility in the development phase. The team creates and executes a marketing plan to spread the word about the project, draw in prospective students, and build connections with companies interested in participating in or funding the initiative.

**3rd. Stage: Execution:**

The third and last phase of the project is its implementation phase, which lasts 12 months. The project is introduced to the students during this phase. The project must be launched as the first job in this phase. The project team plans the infrastructure, communications, and planning required to launch the project. This can include holding a launch event, making the idea known to the intended audience, and formally launching student registration.

A crucial responsibility during the implementation stage is student recruitment. The project team actively recruits and enrolls students drawn to the course offerings and learning environment. To contact prospective students, they may partner with educational institutions, run internet ads, or use current networks. The implementation phase's primary goal is to provide the curriculum. The project team ensures the curriculum is offered to the registered students successfully and efficiently. To guarantee a high-quality learning experience, they could give instructional assistance, lead dialogues, and track student progress (Demeulemeester & Herroelen, 2006).

The work of evaluation is continued throughout the implementation phase. To gauge the initiative's success, the project team gathers data, evaluates student performance, and solicits feedback. Future revisions of the curriculum and learning platform will be informed by this review, which helps pinpoint areas that need improvement.

**4th  Stage: Scaling:**

The fourth and last phase of the project, which lasts an entire year, is scaling. This stage intends to include more firms and institutions in the initiative. Replicating the project's structure and modifying it to fit the requirements of other educational institutions is necessary to scale the project to additional universities. The project team collaborates with partner institutions, offers assistance and training, and ensures the project's implementation goes well. Another duty in the growing phase is forming partnerships with other companies. The project team seeks strategic alliances with businesses that share their goals and can provide more funds, resources, or experience.

These collaborations may increase the project's sustainability and effect. Even while scaling, ongoing review is essential. The project team evaluates the project's success at various colleges and companies, highlighting its advantages, disadvantages, and potential areas for development. The assessment assures the project's long-term success and aids in streamlining the project's execution techniques.

**ProjectBudget*:***

This initiative aims to promote the implementation of a university curriculum based on projects which would offer students training opportunities alongside their courses. The main goal is to ensure students have the skills and knowledge for employment. To achieve this, the curriculum will be developed in collaboration with Northrup Grumman (Adafin et al. This project has a $1 million budget in total. The budget's components are as follows: Staffing: The initiative will spend $500,000 on hiring personnel, including a project manager, curriculum creators, and instructors. $250,000 will be spent to build the curriculum, including establishing evaluation tools, course materials, and research methods.

Technology will be purchased with the project's $150,000 budget, including hardware, software, and virtual learning platforms. Marketing: The initiative will be promoted to companies and students using $100,000 (Adafin et al., 2016). It is anticipated that the project will be finished in a year.

**There will be three stages to the project's execution:**

**Step 1:** Recruiting personnel, creating the curriculum, and getting equipment are all part of this step. It will take six months to finish this phase.

**Phase 2:** Students will be enrolled during this phase, and the initiative will be promoted. Three months are anticipated to be needed to finish this phase.

**Phase 3**: This phase will include curriculum delivery and on-the-job training. Three months are anticipated to be needed to finish this phase.

I anticipated that the project would bring in $1.5 million. Student tuition and business donations will provide the funding. The initiative has both significant risk and a significant return. Project-related hazards include the following: The project may still need to be finished on schedule or budget.

Both firms and students will be drawn to the initiative. The enterprise may need help to make enough money to pay for itself. The undertaking could also be an enormous success. The project might potentially. In the telecommunications sector, close the skills gap, giving graduates the knowledge and abilities required to work in the telecom sector, while improving linkages between corporations and colleges.

**Project Risks:**

Every project has inherent hazards; project managers and teams must recognize and take initiative-taking measures to manage these risks. The following dangers of this project have been noted:

**Risk 1: Insufficient funding:** The potential for inadequate financing from numerous sources is one of the main dangers for this project. The project's advancement might be jeopardized if financing sources such as government grants, business sponsorships, and student tuition are delayed or unable to be obtained (Keil et al., 1998).

