# Is Quiz Competition an Effective Promotional Tool for Marketing Online Databases?: A Case Study in Universiti Sains Malaysia Library

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*Abstract*—**This paper focuses on a case study to determine the impact of quiz competition as an effective promotion tool for marketing online databases in Universiti Sains Malaysia (USM) Library. The quiz competition was promoted using Plan, Do, Check and Action (PDCA) tool and described briefly. Then, the study tried to make a comparison analysis based on the database statistics usage before and after the quiz competition was introduced. Two samples of databases showed an increase in statistics usage while one sample showed a decrease. The participants' level of satisfaction for the questions in the competition and for the prizes offered was also studied using simple structured interview. This study is hoped to serve as an example of case study to show that promotion through quiz competition might help librarians to persuade the patrons to notice more about the importance of using online databases and indirectly create intangible mutual understanding among the librarians, patrons, and database vendors.**

## I. BACKGROUND OF THE STUDY

Since the start of digital era, academic libraries have evolved into various partitions of services to follow patrons' demands. These services include supply of digital access in supporting study and research needs. Muniandy (2010) states that 51.1% undergraduates in Malaysian universities often use the Internet to find articles from journals [8]. Muniandy (2010) also shows that majority of patrons in Malaysian universities find it more convenient for them in using digital access rather than the manual access. Due to that, the roles of academic librarians are getting more important. Academic librarians play an important role in making the patrons aware of the benefits of using online databases instead of using search engine frivolously. For that reason, the Universiti Sains Malaysia (USM) Library has subscribed a large number of databases with a huge amount of budget every year. Thus, the return on investment (ROI) becomes an important issue. As asserted by Tenopir (2010), ROI is a core method for measuring the value of a library's collections and services [10]. The use of database statistics is one of the important supporting data for ROI. To increase the use of database statistics, many efforts have been implemented to promote the benefits of using database to patrons. Promotions through literacy programme, road tour, and open days are still not enough to attract patrons to use databases frequently. Based on USM Library report, the use of database statistics still shows a rather slow increment. To make the increment grows more rapidly, the USM Library must think critically to make patrons utilise the online databases. As stated by Jamilah Hassan Basri, Mohd Pisol Ghadzali, and Mohd Ikhwan Ismail (2011), librarians also have to create a new value in promoting online database services as a continuous marketing strategy [5]. For example, online tutorial and journal reviews should be provided by the library. Other than that, the USM Library proposes that quiz competition with interesting prizes could be a kick-start to attract patrons to use online databases more. According to Grays and Tucker (2013), close collaboration between database vendors with library has brought productive and positive impacts [3]. However, the impacts of quiz competition have not been investigated in any study.

## II. PURPOSES OF THE STUDY

According to McDermott, Stead, and Hastings (2005), in social marketing, intervention strategy creates attractive motivational exchanges in the target group [7]. Following that statement, the purpose of this study was to examine whether the quiz competition was an attractive motivational exchanges tool for patrons to use online databases frequently. The study also tried to make a comparison analysis based on the statistics data before and after the quiz competition was introduced. Furthermore, this study attempted to reveal how USM Library used Plan, Do, Check and Action (PDCA) tool in promoting the quiz competition. Finally, the investigation continued to know the rate of satisfaction to the questions in the quiz competition and perception of some past winners towards the prizes offered in the quiz competition.

## III. METHODOLOGY

The method used in promoting the quiz competition is described in this section by focusing on the roles played by the Electronic Information Service Unit (EISU) librarian. The Plan, Do, Check and Action (PDCA) tool was adopted in the study to achieve the objectives. The data obtained from the USM Library Database Usage Report were collected and analysed [9]. The details of the data were selected within period of quiz competition only. Three samples of online databases were selected.

The databases involved were Thomson Reuters Web of Knowledge, Wiley Online Library, and Elsevier. Then, a structured interview was applied to investigate the rate of satisfaction on the questions in the quiz competition and perception of some past winners towards the prizes offered in the quiz competition.

## IV. FINDINGS

### A. Structure of Responsibility

USM Library has established an Electronic Information Service Unit (EISU) to handle services regarding electronic information searching and distribution for electronic materials. The EISU is also responsible to conduct any events between online database vendors and USM patrons. EISU is headed by one librarian who works with five subordinates to handle several tasks on marketing electronic information services. When the Thomson Reuters Web of Knowledge first approached the USM Library to promote the quiz competition for patrons, the EISU librarian was appointed to head the promotional works for the quiz competition event. The EISU librarian actually was not sure of the real objective of this event and did not know the proper action to take. It was like turning the librarian to marketing agent to promote the vendor's products. However, Brooks (2006) points out clearly that the vendor often relies heavily on libraries for the insight and direction to improve their products and services [1]. The librarians should thus open the gate for communication between the vendors and the library and share new ideas with vendors to give the best services to patrons. After studying Brooks's paper, the EISU librarian was sure that the quiz competition was a good opportunity to build strong relationships between vendors and librarians as one of continuous efforts in developing services for patrons.

