



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Everyone's Smart University

Project (Spring 2021)

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Section

Master

Date

Thursday

18 / 03 / 2021.

Course Code

(PMG510)

Project Risk Management

Instructions:

- اخر موعد للتسليم هو يوم السبت 2021-05-08 في تمام الساعة ٩ مساءً.
- الإجابة متاحة باللغة الإنجليزية أو اللغة العربية مع مراعاة أن تكون المصطلحات العلمية باللغة الانجليزية.
- يتم تسليم المشروع في صيغة ملف pdf مع الالتزام نموذج الجامعة ولن تقبل أي مستندات أخرى.
- يجب مراعاة أقسام البحث الرئيسية (مقدمة Introduction، دراسات علمية سابقة Literature Review، طريقة البحث Methodology، النتائج والمناقشة Results and Discussion، وأخيراً المراجع References. وان كان هناك ملحقات Appendices يتم إضافتها)
- يجب الالتزام بـ Theme موحد كما يلي:
- حجم الخط 12.
- نوع الخط Arial.
- لون الخط أسود.
- المسافة بين الأسطر line spacing 1.5
- عدد صفحات البحث (لا يقل عن ثلاث صفحات ولا يزيد عن ست صفحات).

Instructor's Name: Eng. Mosaab M. Hamed

Project:

Risk Identification and Analysis (Based on the project you chose in APM)

The objective of this report is to identify project risks, prepare a risk probability matrix, and carry out an analysis of selected risks. Referring to the project you select in **Advanced projects management APM course**, your task is to prepare a risk management plan that identifies potential risks in **the selected stage of the project** and identify risk management strategies.

From the course content and readings, you know that the overall purpose of risk planning is to anticipate possible risk events and be ready to take appropriate action when risk events occur—to eliminate or reduce negative impacts on the project.

You may wish to begin this exercise with a brainstorming about potential risks to get candidate risks “on the table” for consideration. And then identify and refine that wording for risks that have some realistic chance of occurring in this stage. For example, potential weather problems present a real obstacle to completing field data collection by the planned completion date. It is also an issue that the project manager will ultimately have to plan for, as opposed to other issues such as a major disaster (e.g., your office burning down), is not a high-enough probability event that requires much time in planning. As described below, you will select several of the identified risks and carry out a risk analysis.

You will use the distilled list of risks to make a risk probability/impact matrix. The matrix will have at least three categories (high/medium/low) for probability and impact.

Remember that it is important to name risks effectively—use words that describe the risk event and point to the impact on the project (e.g., “injury of field technician disrupts data installation work”).

After completion of the risk matrix, document a risk analysis for the selected risks. This detailed documentation for that selected risk will include:

- a description of the risk and potential impacts (schedule, quality of work, cost, etc.) on the project.
- indicators or triggers that would be monitored to help identify the risk as early as possible.
- specific risk response strategies to take.

Using probability and impact matrix calculate the **Expected Monetary Value (EMV)** for all risks that have the impact in terms of cost \$\$.

Best of luck...

المشروع:

التعرف على المخاطر وتحليلها (بحث مبنى على مشروعك الذي اخترته في مادة ادارة المشاريع المتقدمة)

الغرض من هذا التقرير هو التعرف على المخاطر المحيطة بالمرحلة التي تختارها المرحلة من مراحل مشروعك (نفس المرحلة التي اخترت التطرق لها في مشروعك لمادة إدارة المشاريع المتقدمة Advanced project management) حيث أن مهمتك هي تحضير خطة متكاملة لإدارة المخاطر تشمل التعريف بالمخاطر المحتملة التي تحيط بتلك المرحلة وتحضير مصفوفة احتمالية المخاطر ومن ثم القيام بالتحليل لهذه المخاطر المختارة وتحديد استراتيجيات ادارة المخاطر المناسبة لكل خطر على حدة.

من محتويات المقرر والمصادر الأخرى المتاحة أصبحت تعلم الان أن الغرض العام لمرحلة التخطيط للمخاطر هي توقع أحداث المخاطر المحتملة والتجهز لاتخاذ ردة الفعل المناسبة عند وقوع الخطر – لمنع أو تقليل الآثار السلبية على المشروع.