**Minimizing method:**

The project team must create a thorough budget and financial strategy to reduce this risk. This strategy should examine threats to financing sources, alternative funding opportunities, and the money needed at different project phases. The group should also consider creating a contingency fund to manage unforeseen financial issues. It will be essential to establish and develop strong connections with financing partners, highlight the project's value and potential effect, and have open lines of communication.

**Risk 2: Insufficient backing from important stakeholders:**

The collaboration and assistance of essential parties, such as Northrup Grumman, academic institutions, and governmental organizations, will be crucial to the project's success. Significant delays or even project cancellations may result if stakeholders stop supporting the project or express just a little excitement. Mitigating Strategy: To oversee this risk, the project team should establish and maintain strong bonds with essential stakeholders throughout the project's lifespan. This entails open communication, displaying the project's advantages and alignment with stakeholders' objectives, and proactively responding to any issues or suggestions they may have. A well-established stakeholder engagement strategy should be in place to guarantee that stakeholders are kept informed and participating in decision-making processes. They are identifying backup stakeholders or partners who may take over if any key stakeholders withdraw their support (Mentis, 2015).

**Risk 3: Technical Difficulties:**

Installing an online learning platform and effectively creating a new curriculum is crucial to the project's success. Technical difficulties, such as infrastructure constraints, software defects, or integration problems, might cause the project to be severely delayed or less effective.

**Mitigating Strategy:**

The project team should conduct a complete technical evaluation early on to minimize technical issues. This will make it easier to see obstacles and enable the team to create suitable solutions or workarounds. Subject matter experts, seasoned software engineers, and instructional designers who can evaluate the project's technological viability and scalability should be on the team. To identify and fix problems as soon as feasible, routine testing and quality assurance procedures should be included in the development process (Mentis, 2015).

**Risk 4: Market Difficulties**:

The market's need for telecom professionals will determine if the initiative is viable. The project can lose its allure or viability if demand falls. Defending against this danger will require the project team to monitor the telecom's labor market closely. It is essential to routinely do market research and analysis to determine the need for telecom professionals in the present and the future. To gather knowledge of shifting market trends, the project team should also keep lines of contact open with experts in the field, employers, and recruiters. The team may change the curriculum and training to match changing industry demands by keeping ahead of market trends, assuring the project's relevance and success.

**Risk 5: Competition:**

The success of this endeavor is threatened by competition from other groups working on related subjects. The success or market share of rivals may influence the results and feasibility of this project.The project team must undertake a detailed competitive analysis to address competition. The team will be able to distinguish their project and capitalize on unique selling features by using this study to assist in uncovering the advantages and disadvantages of competing initiatives. The project may stand out in the market by providing distinctive benefits, such as higher educational material, industry alliances, or better job placement prospects. Fostering relationships with other groups may also result in synergistic efforts and increase the project's overall effect.

Early identification and management of project risks are essential to its success. The project team's initiative-taking approach to creating thorough financial plans, interacting with critical stakeholders, anticipating, and resolving technical difficulties, monitoring market trends, and standing out from rivals will significantly increase the likelihood of accomplishing the project's goals.

Throughout the project, the team can ensure its resilience and capacity to provide favorable results for the telecommunications sector and workforce by regularly reevaluating risks and modifying methods.

**Milestone 3: Constraints:**

Constraints are innate limits or limitations that a project must work around to complete its goals correctly. In this situation, the project must adhere to three critical restrictions: a restricted budget and resource allocation for creating and implementing the curriculum, time limits for project completion within the academic year, and the need to coordinate with Northrup Grumman's current operations and timetables. To overcome obstacles and guarantee a positive result, it is crucial to comprehend and manage these limits.

**Insufficient funds and resources for developing and implementing curricula:**

The project team needs help due to financial and resource constraints. It takes sufficient financial commitment, deploying qualified individuals and technology resources, and developing an extensive and successful curriculum customized to Northrup Grumman's demands. If funds and resources are insufficient, the initiative may need help to create a curriculum that adheres to industry standards and gives students the desired results.