### B. Promoting Quiz Competition Using Plan, Do, Check and Action (PDCA) Tool

It was a challenging task for the EISU librarian to promote the quiz competition as he was required to spread and convince a large numbers of patrons in USM. The EISU librarian needed to clearly define the whole process of the quiz competition to the patrons and explain that the competition would give a lot of benefits to them. Apart from the chances to win grand prizes, the patrons were also informed that, with some difficult questions in the quiz competition, it was aimed at developing their literacy skills. Initially, the patrons were asked to prepare themselves to search the correct answer based on their own findings. The librarians did not have the answers for the questions. Only the database vendors knew the correct answers. In the end, the patrons could enhance their skill if they got a high score. The patrons were also informed that they can give feedback directly to the vendors to upgrade their services and database features during the quiz competition. The EISU librarian also informed the participants that the vendors reserved the right to decide the winners based on the terms and conditions.

Moreover, the announcement about the quiz competition was made within one week before the event. The EISU librarian had to brainstorm and design simple promotional strategy that could create immediate effect on the event. Plan, Do, Check, Action (PDCA) tool was chosen to guide the librarian to the right track in designing the promotional strategy. The tool was chosen because, as stated by Johannsen (1996), PDCA is a suitable tool to integrate strategic quality management (SQM) and total quality management (TQM). Besides that, PDCA is also customer-oriented [6]. Hutchins (2008) adds that the PDCA can help achieve simple problem solving in a very systematic way [4]. Anyone involved in project that adopts PDCA tool will gain experience, have the control over the process, record the correction, and make continuous improvement. For the study, the use of PDCA tool in promoting the quiz competition is explained as follows (see the Appendix):

*1) Plan*
Stage 'Plan' considers several steps that consist of the following:

*a) Identifying the details of the quiz competition.*
- When the EISU librarian received the announcement from the vendors, the details of the quiz competition such as date, length of time, terms and condition were reviewed before being released to the public. Based on USM Library's experience, the announcement was usually made in the vendors' website.
- It was also verified whether the quiz competition was to be conducted online or offline.

*b) Identifying the promotional methods to spread the quiz competition.*
- Promotional methods can be made through multiple ways, online and offline. For USM Library's case, the offline methods were quite difficult to be executed due to limited number of librarians, support, and time. EISU librarian decided to make full use of the online methods by using the social media and viral emails to promote the quiz competition. It was made sure that the promotional methods were suitable for all the targeted groups. Persuasive and attractive words and statements were carefully prepared. Chances to collaborate with other departments, divisions,

groups, and individuals were also identified. For instances, the news spread through viral email was done by the experts from the University's Information Technology Department, and advertisement through Facebook was made by the librarians from the Library Customer Service Division.

c) *Identifying the target audience*

- The scope of quiz competition was also determined—whether it was worldwide, regional or close to USM patrons only. Exception was made for librarians from participating in the competition.

2) *Do*

Stage 'Do' considers several steps that consist the following:

a) *Initiating the promotional methods*

- The EISU librarian initiated the promotional methods based on 5W 2H (What, Where, When, Who, Why, How, How Many) technique. 'What' was used to determine the name of the quiz competition. 'Where' was used to determine the scope of area to promote. 'When' was used to determine the length of the quiz competition. 'Who' was used to determine the targeted group. 'Why' was used to explain the reason promotion for the quiz competition was required. 'How' was used to determine the tools to be used in promotion. 'How Many' was used to determine the total targets to involve in the quiz competition. Further details of promotional methods using 5W 2H technique are described in Fig. 1.

