# Case Study :

**High Level Requirements For Katara**

**Introduction:**

Katara Hospitality is a global hotel owner, developer and operator, based in Qatar. With more than 45 years’ experience in the industry, Katara Hospitality actively pursues its strategic expansion plans by investing in peerless hotels in Qatar while growing its collection of iconic properties in key international market. Katara Hospitality currently owns properties spread across three continents in Qatar, Egypt, Morocco, UK, France, Germany, Italy, Spain, Switzerland, The Netherlands, Singapore and Thailand.  While it partners with some of the finest hotel management companies, Katara Hospitality operates owned and non-owned hotels through its standalone operating arm, Murwab Hotel Group.

<http://www.katarahospitality.com>

To manage their vast business interest, Katara was planning to set up their information management system for which they have shared their requirement as given below in detail. Please read the requirement thoroughly and help Katara to achieve its objective. Solution will be discussed in the class after going through the details of big data eco-system components.

High Level Requirements For Katara

In order to improve its services and achieve its mandate, Katara will need to be able to address multiple areas of interest in this project. Katara is looking to establish a robust, reliable and flexible Information Management architecture that would allow Katara to better understand business dynamics. Katara is interested into multiple folds of analyzing data that spans both internal and external data sources. This analysis should allow Katara to better understand its customers, services, internal processes efficiencies, and be able to take immediate actions based on informed insights. In order to be able to achieve that Katara is interested in a solution that would guarantee key capabilities that would include: Business Intelligence & Analytics, Information Discovery, Email and Website Activity Analysis, Social Management / Monitoring, Customer Segmentation and Profiles, and Marketing Campaign Management.

**Information Discovery**

**Business Intelligence**

**Email and Website Activity Monitoring**

**Social Management / Monitoring**

**Customer Segmentation & Profiling**

**Marketing Campaign Management**

Katara is expecting the proposed solution to be based on comprehensive technology that would deploy latest functions and techniques of data collection, data ingestion, data management, and analysis. Solution proposed should be able to accommodate both structured and unstructured data sources coming from internal and external data sources.

Proposed solution should provide the capability to analyze data coming from different data source like Oracle ERP, SAP ERP, Micrsoft based applictaions, files, and more. Management and Executive Dashboards should be provided for such analysis allowing users to be able to consume analysis easily and take decisoins immediately.

Solution proposed is expected to store and persist differnet types of data including structured, semi-structured, and unstructued data. Allowing Katara to be able to easily discover insights and patterns and be able to digent an process the data in flexible easy to use interfaces. Search and guided navigations, contextual filtering of data should be provided to accommodate such needs.

Katara is looking for Email and Website activity monitoring to be part of the proposed solution where understanding of how Katara’s website visitors or mobile app users are actually interacting with these channels and being able to track events like downloads, video plays, and more.

One of the key areas of interest to Katara is to be able to monitor and analyze social media content and the sentiment of that content. Katara is intersted in monitoring what people are saying about Katara, it’s events, services, activities over social media platforms like Twitter, Facebook, Instagram, TripAdvisor, and more. Katara wants to measure the sentiment of these mentions and be able to interact with these reviewers/customers and be able to target them with specific and personalized markering campaigns. Katara is also interested in being able to proflie customers and manage marketing campaigns properly, Katara wants to be able to plan and execute automated marketing campaigns while delivering a personalized customer experience for their customers.

# Business Intelligence

Katara is looking for a complete Business Intelligence solution that would provide complete business analytics capabilities across multiple data sources and for different areas. Katara is expecting analytics to cover different areas like Human Resources, Finance, IT, Supply Chain, and others. Summary for functional areas required are as follows:

**Finance**

Katara is looking for complete financial analytics capabilities; Financial Analysis should be able to provide:

* Insights into key financial areas of performance, including balance sheet, cash flow, expenses, budget vs. actual, working capital, liquidity.
* Key data pertaining to profitability, including Profit & Loss Statements, Customer and Product profitability, Margin Analysis, ROA, and ROE.
* Key data pertaining to receivables, including receivables due, credit risk, payments, collector efficiency and enables Finance to best manage cash inflows and their ability to collect debt.
* Overview of the health of the payables side of the business and enables Finance to best manage its cash outflows and ensure timely payments to its suppliers
* Key data pertaining to lifecycle of long-term fixed assets, such as property, plant, and equipment, as well as assets under construction.
* Visibility into organizations employee related expenditures and the overall submission and approval process.

**Human Resources**

Human Resources are the key asset for Katara, hence understanding the Human Capital is essential for Katara to understand the impact on business and performance. Katara is expecting to have better insights on Human Capital and be able to:

* Better manage employee absenteeism, by proactively monitoring absenteeism to help reduce productivity loss and promoting leave as a benefit to help employees achieve better work life balance.
* Display analysis of all employees’ compensation throughout the organization.
* Get high level view of overall human resource organization's performance as it pertains to overall company performance by evaluating employee contribution, productivity, and costs.
* Monitor learning program utilization, enrollment and course completion rates.
* Look at the recruiting programs within the company and their effectiveness in bringing in high quality candidates that transition into high quality employees.
* Generate analysis of retention and turnover trends and their relation to other factors like compensation and performance for entire organization. Also proactively alerts top performers retention risk.
* Analyze employee and leadership performance; who are the high or under performers; and how employees who underperformed improved in their performance.
* Provide complete in-depth view of organizations profile including demographic, regional, job and positional breakdown.
* Provide insights into payroll balances for total compensation and cost analysis.