The project team must identify the most critical steps in the curriculum creation process and undertake an exhaustive cost analysis to overcome this restriction. The team may improve resource allocation by determining important aspects and removing non-essential ones. Furthermore, looking into cost-sharing options with Northrop Grumman and applying for outside financing or grants might assist in supplementing the existing resources. The project team may also use open educational resources (OER) and work with other academic institutions or business partners to share knowledge and save costs. Maintaining a high-quality, industry-relevant curriculum while navigating financial restrictions will be possible by using an innovative and agile approach to curriculum creation.

**Project Completion Time Limits for the Academic Year:**

Another significant obstacle is the project's time limit, which must be accomplished within the academic year. Careful preparation and effective execution are required to create a strong curriculum, provide training materials, form partnerships, and match all components with Northrup Grumman's objectives. Please comply with the academic year deadline to ensure student registration, collaborative arrangements, and encourage curriculum implementation.

To manage this limitation successfully, the project team must create a well-defined timetable with distinct milestones and deliverables. Prioritizing tasks by the critical route activities that need urgent attention is essential. Agile or Scrum are practical project management tools and processes that promote efficient resource allocation, simplified communication, and quick decision-making. The project team should provide enough time for iterative reviews and input from all stakeholders to guarantee timely completion. Understanding the requirements and expectations of Northrup Grumman early on can assist in reducing any changes and delays throughout the development process.

**Ensuring Alignment with Current Operations and Schedules at Northrop Grumman:**

Ensuring comparison for improvement of Northrup Grumman's current operations and timelines is challenging. Priorities, timelines, and operational procedures specific to the firm should be considered while developing and implementing the program. The effectiveness of the project may be impacted by Northrup Grumman officials' limited involvement because of scheduling conflicts.

The project team must collaborate to meet Northrup Grumman's operational limits and develop open communication lines to manage this constraint. It will be possible to discover any scheduling conflicts or prioritization changes that affect the project's time limit with regular meetings and updates with corporate personnel. To deal with the unpredictable nature of industrial schedules, flexibility is essential. To maintain alignment with Northrup Grumman's requirements, the project team should be ready to make any necessary adjustments to the project plan. The collaboration and a shared awareness of each other's restrictions and expectations will be facilitated via developing solid relationships with crucial Northrup Grumman employees and promoting open communication.

Every project will encounter constraints, and this educational initiative's success depends on how well those constraints are managed. Budget and resource constraints need careful planning, cost analysis, and the investigation of cooperative options. Due to time restrictions, effective project management, precise time limits, and ongoing stakeholder involvement are required. It is essential to have open lines of communication with Northrup Grumman and be adaptable to meeting their demands. The project team can create a curriculum that meets Northrup Grumman's criteria, offers valuable on-the-job training experiences for students, and builds beneficial partnership agreements by proactively recognizing and managing these obstacles. In addition to ensuring the project's success, overcoming these obstacles will demonstrate the need for adaptation, teamwork, and creativity in dealing with problems in the dynamic educational and industrial collaboration environment.

**Requirements:**

Curriculum Alignment with Northrup Grumman Needs and Industry Standards One of the project's main requirements is to create a curriculum that aligns with Northrup Grumman's objectives and broader industry norms. A team effort is necessary to accomplish this. The project team should constantly converse with Northrup Grumman personnel, business professionals, and academics. These conversations will aid in defining the precise skill sets and subject areas needed for success in the telecommunications industry, particularly in the context of Northrup Grumman's activities (Ryan & Wheatcraft, 2017).

The most recent innovations and industry best practices must be included in the curriculum design. Updates should be made often to keep up with changing technology and market trends. It is also necessary to include real-world projects, simulations, and case studies to close the knowledge gap between theory and application (Ryan & Wheatcraft, 2017).