قد تحبذ بداية هذا البحث بعصف ذهني عن ماهية المخاطر التي قد تحيط بتلك المرحلة من مراحل مشروعك, وذلك للحصول على قائمة بتلك المخاطر. ومن ثم تحديد وتصفية هذه القائمة للوصول إلى قائمة مختصرة بالمخاطر التي لها فرصة واقعية أكبر في الحدوث. على سبيل المثال: المشاكل الجوية المتوقعة والتي تمثل عقبة حقيقية أمام اكتمال جمع البيانات من المواقع في أو قبل الوقت المحدد، هذه تعتبر مشكلة على مدير المشاريع أن يضعها في الحسبان. من ناحية أخرى، فإن المخاطر غير الواقعية مثل الكوارث الطبيعية والأعاصير (تلك التي تسبب حريقاً بمكتبك وفقدان الأوراق المهمة) ليست لها احتمالية وقوع عالية وبالتالي لاتستدعي تضيق الكثير من الوقت في التخطيط لها. كما سيتبين لك، ستقوم باختيار عدة مخاطر من تلك التي قمت بالتعرف عليها لتحليلها.

ستقوم باستخدام هذه القائمة المختصرة لعمل مصفوفة المخاطر (الاحتمالية/الأثر). المصفوفة ستحتوي على الأقل على ثلاث تصنيفات (عالي/متوسط/منخفض) للإحتمالية والأثر.

لاتنس استخدام أسماء تصف طبيعة المخاطر بصورة فعالة – قم باستخدام كلمات تصف الحادثة الخطرة وتشير الى أثرها على المشروع (مثل: إصابة أحد الفنيين في الموقع مما يؤثر على أعمال التركيب).

بعد انتهاءك من مصفوفة المخاطر، قم بتوثيق تحليلك للمخاطر المختارة. هذا التسجيل المفصل للمخاطر يجب أن يتضمن:

- وصف للخطر واثاره المحتملة (الجدولة، جودة العمل، التكلفة، الخ)
- المؤشرات والمحفزات التي يجب مراقبتها للمساعدة في التعرف على هذا الخطر قبل وقوعه
- تفصيل للاستجابة المقترحة للتصدي لهذا الخطر

باستخدام مصفوفة الاحتمالات والتأثير ، احسب **القيمة النقدية المتوقعة (EMV)** لجميع المخاطر التي لها تأثير من حيث التكلفة \$\$.

مع تمنياتي بالتوفيق..

The Risks of Design and Implementation of an Online Course Management System

Introduction

The rise of the Online Course Management System is one of the most efficient uses of information and technology (ICT) (Button & Belan, 2014). Taking into account the relevance and necessity of e-learning, the methods of higher education have changed dramatically in recent years. There are certainly three key bodies in the e-learning system that can be regarded as students, teachers, and controllers and different levels are to be established, but a successful e-learning system demands full honesty among all bodies at all levels. In addition to honesty compliance, the other important way of organizing it is throughout the system. As the Internet is the foundation of all of the fundamentally unsecured systems, hackers strike by using various loopholes of technology during e-learning message transactions. Therefore, the device must be subject to various security measures. In this article, attention is paid to various risks called e-risks and their solutions known as e-cures for building trust in all E-learning system participants.

The implementation of an Online Course Management System in an e-learning environment has led to significant changes in higher education. The Internet meets the increasing requirement for advanced study material and related services. In this context. There is a concern of any educational institution (University, business, etc.) with certain financial transactions. But students from various countries and communities will appear with the same graduation or diploma in the era of globalization, as the distance from the geographical location is absolutely no issue. Thus E-Learning is designed to facilitate educative connections between students, teachers, and learning groups in a range of contexts, like distance learning, online learning, and networking.

Online Course Management System means electronically learning through the Internet. The implementation of several Online Course Management systems would completely change the higher education system, especially in terms of quality e-learning facilities and support processes. Five major participants in the Online Course

Management System scheme: writers, students, administrators, teachers, and system developers (System Administrators). The authenticated E-learning documents such as learning materials, credentials, questionnaires, lectures, trademarks, etc. may be changed or modified by hackers and would be communicated by managers to students, and by authors to students, when necessary (Dewan, 2016). As the new educational system is dramatically changing technology, learners involved in education ("Students") are not limited solely to traditional schools, universities, and universities.

The likelihood of a specific danger and the anticipated loss is a risk (Brooks, 2003). At the time of an electronic transaction, e-risks include the risk, while the threat is an expected risk. Viruses, network penetrations, volatility, unauthorized data alteration, theft, and unauthorized retrieval of servers and personal computers are common threats to computers. Original records can be updated or lost by active and passive attacks of hackers during transactions. Consequently, the focus in e-learning will be aware of the danger. This paper focuses on the various risks that participants face and, on their solutions, to enhance the reliability and efficiency of the system. In section two, common threats are explained, followed by various risks faced by the participants and the need for e-learning risk analysis. Section 3 describes how various methods and strategies can mitigate these risks. A brief conclusion is given in the fourth segment.