- The 5W 2H technique is usually adopted in enhancing management quality. Carvalho, de Matos, dos Reis, Serpe, and Carvalho (2012) [2] add that this technique is also suitable as tool to increase management creativity.

| WHAT | Web of Knowledge Discovery Quiz |
|---|---|
| WHERE | All Schools & Departments, Universiti Sains Malaysia |
| WHEN | Started on 1st October until 30th November 2011 |
| WHO | Promote to<br>-Undergraduates, Postgraduates, PhD<br>-Lecturers and Admin Staff<br>-Fellow Researchers<br>-except Librarians |
| WHY | 1. Offer grand prizes.<br>2. Compete with other universities.<br>3. Upgrade achievements<br>4. Enhance patrons skills |
| HOW | Promote through<br>1. Social Media<br>2. Viral email<br>3. Paper clip<br>4. Posters<br>5. Banner |
| HOW MANY | Target 1000 participants |

**Fig. 1: 5W 2H technique to verify promotion methods**

3) *Check*

Stage 'Check' considers several steps that consist the following:

a) *Checking the feedback*

- The EISU librarian would respond if there were feedbacks from patrons at any media about the quiz competition, such as blog, Facebook, email, and at the counter. If the patrons needed special training on certain database to complete their knowledge on answering the quiz, the requested special session would be run in the library. The special session usually did not run more than 3 hours and was attended minimum by 10 patrons.

*b) Improving the promotional methods*

- When the patrons complained about late notice or were reluctant to accept the terms and condition for participating in quiz competition, the EISU librarian applied persuasive talking to the patrons to answer to the complaint. Clear and accurate information about the quiz was also given to the patrons.

*c) Monitoring the promotion methods*

- The EISU librarian was responsible in monitoring the whole process of promoting the quiz competition. The EISU librarian monitored the promoting task performed by his subordinates too. Their technique on spreading news about the quiz competition was enhanced with good interpersonal communication skill especially at the main entrance of library.

*4) Action*

Stage 'Action' considers several steps that consist the following:

*a) Evaluating the achievements and the impacts*

- The evaluation on promotional methods was made based on participation by the USM patrons and vendors. The perception whether quiz competition received high or low response was made through the total number of participations. Some vendors gave total number of participants but others did not expose it. This process was executed after the vendors announced the winner.
- If USM patrons were listed as among the winners, that would mean that the promotional methods were successfully initiated.

*b) Informing and announcing through multiple media*

- The EISU librarian publicised the list of winners in multiple media such as blog and Facebook especially if USM patrons were among the winners. The publicity was as an appreciation for the patrons' times and efforts in joining the quiz competition. It was like putting them in the Hall of Fame of the quiz competition.
- If the prizes were to be given to the winners through EISU librarian, some pictures were taken and posted in the blog.

This explanation shows that, to strategise promotional activities using PDCA tool, the contents should be detailed and clearly defined based on the planning, initiatives, and improvement to overcome the challenges.

*C. Impact study*

During the promotion of quiz competition, the EISU librarian found that this event was expected to bring positive effects. Many patrons came to the counter asking about how to use the online database effectively. Furthermore, many patrons also just realised that there was Information Literacy Skill Workshop in the library for training them to use online databases in a better technique. Based on three samples of database statistics, this study successfully compared the trend of usage before and after the quiz competition being initiated.

*1) Sample 1: Thomson Reuters Web of Knowledge*

The first analysis database sample was Thomson Reuters Web of Knowledge. This bibliographic database used the queries as number of statistic usages rather than the searchers or full-text downloads. The quiz competition was named as Web of Knowledge Discovery Quiz. This quiz was opened to national level only and it was the first quiz competition involving USM Library. It was from on 1st October until 30th November 2011. As shown in Table I, the data were collected in October 2010, October 2011, November 2010, and November 2011. The study tried to compare the statistic usage between 2010 and 2011 within the two months. Before the quiz was introduced, the total statistic usages in October 2010 were 3,003 queries, while in November 2010, the total statistic usages were 3,465 queries. After the quiz competition was introduced in October 2011, the total statistic usages in that month were 6,480 queries, while on November 2011, the total statistic usages were 6,670 queries. This study found that there was an increase of 115.78% in the number of queries from October 2010 to October 2011 as the first month of the quiz competition. In the second month of the quiz competition, there was an increase of 92.5% in the number of queries from November 2010 to November 2011. These findings show that there were increases in the usages of Thomson Reuters Web of Knowledge due to the quiz competition.

TABLE I.        WEB OF KNOWLEDGE STATISTIC USAGE (1ST YEAR OF QUIZ COMPETITION)

| Month | Year | | Percentage Increment (%) |
|---|---|---|---|
| | *2010* | *2011* | |
| October | 3,003 queries | 6,480 queries | 115.78 |
| November | 3,465 queries | 6,670 queries | 92.5 |

In the same way, the study tried to look on the second year of the quiz competition. The event was run again nearly at the end 2012, but start date of the quiz competition was different. The quiz competition was from 9 October until 31 December 2012. The sample was taken on overall month between October 2011(6,480 queries) and October 2012 (7,801 queries) even though the quiz competition was started on 9 October. The study found an increase of 20.3% between October 2012 and October 2011. In the next month, there was slightly different finding between November 2011 (6,670 queries) and November 2012 (5,128 queries), i.e., there was a decrease of 23.11%. This finding shows that there was an uncertain trend in the second year of usage. Although there was a decrease in the percentage, the numbers still showed consistent usage and did not drop under 3,003 queries (October 2010). Moreover, the queries on December 2010 (7,717 queries), December 2011 (5,616 queries), and December 2012 (6,765 queries) showed a unique finding. The queries on December 2010 were higher than December 2011 and 2012 although at that time the quiz competition had not yet been introduced.