**Meaningful On-the-Job Training Experiences for Students:**

A crucial criterion for the project's success is giving students valuable on-the-job training experiences. This feature will improve students' abilities and knowledge and increase their appeal to future employers like Northrup Grumman. Partnerships with Northrup Grumman and other industry participants are crucial to achieve this goal. The curriculum should include industrial placements, co-ops, and internships. These opportunities will allow students to apply what they have learned in the classroom to real-world situations, obtain valuable insights, and build professional networks. Mentorship programs may be designed to match students with seasoned employees at Northrup Grumman in addition to practical training. This mentoring will provide invaluable advice and assistance throughout the student's academic and professional growth.

**Cost-Effectiveness and Budget Adherence:**

For the project to be sustainable and long-term successful, excellent cost management and adherence to the budget allotted are essential. This can only be accomplished with careful preparation and management of the budget.

**The project team should do a thorough cost study early in the planning stage:**

All project components, including curriculum development, faculty salaries, infrastructure, technological needs, and student support services, should be examined in this study. To deal with unanticipated costs or difficulties, contingency reserves should be put aside. The group should also look at possibilities for cost-sharing and collaborations with corporate sponsors. Utilizing business grants and sponsorships may save costs and open doors to other opportunities for funding and assistance (Ryan & Wheatcraft, 2017).

**Establishing Effective Communication Channels:**

Collaboration between the institution, industrial partners, and other stakeholders must be facilitated through effective communication channels. All parties engaged must be aware of the project's objectives, developments, and difficulties for communication to be open and transparent.

The project team and Northrup Grumman personnel should organize regular meetings and progress reports. Communication efficiency may be improved using video conferencing, email, and collaborative project management software when working with distant or scattered teams. The project team should also welcome comments and suggestions from all parties. Collaborators will feel more responsible and committed if they actively seek out recommendations and fix issues. Any disputes or misunderstandings will be quickly resolved with the support of open lines of communication (Wood, 1999).

The project's success depends on how well it complies with the demands of curriculum alignment with Northrup Grumman's goals and industry standards, offers students functional on-the-job training, manages expenses efficiently, and creates effective communication channels. The project will stay relevant and influence the changing environment of the telecoms sector by emphasizing cooperation, innovation, and flexibility throughout its lifespan. The initiative may equip students for meaningful professions by meeting these criteria while building beneficial alliances with leading companies like Northrup Grumman.

**Project Deliverables: Project-based learning in higher education:**

The project-based university curriculum is the project's leading and most important deliverable. The curriculum serves as the cornerstone upon which students' educational experiences will be formed, and it is crucial in laying the groundwork for students' future jobs in the telecommunications sector. A collaborative effort between educators, business professionals, and Northrup Grumman personnel is essential to developing a relevant and successful curriculum (Richtnér & Åhlström, 2010).

**Milestone 4**

A wide variety of topics, including theoretical knowledge, practical skills, and industry-specific applications, should be included in the project-based university curriculum. It must closely fit Northrup Grumman's unique requirements to guarantee that graduates have the skill sets and competencies to satisfy industry objectives. The curriculum should be dynamic so that it may be updated often to keep up with the quickly changing state of technology and business trends.

**Training Resources:**

Training materials are another crucial output that completes the project-based university program. These tools provide teachers and students with what they need to interact with the curricular material appropriately. Textbooks, lecture slides, multimedia presentations, lab instructions, and online learning tools are all examples of training materials. Instructional materials must be created to promote interactive learning and practical application. For faculty members to offer captivating lectures and practical sessions, they should give them precise instructions. Additionally, interactive components in the training materials may support students' critical thinking and critical thinking skills development (Richtnér & Åhlström, 2010).

**Security Plan: Legal Agreements for Collaboration with Northrup Grumman:**

The purpose of this project's policy success is based on creating partnership agreements with Northrup Grumman, a crucial deliverable. These agreements establish a strong working relationship between the university and Northrup Grumman and create the foundation for future collaboration on curriculum development and student training projects. The partnership agreements should describe both parties' duties, obligations, and commitments. They need to be specific about how Northrup Grumman will actively contribute to developing the curriculum and giving students valuable on-the-job training opportunities. The agreements may also include resource-sharing, research cooperation, and information-sharing clauses to increase the partnership's effect further.

