



جامعة الجميع الذكية  
EVERYONE'S SMART UNIVERSITY

## Everyone's Smart University

### Project (Spring 2021)

|              |                                         |               |
|--------------|-----------------------------------------|---------------|
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Section

Master

Date

Thursday

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Course Code

(PMG510)

## Project Risk Management

### Instructions:

- اخر موعد للتسليم هو يوم السبت 08-05-2021 في تمام الساعة 9 مساءً.
- الإجابة متاحة باللغة الإنجليزية أو اللغة العربية مع مراعاة أن تكون المصطلحات العلمية باللغة الإنجليزية.
- 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 ١٢.
- نوع الخط Arial.
- لون الخط أسود.
- المسافة بين الأسطر 1.5 line spacing
- 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 التعرف 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 لا تستدعي 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..

# Redesign software application on Mobile devices

## 1.Introduction

Recent technological developments have made it feasible for qualitative researchers to develop their own digital tools. with constantly evolving mobile platforms & associated opportunities, numerous developers have entered the domain of mobile application development. which provides insight in development and deals with issues related to associated risks in mobile application redesign which requires the accurate use of design methods and guidelines, as well as detailed evaluation which the redesign enhancing the user experience.

In this research we will discuss the risks analysis of the redesign of daily Azkaar Application in other system on IOS to Android in 30 days. [1]

## 2.Literature review

Risk identification & analysis are the foundation of risk management in software project development. The complex nature of software development process makes the risk analysis a difficult process, which needs detailed and thorough assessment.

Khatavakhotan (Ahdieh Sadat Khatavakhotan, Siew Hock Ow, 2012) proposed verifier core technique that is embedded in the software development life cycle and that identifies the deviations in the process, hence improving the risk management process. They provided a mechanism through which there can be an interaction between old and new development teams. Khuankrue et al (Issarapong Khuankrue; Wanchai Rivepiboon, 2012) researched risk problems for software project in which team members are of cross culture. Language, and development techniques were identified as major factors by the network. Gupta (D. Gupta, 2008) proposed a Software Risk Assessment and Estimation Model (SRAEM) predicts the possible results of software projects with good accuracy. Their model assesses the risk and estimates it. They build metric based on mission critical requirements stability risk metrics (MCRSRM). The proposed model gives the incremental risk for every phase and the total cumulative risk as the software progress from phase to phase.

### 3.Methodology

The literary reviews tool was used for theoretical research, and the various sources and references related to the same topic were reviewed, such as: the Saudi digital Library, the Google search engine and ResearchGate site. depends on views analysis, systems, and experiments.

We will use Qualitative or Descriptive approach in this research to show the risks redesigning an application on different system such as Android.

### 4.Risk management strategy

The analysis approach in redesign of the application depends on identify all potential risks and prevent (response) to each risk. According to our research in Advanced project management course. we divided users' observations to into three stages for help to get a better result of the user needs in this application: Stage-I, users majoring in design and advertising. Stage-II, users' participation. Stage III, computer programmers.