TABLE II.        WEB OF KNOWLEDGE STATISTIC USAGE (2ND YEAR OF QUIZ COMPETITION)

| Month | Year | | | Percentage Increment (%) between 2012 & 2011 |
|---|---|---|---|---|
| | *2010* | *2011* | *2012* | |
| October | 3,003 queries | 6,480 queries | 7,801 queries | 20.3 |
| November | 3,465 queries | 6,670 queries | 5,128 queries | -23.11 |
| December | 7,717 queries | 5,616 queries | 6,765 queries | 20.5 |

*2)   Sample 2: Wiley Online Library*

Next, the second sample database was Wiley Online Library. This full-text database used the download criteria as the number for statistic usages rather than the number of queries, searchers, or requests. Wiley Online Library introduced the quiz competitions for the first time in 2012 to USM Library. The quiz competition was called "SPRING into Wiley Online Library 2012". The quiz was put on Asia Pacific level. The quiz period was from 27 March 2012 until 11 May 2012. The analysed statistics data were selected from April 2012 until May 2012 and compared with April 2011 until May 2011. As shown in Table III, the study found that in April 2011, there were 18,389 downloads, while in April 2012, the number increased to 18,423downloads with percentage increment of 0.2% only. For May 2011, there were 15,731 downloads and the number increased to 24,207 downloads on May 2012 with high percentage increment of 53.8%.

TABLE III.        WILEY ONLINE LIBRARY (1ST QUIZ COMPETITION)

| Month | Year | | Percentage Increment (%) |
| --- | --- | --- | --- |
| | *2011* | *2012* | |
| April | 18,389 downloads | 18,423 downloads | 0.2 |
| May | 15,731 downloads | 24,207 downloads | 53.8 |

Until November 2013, Wiley Online Library did not run any quiz competition. Therefore, there was no supplementary comparison study between the first year and the second year for Wiley Online Library.

3)   *Sample 3: Elsevier*

The study was continued to get another sample from Elsevier. USM Library just involved actively on Elsevier's quiz competition since 2013. The quiz competition named 'the ScienceDirect and Scopus Challenge 2013' involved two databases namely ScienceDirect and Scopus. There were two stages in the quiz competition. Stage 1 was in which the participants were required to answer questions related to using Science Direct and Stage 2 was for questions related to using Scopus. Both of the quiz competitions were put on Asia Pacific level. These two quizzes were separated into two periods. The quiz competition for ScienceDirect was from 15 March until 30 April 2013, while the quiz competition for Scopus was from 1 May until 15 June 2013. Both of databases used the searchers criteria as the number for statistic usages rather than the number of queries, downloads, or requests. The analysed statistics data for ScienceDirect were selected from March 2013 until April 2013 and compared with March 2012 until April 2012. On the other hand, the selected data for Scopus were from May 2013 until June 2013 and compared with May 2012 until June 2012.  Based on Table IV and Table V, both databases showed negative percentages. In the first month of the quiz competition, ScienceDirect stated 14.06% decrease from 50,609 searches (March 2012) to 43,492 searches (March 2013). The statistics continued to drop from 45,021 searches (April 2012) to 34,492 searches (April 2013) 23.38% decrease.

TABLE IV.        ELSEVIER SCIENCEDIRECT

| Month | Year | | Percentage Increment (%) |
| --- | --- | --- | --- |
| | *2012* | *2013* | |
| March | 50,609 searches | 43,492 searches | -14.06 |
| April | 45,021 searches | 34,492 searches | -23.38 |

Scopus showed the same trend. From 15,763 searches (May 2012), the number dropped to 11,277 searches (May 2013) with 28.45% decrease. In June 2012, there were 14,542 searches compared with June 2013 with 8,824 searches, stating 39.32% decrease.