**Risk assessment:**

IT & Security Risk Management Implement and map controls throughout business processes using One Trust workflow builder.

* **Enterprise & Operational Risk Management**: Integrate risk across your business processes, from digital to enterprise and operational risk and inform strategic decision making
* **Audit & Controls Management**: Streamline auditing efforts and complete reporting requirements
* **Policy & Compliance Management**: Map business practices to meet the standards of internal rules and external regulations
* **Digital Risk Management:** Balance external digital risk to combat cyber threats and data leakage, while protecting business reputation
* **Business Continuity Management**: Create contingency plans to quickly remediate potential risk factors and reinforce business continuity
* Listen to selection **Vendor Risk Management**: Centralize vendors and work seamlessly across teams by automating the vendor engagement lifecycle.

**Control activities:**

One Trust GRC is software that I chose to deliver the appropriate visibility and plan of action for a proactive risk management approach. With a seamless, user-friendly experience, companies can utilize One Trust’s flexible integrated risk management framework to align business operations along standardized methodologies. By mapping policies and workflows to IT controls, organizations can better comply with their own internal governance and external regulatory requirements. One Trust GRC provides clear insights into leadership and expedites the execution of routine tasks.

**Accountabilities:**

One Trust is the #1 most widely used privacy, security and third-party risk technology platform trusted by more than 3,000 companies to comply with the CCPA, GDPR, ISO27001 and hundreds of the world's privacy and security laws. primary offerings include:

* Privacy Management Software
* Preference Choice Consent and Preference Management Software
* Ventromedial Third-Party Risk Management Software and Cyber Risk Exchange
* GRC Integrated Risk Management Software

**Communications:**

Risk analyses involve risk perception (risk identification), assessment (probability of occurrence and consequence), risk management, and appropriate risk communication (Taranger et al. 2015).. Risk perception includes evaluating the likelihood and consequences of a negative outcome (Sjoberg, et al. 2004) as risk is the product of magnitude and probability of a harm (Patt and Schroter, 2008). Risk perception influences the risk management strategies and adoption of new technologies (Case et al. 2017; Jofre et al. 2018; Lestariadi and Yamao, 2018). Therefore, all risks will include mostly with risk management and third-party vendors to actively reevaluate risks that are acceptable and mediate the ones that are not acceptable. Communication between management, HR, IT, Stakeholders, and third-party vendors biweekly is recommended for a successful objective outcome.

**Incident response team:**

"Computer Incident Response and Forensics Team Management" provides security professionals with a complete handbook of computer incident response from the perspective of forensics team management. This unique approach teaches readers the concepts and principles they need to conduct a successful incident response investigation, ensuring that proven policies and procedures are established and followed by all team members. Leighton R. Johnson III describes the processes within an incident response event and shows the crucial importance of skillful forensics team management, including when and where the transition to forensics investigation should occur during an incident response event. Consequently, the incident response team will be assigned to IT and third-party vendors.

**Incident response process:**

The objective of this security incident response process is to:

1. Limit the immediate incident impact to students and organizations (secure data).
2. Recover from the incident
3. Determine how the incident occurred
4. Find out how to avoid further exploitation of the same vulnerability
5. Avoid escalation of further incident
6. Assess the impact and damages
7. Update organizations security policies

**Stakeholders may also need other outputs:**

The project's many stakeholders may also demand additional outputs in addition to the key deliverables. Progress reports, assessments, data analysis, and research results are a few examples of these outputs. Transparency and timely reporting are essential to keep stakeholders updated on the project's progress and any changes made to the original plan.

Regular interaction with stakeholders will help to ensure that their expectations are fulfilled and that any concerns are dealt with quickly during the project's execution. Customized deliverables tailored to specific stakeholders' requirements will encourage a feeling of ownership and commitment, resulting in a more fruitful and cooperative project conclusion.