| Task name                                                                                                                        | Priority | Status        | Due date       | Assignee |
|----------------------------------------------------------------------------------------------------------------------------------|----------|---------------|----------------|----------|
| <b>3.1. Stage-I, Users majoring in design and advertising</b>                                                                    |          |               |                |          |
| 1 <input checked="" type="checkbox"/> Why redesign now?                                                                          | Medium   | Completed     | Apr 1 - 3      | NadaGY   |
| 2 <input checked="" type="checkbox"/> Where we can go wrong?                                                                     | High     | Follow-Up     | Apr 3 - 5      | NadaGY   |
| 3 <input checked="" type="checkbox"/> What is timeframe for this initiative?                                                     | High     | At risk       | Apr 3 - 5      | NadaGY   |
| 4 <input checked="" type="checkbox"/> Redesign Scope 3 1/2                                                                       | High     | Completed     | Apr 5 - 12     | NadaGY   |
| 1 <input checked="" type="checkbox"/> Look and feel 3 1/2                                                                        | Medium   | Follow-Up     | Apr 5 - 7      | NadaGY   |
| 2 <input checked="" type="checkbox"/> Functionality 3 1/2                                                                        | High     | Completed     | Apr 7 - 11     | NadaGY   |
| 3 <input checked="" type="checkbox"/> Target audience 3 1/2                                                                      | Low      | Follow-Up     | Apr 11 - 12    | NadaGY   |
| Add task...                                                                                                                      |          |               |                |          |
| <b>3.2. Stage-II, User's participation</b>                                                                                       |          |               |                |          |
| 1 <input checked="" type="checkbox"/> What do you think of the design?                                                           | Low      | Follow-Up     | Apr 12 - 13    | NadaGY   |
| 2 <input checked="" type="checkbox"/> What are the main advantages of the program? 2 1/2                                         | High     | Completed     | Apr 13 - 15    | NadaGY   |
| 1 <input checked="" type="checkbox"/> Day/Night Mode                                                                             | Medium   | Completed     | Apr 13 - 15    | NadaGY   |
| 2 <input checked="" type="checkbox"/> Notification App                                                                           | Medium   | Completed     | Apr 13 - 15    | NadaGY   |
| 3 <input checked="" type="checkbox"/> What do you think the useful tools that can help improve the quality of the program? 2 1/2 | High     | Follow-Up     | Apr 15 - 20    | NadaGY   |
| 1 <input checked="" type="checkbox"/> Support Team                                                                               | High     | At risk       | Apr 15 - 17    | NadaGY   |
| 2 <input checked="" type="checkbox"/> Language switch option                                                                     | Medium   | Completed     | Apr 18 - 20    | NadaGY   |
| Add task...                                                                                                                      |          |               |                |          |
| <b>3.3. Stage-III, Computer Programmers</b>                                                                                      |          |               |                |          |
| 1 <input checked="" type="checkbox"/> What are the restrictions in using the program? 2 1/2                                      | High     | Completed     | Apr 20 - 25    | NadaGY   |
| 1 <input checked="" type="checkbox"/> Different version update                                                                   | High     | Completed     | Apr 21 - 23    | NadaGY   |
| 2 <input checked="" type="checkbox"/> Old devices                                                                                | High     | Completed     | Apr 21 - 25    | NadaGY   |
| 2 <input checked="" type="checkbox"/> Do you find GPS useful?                                                                    | Medium   | External Acc. | Apr 26 - 29    | NadaGY   |
| 3 <input checked="" type="checkbox"/> How do you see the design of the application in terms of the use of children for him?      | Low      | Off track     | Apr 29 - Today | NadaGY   |

**Fig. 1.** Daily Azkaar Application Shown (Priority)

## 5. Identifying risks

**Abbreviation:** (L: low(C); M: Medium(B); H: High(A))

| Potential Risks                                             | Probability | Impact rating | Likelihood |   |   | Effect on product |   |   | Prevent the Risk                                                                                                                                               |
|-------------------------------------------------------------|-------------|---------------|------------|---|---|-------------------|---|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                             | 75, 50, 25  | A, B, C       | L          | M | H | L                 | M | H |                                                                                                                                                                |
| 1. Building an app that is not useful for the end-users.    | 75          | A             |            |   | H |                   |   | H | We will consider the end-user perspective at the time of developing an app because they are the ones who are going to use it.                                  |
| 2. Adding too many features into one app.                   | 50          | B             |            | M |   |                   |   | H | We must make sure to keep the app as simple as possible. And only those features that are essential to the users and ignore the features that are hardly used. |
| 3. Risk of security breaches.                               | 75          | A             |            |   | H |                   |   | H | The danger and security here lie in underestimating the need for the proper precautions of the security within the native applications.                        |
| 4. Developing for the various platform at once.             | 75          | A             |            |   | H |                   |   | H | We will select the most appropriate channel and platform to generate more revenues, and for making application more viral.                                     |
| 5. Bad UX/UI.                                               | 50          | B             |            | M |   |                   |   | H | The user must engage in the choice of the application interface.                                                                                               |
| 6. Data offered is not enough for all users                 | 25          | C             | L          |   |   |                   | M |   | We will offer multiple differently sized data packages to accommodate all types of phone users.                                                                |
| 7. Processing and Browsing speed are slow and unreliable    | 75          | A             |            |   | H |                   |   | H | We will need to ensure that companies that supply service and internet to the phone have high quality and strong reliability.                                  |
| 8. Feature Choosing option becomes confusing or impractical | 50          | B             |            |   | H |                   | M |   | The phone will come with essential basics making it perfectly useable even if problems do occur with the innovative concept of choosing features.              |