Literature Review

In this modern environment, digital networks are organizing our lives increasingly (Orlikowski & Barley, 2001). According to Individuals who do not understand and are unable to adequately manage these procedures eventually end up being marginalized and somewhat power-powered. Unless you can access the technology source code, machines that think can overdo it. Current world literature contains a variety of information technology (ICT) references on the use, implementation, and benefits of learning at almost every level of education. ELT practices in tertiary institutions range from non-trivial online presence to full online provision, with programs situated at various points on the Online Course Management System continuum. Most studies show that teaching

method can play a social role in bridging the gap in student achievement, promoting skills in thinking at a higher level and that, in comparison to traditional education, technology-rich learning environments can promote academic goals more effectively, such as higher-order thinking, motivation for learning and teamwork.

Methodology

The goal of the study is to explore the effect of advanced Online Course Management System applications and risks in the process of training competitive professionals, in particular the use of electronic training management systems at universities through the use of innovative technology in education.

The following theoretical and methodological methods were employed in this work.

To identify potential risks several steps, have to be made:

- Reviews of previous projects & project documentation,
- Brainstorming
- Interviews with stakeholders
- SWOT analysis

Theoretical analyzes on the subject of research related to educational risk in science, pedagogical and methodological literature. Questionnaire survey for initial issue knowledge based on the interviews and findings of students with a pre-destined questionnaire. Quantitative risk evaluation focused on risk likelihood metrics that affect the use and effect of electronic technology in the education system. Expert assessment methodology focused on sensitivity analyses in the context of the change of particular determinants to determine the most relevant risk categories. Mapping and wheeling as methods for the visibility of the analysis and the widespread use by authors of standards, integrated risk indicator estimates.

Threats

The loss of data is due to threats or hazards (White & Burton, 2001). The medium of vulnerability is available to all threats/risks. The main and following threats:

- **Infringement of confidentiality:** unauthorized party accessing the E-learning system properties.
- **Integrity Violation:** an unauthorized person using an asset used in the e-learning system to access and temper.
- **Denial of service:** Prevention of the legal rights of access by the disruption of traffic between e-learning system users during transactions.
- **Unlawful use:** use of legitimate holders of privileges.
- **Misleading program:** Code lines to destroy other programs.
- **Repudiation:** persons who refuse to participate in any document transaction.

Masquerade a behavior that the hackers conceal from the facts.

- **Study of traffic:** information failure across the channel of misuse.
- **Brute-force attack:** a try to discover the right one of all possible variations.

Due to these challenges, textual and non-textual messaging between various participants of the Online Course Management System can be subject to the following risks during a transaction (Mirri, 2007).

It is also made it possible for modern technology to provide a wide variety of students, friends, and acquaintances access to resources such as books, journals, etc. Content development and implementation are the responsibility of authors. Many authors are afraid that the information they compile will be passed on and processed without their knowledge because of the lack of provision. As only registered students can access the teacher notes, assignments, and other information, the Author is responsible for protecting against unauthorized use, alteration, and reuse of the data in various Online Course Management System contexts.

Author's lecture notes, class test papers, domestic assignments, etc. may, via the above attacks, be modified/destroyed by hackers. It is also in the interest of the author to ensure that users are given unchanged material and that users can verify the text's credibility (Barry, 1994). Daily data backups and the action plan are key elements in the risk analysis in case any components are broken down (e.g. hard disk, network connections). In all these situations, financial interests very always play an important role.

Risk assessment in e-learning project Online Course Management System

Any risk tolerances can be determined conveniently using the likelihood matrix of the Steering Committee of an e-learning project. Many factors may influence the performance of an e-learning project, many of which are correlated with human, time, and money project capital. Project managers that are proactive in recognizing possible resources-related risks in an e-learning project and who can build strategies to minimize them are more likely to achieve the anticipated results successfully.