**Milestone 4:**

Every successful project relies on its deliverables, and this educational initiative to match the university curriculum with Northrup Grumman's requirements and industry standards is no different. Students will be significantly aided in preparing for successful employment in the telecommunications sector by the project-based university curriculum, training materials, partnership agreements with Northrup Grumman, and other outputs. This project may create a novel and valuable curriculum by using joint efforts and pulling knowledge from academia and industry. The instructional materials will promote interactive, fun learning experiences that broaden students' skills and knowledge. Creating cooperation agreements with Northrup Grumman will provide a solid platform for successful collaborations that will benefit both parties and develop the telecom industry. The initiative will successfully contribute to bridging the gap between academia and industry by emphasizing fulfilling stakeholders' needs and creating well-prepared graduates to take on the possibilities and difficulties of the constantly changing telecom industry. This initiative can impact fields outside of communications if it fulfills its commitments and is a model for practical cooperation between academic institutions and business leaders.

**Recommendations:**

The suggested concept holds promise in impacting students' lives, recent graduates, and the telecoms industry. However, addressing concerns to ensure the project's success is crucial. Suggestions are provided in this section to address each of the problems highlighted.

**Challenge 1: Lack of funding**

For the project's growth and viability, it is essential to get appropriate money. The suggestions listed below are put forward to remedy this issue: Expand your pool of financial opportunities by varying your funding sources. This covers financial aid from the government, business support, and tuition. The project may reduce the risks of depending on one financing source using various sources (Zahid et al., 2019).

Make a thorough financial and budget plan: Make an extensive budget that details the project's anticipated expenditures and expenses. The project's reputation will increase, and a well-organized financial plan will make getting money from various sources easier. To monitor the project's economic progress, review and revise the budget often. Organize fundraising activities to include the neighborhood and draw in donations. Be innovative in your fundraising. Invite others who share your vision for the project—individuals and companies—to donate. Additionally, keep looking into the financing options, including government grants, available for the education and telecommunications industries.

**Challenge 2: Lack of qualified faculty:**

A team of competent faculty members must provide high-quality education and guarantee the project's success. This issue can be successfully resolved by the suggestions that follow:

**Bring in zealous academics:**

Look for somebody with a passion for the project, a background in project management, and a solid understanding of communications. It is more probable that faculty members will provide students with great advice and mentoring if they are engaged in the project's goals (Zahid et al., 2019).

They offer instruction and assistance to improve faculty members' teaching abilities and acquaint them with the project's curriculum, providing them with thorough training sessions. To ensure the faculty is prepared to give a high-quality education, offer continuing assistance, such as access to professional development tools and mentorship opportunities. Encourage communication and cooperation among faculty members by scheduling frequent meetings, workshops, and seminars. Facilitate sharing ideas and best practices to raise the quality of instruction the faculty provides.

**Challenge 3: Lack of student interest:**

It is essential for the project's success to spark and maintain student engagement. The suggestions listed below are put forward to remedy this issue: Develop a focused marketing strategy that uses numerous channels to reach the target demographic. Implement targeted marketing methods. Create a project website to comprehensively describe the program, its advantages, and the application process. Distribute pamphlets, posters, and other advertising materials to educational institutions, including colleges and universities. Engage with potential students personally by going to college fairs and professional events (Zahid et al., 2019).

Please point out the advantages of joining: Let students know what benefits they will get from participating in the initiative. Make sure to emphasize how the actual skills they will learn, such as firsthand training and real-world experience, would significantly improve their future chances in the telecommunications business. Feature the achievements of previous participants who have completed the program and had successful careers. Organize activities and events that stir up interest in the initiative and get people talking. Guests' lectures, business trips, hackathons, and contests in the telecommunications sector all fall under this category. To interact with prospective students, share information about the project's development and accomplishments, and develop a solid social media presence.

These suggestions may be implemented to help the proposed initiative get past its identified roadblocks and have as much of an effect as possible on the telecoms sector and the lives of students and recent graduates. To achieve long-term success, it is necessary to continually assess and modify strategy based on feedback and changing market circumstances. The project can succeed and provide worthwhile prospects for all concerned parties with a coordinated effort and a strong emphasis on overcoming these obstacles.

