

# IDENTIFYING IDEAS THROUGH SCAMPER TECHNIQUES FOR EXAMINATIONS INVIGILATION MANAGEMENT SYSTEMS (ExIMS)

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## ABSTRACT

*The SCAMPER technique is a productive and versatile technique for generating innovation ideas for product or service. The purpose of the study was to implement the SCAMPER technique into the examination system at the UiTM Penang Branch's Examination Unit. This study demonstrates how the SCAMPER technique ideas can be used to examine an offering from seven different perspectives. The SCAMPER technique was preferred, firstly because it basically aims to create numerous ideas which is expected from divergent thinking process. Second, although there have so many studies about creative thinking strategies in creative literature, there are only a few studies about teaching creativity via SCAMPER. Third, SCAMPER provides an enjoyable environment for thinking creatively. Also, this study attempts to propose improvements in the smoothness of the process. The SCAMPER technique was found to be useful as an idea for determining users' requirements regarding the examination duties exchanged among invigilators in this study. Therefore, the SCAMPER technique is very helpful in ensuring that the Examination Invigilation Management Systems (ExIMS), saves a lot of time.*

**Keywords:** SCAMPER, ideas, process, ExIMS

## 1.0 Introduction

Creative thinking and problem-solving are essential components of the design process for transforming ideas into innovation and overcoming creative barriers. Creating new ideas to develop a product or service is an important business skill (Elmansy, 2015). It allows you to stay ahead of the competition while also keeping your audience satisfied. However, when you're focusing on an existing product, it can be difficult to come up with new ideas. An idea is something that sometimes comes easily to mind, but other times things start to go wrong. In both cases, SCAMPER can assist you in innovating and improving your products on the market.

One of the most effective tools for creative thinking is the SCAMPER approach. While there are several approaches to creative thinking and problem solving available, such as reversed brainstorming, the six hats of critical thinking, and Lego Serious Play, SCAMPER is one of the simplest

and most straightforward. The SCAMPER approach is based on the simple premise that what is new is merely a variation on what is already old around us. According to Eberle (1996), the letters SCAMPER, which stand for "Suggestion, Combination, Adaptation, Modification, Put to Other Use, Eliminate and Rearrange/Reverse," stand for seven different strategies.

Invigilation of the examination is an important activity in exam season. Appointed examination invigilators are required supervise based on the duty schedule provided by the Unit Examination. The invigilator must find a replacement and complete a Form Exchange of Supervision if they are unable to work on the scheduled day. Before such supervision is agreed upon, the form must be submitted and confirmed by an officer in the Examination Unit. Therefore, SCAMPER technique was preferred, firstly because it basically aims to create numerous ideas which is expected from divergent thinking process. Second, although there have so many studies about creative thinking strategies in creative literature, there are only a few studies about teaching creativity via SCAMPER. Third, SCAMPER provides an enjoyable environment for thinking creatively.

## **2.0 Related Works**

The SCAMPER method and Design Thinking are quite similar in that they both emphasize problem-solving. Design Thinking, on the other hand, puts the human factor first and seeks to find novel solutions to problems. The SCAMPER method is primarily focused on the process of developing original concepts, finding unusual and creative solutions to problems, and improving a good or service. The SCAMPER approach is primarily concerned with the process of coming up with novel ideas, solving issues in uncommon and inventive ways, and enhancing a good or service. The SCAMPER method encourages people to pose seven different types of questions, which can help to understand how people may improve and innovate on already-existing products, services, problems, and ideas. As a result, it will encourage people to come up with ideas for new products and services.

Designing and implementation of a Smartphone App providing the SCAMPER method is one of the studies done by Lee and Jung (2013). In their study, they enhance their creativity by using the SCAMPER method to improve the App that was suggested for Smartphone users. As a result, several enhancements for effective usage in terms of value, use, content, and component were developed.

Plichta, Nadolny and Gierszewska (2018) in their study modified abrasive tools made for machining of hard-to-cut materials using the Scamper method. They modified current products innovatively using the Scamper method, targeted at modernising their construction, design and an extension of functions. As a result, a set of structural and technical solutions for new tools has been produced, meeting technological expectations, and can be the basis for potential development of hole grinding operations.