**IT**

Analyzing IT operations and performance is key to enhance the efficiency of IT roles within Katara. Business Analytics around IT is very critical to be able to achieve that. Katara is expecting the solution to be able to provide analysis around:

* ***Helpdesk Management***: Understanding case backlog and knowing which tickets need to take priority is a key concern for IT departments. BI for Helpdesk Management helps IT professionals see a comprehensive view of all cases in their organization. They can focus their attention on high priority tickets, analyze how long tickets have been open and average response times, and determine how to direct resources to best meet service level agreements (SLAs) set with the business.
* ***IT Infrastructure***: Managing equipment inventory and ensuring that assets align with employee demand is a key function of IT. With BI for IT Infrastructure, IT professionals have a clear view of equipment distribution and ownership across the organization. They can accurately predict technology needs and spend, and align purchase decisions based on organizational demand.
* ***Software & Licensing Management***: Managing software licenses and compliance in an organization can be a daunting task. With BI for Software and Licensing Management, IT professionals can better understand the purchase, use, and requirements for software licenses across the organization. They can identify opportunities to recover or reallocate unused licenses, helping to reduce costs. And, by having a complete view of licenses, they can improve governance.
* ***Network Governance***: Ensuring data quality and governance is top-of-mind. With BI for Network Governance, IT can gain insight into their infrastructure, helping them to spot unusual activity and remediate potential risks to the organization.

**Supply Chain**

Katara is looking for Business Intelligence solution to provide insight into critical Order Management business processes and key information, including Orders, Invoices, G/L Revenue, sales effectiveness and customer scorecards. Katara is also interested into incorporating analysis of its inventory, bill of materials, inventory movements in, out and through storage location.

Solution should provide Katara rich insight into the revenue performance of the sales organization through actionable insight on Orders, Revenue, Trends, Margins, Discounts, Cancellations, Returns and Customers.

# Information Discovery

In order to increase its agility and being able to analyze different types of data, Katara is interested in being able to analyze data from multiple data sources, diverse information types, and build an intuitive and interactive analytic experience without the all steps and processes required by traditional BI solutions. This capability will be complementing the BI capability provided for conventional types of data sources.

Katara’s main objective is to be able to correlate data coming from conventional structured data source with data coming from internal/external semi-structured and unstructured sources and understand the relationships and patterns and be able to identify potential areas of improvements.

The expected solution should be able to address data exploratory needs of end users, allowing them to answer new questions without the boundaries of the rigid data models that would limit their flexibility. Enriched Visual analysis, search, contextual guided navigation, and text enrichment are some of the key capabilities that Katara is expecting out of this solution. The solution should allow business users to explore, analyze and discover information via interactive and configurable applications.

# Email and Website Activity Analysis

Katara needs to analyze email exchanges with its customers/clients in order to assess the effectiveness of its campaigns. It also needs to analyze the behavior of the customers on its website and the comments it receives online. The analysis will help in understanding customers’ sentiment, and in improving their experience while using Katara’s services. This analysis can also contribute to customer segmentation and to optimizing marketing campaigns. Email and web log data will be received from the source and stored on a Big Data Platform where it can be accessed using different tools and be stored for longer durations.

# Social Management / Monitoring

Katara is keen to exploit the potential of social media and networks as key channels for understanding the conversations happening in the community about key topics. Apart from social channels like Twitter and Facebook, Katara would also like to analyze the user content being generated in blogs and consumer review websites. Sentiment Analysis and Multilingual Support (including Arabic) are essential requirements. Katara needs a solution that can filter out the noise and identify the relevant patterns from the social media buzz. It is also essential to be able to create alerts for issues of concern or negative sentiments affecting the Katara brand. The solution should store data for extended periods to enable comparison of social media trends over time.

# Customer Segmentation and Profiling

Katara needs the ability to segment customers and community members according to their demographic attributes, interests, past interactions, social media activity and custom indicators derived from internal analysis. It also needs to allow for complete customers profiles to be built over time by pieces of information captured in multiple online interactions. Katara is also interested in understand and track the online behavior of customers through the lifecycle of being anonymous visitors to registered contacts. These segments and profile information will be used to deliver personalized messages such as event invitations or campaign messages.

# Marketing Campaign Management

Katara has the need for an automated platform that can handle cross-channel campaigns for a wide range of Events and Initiatives. The solution needs to support email, SMS, social channels and the Katara website in a single campaign. The platform should also offer the ability to quickly design multi-step campaign processes while retaining the personalization of messages to each contact.