**Project Plan:**

The project description emphasizes a trailblazing effort in partnership with Northrup Grumman to provide a project-based university curriculum with possibilities for students to get on-the-job training. The initiative seeks to address the critical skills gap among new college graduates and enhance their career chances in a labor market that is quickly developing by bridging the gap between academic learning and real-world work experience. Given that over 70,000 vacant cybersecurity roles are now, providing students with real-world work experience while still in school is crucial.

The project's main objective is to resolve the Catch-22 dilemma that many students encounter, in which they require work experience to get employment yet can only acquire it by working. The project offers a solution to this issue and arms graduates with academic knowledge and practical skills by incorporating on-the-job training into the curriculum. Due to the curriculum's alignment with industry expectations and exposure to innovative technology and business processes provided by this strategic cooperation with Northrup Grumman, students' employability is significantly increased.

The initiative also investigates several revenue models, such as working with Northrup Grumman or other telecom firms or establishing a specific business to help the project-based institution. These tactics highlight the project's adaptability and flexibility in achieving various goals and encouraging long-term success. The initiative highlights the need for effective communication and change management in attaining organizational objectives and tackling the skills gap. The project builds confidence among stakeholders and manages any changes as the project progresses by strongly emphasizing open and honest communication.

**Conclusion:**

The overview thoroughly summarizes the project's goals, scope, requirements, restrictions, assumptions, risks, deliverables, schedule, and budget. This all-encompassing strategy ensures that every part of the project is well-documented and understood, laying the groundwork for its effective implementation. The project's goal and rationale highlight how crucial it is in bridging the gap between academic training and labor market demands. Traditional educational programs sometimes need more hands-on learning opportunities, leaving graduates ill-equipped to meet the needs of businesses. The effort ensures that students are exposed to methods and technologies necessary to the industry by working with Northrup Grumman, better preparing them for their future professions.

The program's main objective is to establish an atmosphere where companies and students benefit from one another. Graduates increase their employability by gaining significant professional experience and academic qualifications, and employers may choose from a pool of qualified candidates who are theoretically and practically proficient. Due to this constructive collaboration, the firm’s productivity rises as onboarding and training expenses are decreased. Careful financial planning, resource allocation, and risk mitigation techniques are implemented to guarantee the project's viability and success. The budget estimate, timetable estimate, investment appraisal, and risk assessment partly secure the project's viability.

The project's goals center on closing the skills gap, enhancing graduates' employability, and easing the transition from academic to professional life. The program gives students beneficial on-the-job training opportunities and equips them with practical skills businesses value by developing a project-based university curriculum. The project's proposals answer potential problems, including obtaining money, recruiting capable professors, and keeping students interested. The initiative may overcome these obstacles and complete its objectives by using targeted marketing methods, providing faculty training and assistance, and diversifying its financing sources.

Northrup Grumman's participation in the proposed project-based university curriculum is a game-changing effort that has the potential to revolutionize the teaching of communications. The project empowers graduates and satisfies industry needs for trained professionals by giving students chances for on-the-job training and bridging the gap between academic study and practical experience. The initiative is to cultivate an informed and competent labor force that contributes to the growth and development of the telecommunications industry and beyond with a clear focus on effective communication, strategic cooperation, and innovative teaching techniques. The flexibility of the project to adjust to changing conditions, ongoing evaluation, and conformity with industry standards all play a role in its success. The project may significantly influence the lives of students, new graduates, and the telecom sector by implementing the suggested solutions and staying dedicated to overcoming obstacles. The project may accomplish its goals, provide worthwhile possibilities for all stakeholders, and open the way for a more promising future in telecoms education and workforce preparedness via initiative-taking planning.

Planning, development, implementation, and scaling are the four separate stages that make up the project's well-organized structure. The success of the project depends on accomplishing the tasks and goals specific to each phase. To reduce risks and guarantee the project's viability, the team has created comprehensive plans, obtained money, and formed partnerships. The team is confident that this systematic approach will finish the project on schedule and under budget, provide students with a worthwhile learning experience, and produce a scalable model for future growth, and a shared vision.

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