## 6. Risk Matrix

|              |               | Impact →     |              |              |              |              |
|--------------|---------------|--------------|--------------|--------------|--------------|--------------|
|              |               | Negligible   | Minor        | Moderate     | Significant  | Severe       |
| Likelihood ↑ | Very Likely   | Low Med<br>5 | Medium<br>10 | Med Hi<br>15 | High<br>20   | High<br>25   |
|              | Likely        | Low<br>4     | Low Med<br>8 | Medium<br>12 | Med Hi<br>16 | High<br>20   |
|              | Possible      | Low<br>3     | Low Med<br>6 | Medium<br>9  | Med Hi<br>12 | Med Hi<br>15 |
|              | Unlikely      | Low<br>2     | Low Med<br>4 | Low Med<br>6 | Medium<br>8  | Med Hi<br>10 |
|              | Very Unlikely | Low<br>1     | Low<br>2     | Low Med<br>3 | Medium<br>4  | Medium<br>5  |

**Fig.2.** Risk Matrix

Here we are going to calculate the EMV cost for our application. The total potential impact to redesign application is \$39,000.

**Note/** all number are default, not realistic.

| Risk Number        | Probability | Impact   | EMV     |
|--------------------|-------------|----------|---------|
| 1                  | .75         | \$5,000  | \$3,750 |
| 2                  | .50         | \$3,500  | \$1,750 |
| 3                  | .75         | \$7,500  | \$5,625 |
| 4                  | .75         | \$6,000  | \$4,500 |
| 5                  | .50         | \$5,500  | \$2,750 |
| 6                  | .25         | \$4,500  | \$1,125 |
| 7                  | .75         | \$4,000  | \$3000  |
| 8                  | .50         | \$3,000  | \$1500  |
| <b>Total EMV =</b> |             | \$24,000 |         |

## 7.Discussion & Results

The risk and value matrix are a great tool for rapid risk qualification, but it cannot be used effectively to make true risk and value-based decisions. so, we need to:

Differentiate large volumes of risk, risks with extremely small likelihoods, and risks across different categories as shown in figure 2. Therefore:

- Evaluate and totalize multiple risks.
- Incorporate costs into risk-based decision-making processes.
- Trade off one risk type for another achieving a better overall economic outcome.
- Reducing the risk impact on project objectives and risk probability, risk which could be happen.

## 8.Summary and recommendations

We can see that mobile application redesign could be complex that has many risks different from traditional software projects. in addition, it may be quite expensive.

Therefore, the implication of these risks can vary from low to extremely high depending on various factor's, hence it is imperative for any organization/ individual to consider these risks while developing & redesign any new mobile application.

Finally, we still need to Lot of research is still required in the field in how these risks can be assessed, quantified, and mitigated to help us to build an app that is almost perfect for the end-users.

## 9. References

- [1]. Ahdieh Sadat Khatavakhotan, Siew Hock Ow. (2012, Feb). Improving IT Risk Management Process by an Embedded Dynamic Verifier Core: Towards Reducing IT Projects Failure. *IEEE Xplore*. Retrieved from <https://ieeexplore.ieee.org/document/6169785>
- [2]. Chanchal. (2019, September 26). *9 Hidden Risks in Mobile Application Development Industry*. Retrieved from Software Suggest: <https://www.softwaresuggest.com/blog/hidden-risks-mobile-application-development-industry/#>
- [3]. D. Gupta, M. S. (2008). *Software Risk Assessment and Estimation Model*. Retrieved from Semantic Scholar: <https://www.semanticscholar.org/paper/Software-Risk-Assessment-and-Estimation-Model-Gupta-Sadiq/bcf0c72f6305f125ef071734fb1d4455c4bc1946>
- [4]. Issarapong Khuankrue; Wanchai Rivepiboon. (2012, May). Model of cross-culture risk prediction base on Bayesian belief networks for software project. *IEEE Xplore*. Retrieved from <https://ieeexplore.ieee.org/document/6236458>
- [5]. Kakkar, M. (2013, January ). *Risk Analysis in Mobile Application Development*. Retrieved from Research Gate : [https://www.researchgate.net/publication/271460333\\_Risk\\_Analysis\\_in\\_Mobile\\_Application\\_Development](https://www.researchgate.net/publication/271460333_Risk_Analysis_in_Mobile_Application_Development)
- [6]. Stangarone, J. (2013, November 12). *7 hidden risks of native mobile app development*. Retrieved from mrc's Cup of Joe Blog, Save money, time, and increase business productivity: <https://www.mrc-productivity.com/blog/2013/11/7-hiddens-risks-of-native-mobile-app-development/>