Risk and Technology

# Case study

## Part (a)

Quick Escapes Travel (QET) is an online travel agency founded in 2013 by four information technology professionals. QET’s two customer groups are business and leisure travellers. Through its website, QET offers customers online functionality including a metasearch engine and booking platform that help travellers find and book flight travel options online.

The booking platform enables customers to compare flights from different sources across the internet, including from online travel agents and directly from the airlines. Using the booking platform’s interactive mapping feature, customers can search for the cheapest flights from any airport to anywhere in the world on specific dates, and view prices over an entire month to find the best offers.

### The QET website and the Smart QET app

Customers like using the QET booking platform because it eliminates the need to browse multiple web pages to compare flights. To make a reservation, customers simply choose an available flight, select a seat and service option, enter their details, and make a payment. The booking process takes a few minutes for a first-time booking – subsequent bookings take less time for customers who create and book via an established QET account.

QET’s booking platform can also be accessed through Smart QET, the company’s booking app, ‘Smart QET can be downloaded from leading app stores.

The app provides the same booking functionality as that of the website, but also offers additional benefits to customers and the company:

* The automatic flight check-in feature simplifies the check-in process. The boarding pass is sent to the customer’s mobile phones, so they can skip the check-in counter, proceed straight to the security checkpoint, and continue to their assigned gate.
* The app integrates with Google Maps to provide customers with real-time travel information about their route to the airport, including information about possible traffic delays or train service cancellations.
* The app integrates with airline baggage-handling features and offers real-time tracking of customer baggage.
* At some airports, when a customer arrives at selected airports, the app receives signals from Wi-Fi-based real-time locating systems and beacons to send location-specific information, for example, about sales promotions, delays, and gate changes. The app can also help customers navigate the airport via interactive maps.

QET uses its website and app to collect data on the customer experience via regular customer surveys. The app also collects data on customer movement patterns inside airports, including data on arrival times, queuing times and time spent at certain airport locations. The data is also used for in-app advertising, and QET uses the advertising to promote third parties such as hotels and car-rental companies. For example, the app displays special deals on accommodation and car hire available at the customer’s destination.

### QET net promoter score

QET’s executive management team has recently noticed a slightly decreasing net promoter score, a measure of the likelihood that a customer will recommend QET to others. The net promoter score is measured on a 10-point Likert scale ranging from 1 (not likely at all) to 10 (extremely likely). Previously, the average net promoter score was above 8. The executive team considers a minimum average net promoter score of 7.8 as a benchmark that QET must meet to remain competitive in the market. QET’s risk management process has alerted the executive managers to customer complaints about long refund times. The company policy is to refund customers the cost of their cancelled flights. The refund policy doesn’t specify the target time for QET to process refunds but customers are complaining that the refund process is taking too long.

### Your involvement

As part of preparation for the annual process evaluation meeting, two members of QET’s management team, the Chief Executive Officer (CEO) and Chief Information Officer (CIO), have asked for your assistance.

QET’s managers are concerned that the customer complaints about the long refund times could impact customer satisfaction, and, in turn, the net promoter score. Customer satisfaction is measured with a survey using a 7-point Likert scale ranging from 1 (not satisfied) to 7 (very satisfied). In the past, average satisfaction ratings were above 6. Based on their experience, the executive managers consider a minimum average customer satisfaction rating of 5 as a benchmark to meet to remain competitive in the market.

The managers provide you with Microsoft Excel Dataset, including summary statistics (please see the second tab in the Excel worksheet, Summary Statistics of Data). QET’s CEO and CIO ask you to analyse and interpret the dataset to generate insights into the customer experience with the booking platform.

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| **Your tasks**  Using the dataset provided in the Microsoft Excel document, complete the tasks in Part (a).  Use the Dataset File for Task 1 (analysis) and Task 4 (dashboard preparation).  **Task explanations**    **Task 1:** Perform a numerical analysis of the **Dataset** to inform your advice to the executive managers on the following:     1. A potential relationship between refund time and:    * net promoter score    * customer satisfaction.   **\*Prepare 2 different correlation analysis for the above (scatter plots with a linear line)**   1. Whether there is a difference in business traveller refund times and leisure traveller refund times.   **\*Prepare a t-test (you aren’t allowed to use data filtering or formatting)**  **\*Prepare a descriptive statistics**   1. Whether customers who book through the app would be more likely to recommend QET to others compared to customers who book through the website.   **\*Prepare a t-test (you aren’t allowed to use data filtering or formatting)**  **\*Prepare a descriptive statistics**   1. An acceptable maximum refund time for cancelled bookings.   **\*Correlation Analysis**  **\*Descriptive Statistics**    **Task 2:** In your report, justify the numerical analysis approach you used in Task 1, and explain your choice of data. (250 words)  **\*Inform your choice of data and analysis types**  **For example:**    **Task 3:** In your report, interpret the summary statistics provided by the executive managers in the second tab of the Dataset called “Summary Statistics of Data”, and the results of the numerical analysis you performed in Task 1. You can assume that the summary statistics provided by the executive managers are correct. (300 words)  \***Take a screenshot of each completed numerical analysis and state for each:**  **-These results show**  **-These results indicate**  **For example:**  These results show:  • A moderate positive correlation between workshop duration rating and workshop satisfaction rating.  • A strong positive correlation between workshop facilitator quality and workshop satisfaction rating.  • A weak-to-moderate positive correlation between workshop satisfaction rating and workshop duration (this  relationship is less important for the analysis).  These results indicate:  • Workshop duration might be an issue (see descriptive statistics), and it seems to be related to satisfaction.  This is supported by the qualitative staff feedback.  • Workshop facilitator quality might be an issue (see descriptive statistics) and it seems to be related to  satisfaction. This is supported by the qualitative staff feedback.  **Task 4:** Based on the Dataset, the results of your numerical analysis, and the summary statistics provided, prepare a dashboard in Microsoft Excel to present to the Chief Executive Officer (CEO) and Chief Information Officer (CIO). The dashboard should provide relevant information to enhance the CEO’s and CIO’s understanding of the issues raised. Take a screenshot of your dashboard and include it in your report. |

**Task 1:** The results of the numerical analysis in Task 1 (label new tab as “Numerical Analysis”).

**Task 4:** The dashboard reflecting the results of your analysis in Task 4 (label new tab as “Dashboard”).

Note: Any additional information and workings you provide in the Microsoft Excel file will not be marked.