Scamper method also has been applied in dental implant. Considering the high construction costs of conventional dental implants, Chan (2017) have found that the Scamper method was also can be used to design a navigation system for dental implants. From the study, the all-in-one system that have been developed meets the needs of medical staff, improves product availability, reliability, and mobility, and provides a solution for the dental implant industry.

Another related work that applies the Scamper method is the study done by Phyoe and Suh (2021) where Contemporary menswear fashion designs were developed based on the characteristics and design elements of Myanmar traditional clothing. The specific questions on each element of the SCAMPER were combined with elements of fashion design, which resulted in the modernization of traditional costumes with a greater sense of modernism.

### 3.0 Methodology

This study used a qualitative methodology that involved observation to identify the idea of the SCAMPER technique in developing the examination system at the Examination Unit in UiTM Penang Branch. Short interviews were conducted to gain insights into ten respondents among the group members perception of the SCAMPER technique.

The group members outlined the phases of the SCAMPER technique on the board, carried out each one, and then put their own suggestions for how to deal with the examination system. The steps of the SCAMPER technique (Glenn,1997), the purpose of each step, and the questions at each step are listed in Table 1 below:

Table 1: SCAMPER Technique

S	<b>Substitute</b> The purpose of this step is to interchange the object or person being considered with a different object or person.	What should be done to convert the previous examination system into complete and reuse them?
C	<b>Combine</b> The purpose of this step of the technique is to bring together and combine different objects	Which work can be put together in the same system?
A	<b>Adapt</b> This purpose of this step is to adapt the object under consideration to different situations or uses.	Do you think that the system can be implement without online access?
M	<b>Modify</b> This step involves changing the form of the original object by reducing or increasing its size, by changing its quality, by rendering it lighter or heavier, and/or by reducing or increasing its speed.	Does the system change the quality of the department?
P	<b>Put To Other Use</b> This step involves discussing the use of the object under consideration for purposes, and also at locations, that differ from was originally intended.	How could this system be used effectively to ensure that it can gives benefits to others?

E	<b>Eliminate</b> This step involves fully or partially removing a certain feature or section of the object that is the subject of the brainstorming.	How will the management be affected if did not used the system?
R	<b>Reverse, Rearrange</b> In the final step of the technique, the current state of the object will be considered, and then the object or its characteristics will be reorganized or inverted	What happened if we rearrange any parts, function or objectives?

Based on SCAMPER technique above, seven questions were collected from the respondents to generate the idea in developing the Examinations Invigilation Management Systems (ExIMS).

#### 4.0 Finding

The Examinations Invigilation Management Systems (ExIMS) were created. The examination invigilator and secretariat were able to simplify the supervision process exchange and ensure all operations examination management is working smoothly.

Firstly, the exchange application process for supervision can be placed in a single system, namely ExIMS. Then, the examination supervision exchange process can be combined with the attendance report of the duty invigilator, the examination supervision handling report, and the student attendance. So that, the online method is being used to adapt the examination supervision exchange application. As a result, ExIMS can reduce the time it takes to find substitute invigilators from 5 days manually to 1 day online thus saving the cost of examination operation. Besides that, ExIMS can also be used in work shift change scenarios involving daily/contract employees (spin off). ExIMS can greatly help in the elimination of the supervision exchange application process due to bureaucracy. Thus, when the application process for exchange of supervision is simplified, ExIMS can have a positive impact on the reputation of the Examination Unit. Figure 1 below shows the SCAMPER technique focuses on ideas from various perspectives in ExIMS.



Figure 1: SCAMPER Technique for ExIMS

## 5.0 Conclusion

The SCAMPER technique was found to be useful as an idea for determining users' requirements regarding the examination duties exchanged among invigilators in this study. This technique for creative thinking and problem solving is known to aid in the creation of more qualitative ideas. Furthermore, based on a series of questions aimed at challenging the perspective, it can examine possibilities related to a service or any situation.

Thus, according to user responses, ever since the implementation of Examination Invigilation Management Systems (ExIMS), the level of user satisfaction has increased and complaints about examination duties exchanged among invigilators have dropped. The invigilator does not need to fill out the form manually to monitor the exchange and obtain the approval of the relevant officer. Therefore, the SCAMPER technique is very helpful in ensuring that this ExIMS system saves a lot of time.

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