Identifying Risks

Table 1: We (determine the probability and impact of each risk), which will go after that to risk register. (low = 0 to 0.29, medium = 0.3 to 0.69, high = 0.7 to 1)

No.	Description	Probability	impact
1	Improperly defined goals to obtain and expectations towards e-learning implementation	0.2	0.8
2	System Tests carried out inaccurately and/or incompletely, which leads to a failure in detecting system errors	0.4	0.2
3	Inappropriate Project Manager - that results in problems at the very beginning, mainly in implementation and enforcement of the work. That leads to incorrect change management, risk management and scope management	0.4	0.8
4	The project team (on the client side) has not been appointed and roles / accountability have not been defined yet	0.1	0.2
5	Scope creep – liquidity of the project scope (uncontrolled, large number of changes)	0.4	0.8

Impact-Probability Matrix

Figure1

Probability	0.7-1	High	High	Medium
	0.3-0.69	High	Medium	Low
	0-0.29	Medium	Low	Low
		0.7-1	0.3-0.69	0-0.29
		Impact		

Table 2: Response Plan to the example risks (A-Avoidance, M-Mitigation)

No.	Description	Probability	Impact	Severity	Owner	Type of Reaction	Response plan
1	Improperly defined goals to obtain and expectations towards e-learning implementation	0.2	0.8	Medium	Program and Project Manger	A	It is important to figure out how implementation will translate into (previously mapped) learning processes. There is also a need to organize an efficient and effective communication between departments involved in implementation process. Preliminary analysis of experienced, external consultant is also useful.
2	System Tests carried out inaccurately and/or	0.4	0.2	Low	Technical Manager	A	The availability of adequate resources to carry out tests must be guaranteed. When tests are successfully

	incompletely, which leads to a failure in detecting system errors						completed; it is required to obtain a tester's signature of the conducted scenarios.
3	Inappropriate Project Manager - that results in problems at the very beginning, mainly in implementation and enforcement of the work.	0.4	0.8	High	Managing Director, Vice President	M	Project manager, who will not allow for many initially unplanned changes – scope creep. Any changes must always be accompanied by justification and careful analysis in terms of impact on the project. Change management process will ensure essential documentation.
4	The project team (on the client side) has not been appointed and roles / accountability have not been defined yet	0.1	0.2	Low	Project Manager	A	Obtain a formal assignment of employees who are dedicated to the project.
5	Scope creep – liquidity of the project scope (uncontrolled, large number of changes)	0.4	0.8	High	Project Manager	M	Conduct an overall, preliminary analysis to determine business needs in the context of selection of an appropriate IT solution.

EVM Calculation

Table 3: The total potential impact on the plan is \$36.000, while the contingency cost is \$12.200.

No.	Description	Risk Probability (P)	Cost Impact (IC)	Risk Contingency (P*IC)
1	Improperly defined goals to obtain and expectations towards e-learning implementation	0.2	\$5.000	\$1.000
2	System Tests carried out inaccurately and/or incompletely, which leads to a failure in detecting system errors	0.4	\$9.000	\$3.600
3	Inappropriate Project Manager - that results in problems at the very beginning, mainly in implementation and enforcement of the work. That leads to incorrect change management, risk management and scope management	0.4	\$9.000	\$3.600
4	The project team (on the client side) has not been appointed and roles / accountability have not been defined yet	0.1	\$4.000	\$400
5	Scope creep – liquidity of the project scope (uncontrolled, large number of changes)	0.4	\$9.000	\$3.600
Total			\$36.000	\$12.200

Results and Discussion

As mentioned in the previous section, participants in Online Course Management System are faced with various risks or challenges (Geurts & Demerouti, 2003). To mitigate these threats, tools or strategies may be imposed. A firewall is a combination of a protection system for hardware and software, which prevents unauthorized access from outside the organization to the corporate network. A specialized variant of a router is technically a firewall. A router can be designed to perform the firewall feature, using additional software tools, apart from fundamental routing functions and rules. The rule-based theory is that any firewall traffic from inside to outside, vice versa. All access to the local network needs to be blocked first physically and access can be allowed only through the firewall. It should be able to move only traffic approved by the local security policy. The firewall must be solid enough to make attacks unnecessary. A firewall is typically a combination of packet filters and protocol (or circuit) gateways in realistic implementations (Patel & Wills, 2010). So sophisticated firewalls can block such incoming traffic, but enable e-learning users to interact freely from the outside (e.g. students, teachers, etc). The possibility of non-work activities and company is and will be inseparable from daily life. By taking on any or all tasks, we have to tackle confusion about their results and how they are implemented.

This study demonstrates how necessary it is to take a thorough look at the risks, how they are practiced, and how successful they can be. Most of the project managers' fundamental mistake is a theme that reduces the risks and considers that as some formality. The danger at the time of its visibility, which involves unpredictable project results, very often starts to think very seriously. We showed the risks that different Online Course Management System participants could have and their tool/technology for counter-measuring these risks.

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