TABLE V.        ELSEVIER SCOPUS

| Month | Year | | Percentage Increment (%) |
| --- | --- | --- | --- |
| | *2012* | *2013* | |
| May | 15,763 searches | 11,277 searches | -28.45 |
| June | 14,542 searches | 8,824 searches | -39.32 |

The study tried to identify the causes of decreased impacts in both ScienceDirect and Scopus and found that:

i. It was due to the frequent disruption of access within the period of quiz competition so that the Elsevier database was unstable to access. The disruption happened due to wiring renovation project at USM Library.

ii. It was because majority of undergraduate students were focusing on exam weeks (March and April 2013) and semester break (May and June 2013) thus giving the low number of Elsevier database users.

### D. *Rate of satisfaction among the winners*

This study was continued by investigating the rate of satisfaction among the winners. Among the participants in the three samples of quiz competition, EISU librarian selected five winners in the two quiz competitions as the respondents. Three winners were from the first year of the Web of Knowledge Discovery Quiz 2011 and another two were from ScienceDirect and Scopus Challenge 2013. A structured interview was made with three simple questions. The questions were as follows:

i. How would you rate the effectiveness of the questions in the quiz competition in developing your searching skill?
    a. Very high
    b. High
    c. Average
    d. Low
    e. Very low
ii. How would you rate the prizes offered in the quiz competition?
    a. Grand
    b. Reasonable
    c. Poor
    d. Do not want to rate it
iii. Do you still want to participate in the quiz competition again if you did not win anything?
    a. Absolutely yes.
    b. Not really.
    c. Have to think about it.
    d. No.

For the question (i), three winners said that the effectiveness of the questions in the quiz competition was 'Very high' in helping them develop their searching skill while another two chose 'High'. For the question (ii), two of the five respondents rated the prizes as 'Grand' and another three chose 'Reasonable'. For the question (iii), four of the five respondents chose 'Have to think about it' and another one chose 'Absolutely yes'.

From the analysis of the interview, overall, the past winners showed high satisfaction on the quiz competition especially on the promotional process and initiatives taken by the librarian. They agreed that the attractive prizes were the main objective for them to participate in the quiz competitions and they were glad that the database vendors were willing to sponsor the event. Moreover, the past winners also agreed that the quiz competition was also successful in enhancing their searching skills in using the database features.

### V. SIGNIFICANCE/CONTRIBUTIONS

This study reveals a significant finding that quiz competition is an effective tool in promoting online database if the strategies are applied efficiently without any disruptions. In the first month after the quiz competition was initiated in the USM Library in 2011, the usage data showed 115.78% increase. It showed that the event was a big contribution to the ROI data. This finding proves that if the quiz competition was not conducted, there could still be low number of patrons using the database or the patrons did not even know the right technique to use the online database. Apart from that, limitation on time to promote any event related to the online databases can be solved if the librarians can use the right tool properly. The PDCA tool was very helpful in managing promotional activities to get immediate response from many patrons. Furthermore, The EISU librarians did the online promotional activities more than offline promotional activities. Although there was less physical interaction between the librarians and the patrons, which led to low use of papers and cost, the promotional activities were still a success in attracting the patrons to participate in the quiz competitions. Not only that, there were five winners from USM in the two quiz competitions. Giving the details on every aspect of the quiz competition in promoting could be the main reason to achieving some of the winners. However, the librarians should collaborate and work with various parties as a team to ensure the patrons will use the relevant database more efficiently and they do not depend on the quiz competition as the only promotional tool.

*Keywords: academic libraries, online databases, marketing, promotional methods, electronic information services*

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APPENDIX

PDCA Tool Promotion Guideline

| Quiz Length | | Month/Year e.g.: November 2011 | | | | Month/Year e.g.: December 2011 | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Weeks** | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| **P** | Identify the details of quiz (background of quiz) | ■ | | | | | | | |
| | Identify promotion methods to spread the quiz. (Facebook, paper clip, blog, viral email) | ■ | ■ | | | | | | |
| | Identify the target audience (students, lecturers, staffs , librarians) | | ■ | | | | | | |
| **D** | Initiates the promotion methods (5W 2H) | | | ■ | ■ | ■ | ■ | ■ | ■ |
| **C** | Check the feedback (Received from email, blog, Facebook) | | | ■ | ■ | ■ | ■ | ■ | ■ |
| | Improved the promotion methods (Received complains, late notice, dissatisfaction) | | | | | ■ | ■ | ■ | ■ |
| | Monitor the promotion methods (daily, weekly, hours) | | | ■ | ■ | ■ | ■ | ■ | ■ |
| **A** | Evaluate the achievements and the impacts (Good or bad) | | | | | | | | ■ |
| | Inform and announce through multiple platform (Facebook, blog, email) | | | | | | | | ■ |