**Module 1 Discussion: Introduction to the Business Problem**

**Discuss what you see as the sponsor's business objective, why is data useful in addressing that?**

**Business Objective:**

In today’s world, where we have providers & patients both seeking innovative ways to deliver & access care, Keva Health is set to enable digital & self-care management for many respiratory health conditions. By integrating clinical data, treatment plans, medications, Telehealth, EHR/ EMR, patient communication, and reimbursement on an elegantly concise platform, Keva empowers remote patients and physicians to collaborate, monitor, analyze, and solve respiratory health problems more effectively than ever before. The platform enables physicians to effectively manage patients with respiratory illnesses. Keva Health went a step ahead built core partnerships with the Governments, Educators, Clinical Trials, Institutions, and Organizations to discover and invent productive solutions for the customers and make their lives easier, safer, and better.

**The important role of Data:**

Data is the next big oil, and it is omnipresent. The consumption and production of data from people, devices, machines, sensors, and other things are increasing exponentially day by day. So, it plays a significant role in determining a person’s health condition.

Data is essential to

* Create a User-friendly platform and provide a place to communicate with the doctors.
* Focus on decision-making, continuous improvement, monitoring, tracking, and development.
* Easy to understand the patient’s behavior and helps to produce customized reports.
* Capture Patient details, results, and reports from Questionnaires, Surveys, and Assessments.
* Advanced Health Analytics with the aid of AI and provides personalized care recommendations.

**References:**

[1] KEVA Health (August 14, 2018), Big Data Saving Lives? was retrieved from https://www.kevahealth.com/2018/08/14/how-to-build-collateral/.

[2] Healthcare Analytics Basics was retrieved from https://www.sisense.com/glossary/healthcare-analytics-basics/.

**Module 2 Discussion: Understanding How Data Impacts Business Performance**

**Identify the types of data best suited for driving a solution to your sponsor’s problem (i.e., BIG data, market research data, structured data, unstructured data, etc.). Describe the ideal data set that you would like and provide your reasoning.**

We all know that the Sponsor had developed a real-time monitoring system to diagnose the respiratory problems faced by the people. To solve this problem, Keva Health needs more and more data. Here, my research has been undergone for the Big Data and its use cases. Keva Health’s platform empowers physicians to manage their patients remotely and allows patients to self-manage their disease through continuous engagement. Big data has proven to be very useful in the healthcare industry. In essence, big-style data refers to the vast quantities of information created by the digitization of everything, that gets consolidated and analyzed by specific technologies. Big Data has 5 Vs as Volume, Value, Variety, Velocity, and Veracity. With this new approach, I am considering the Lung Disease datasets and the demand for big data in medicine is at an all-time high. Its effects on the healthcare industry are:

* Analyzing and monitoring data to detect the diseases early and provide better solutions
* Real-time data can be used to notify doctors of a patient’s health condition
* Enabling doctors with remote diagnosis and provide customizable medications
* Reducing Errors and provide more accurate treatments
* Finding the cause is also more cost-effective than rectifying the outcome

The integration of these data sources would require developing a new infrastructure where all data providers collaborate.

**References:**

[1] Sandra Durcevic (Oct 21st, 2020) 18 Examples Of Big Data Analytics In Healthcare That Can Save People was retrieved from https://www.datapine.com/blog/big-data-examples-in-healthcare/

[2] Bio GPS, Lung disease Datasets were retrieved from http://biogps.org/dataset/tag/lung%20disease/

**Module 3 Discussion: Data's Use and Value to Your Sponsor**

**Begin thinking about your project proposal. Hypothesize your project’s key question and identify the statistical and analytic tools that might be useful in this project proposal. In response to your classmate’s post, ask questions regarding how the statistical and analytical tools related to the challenge they proposed. Provide resources that could be of help to your classmate.**

I have chosen the AirNow Dataset in which talks about Air Quality and pollutants across the USA. This is very much equivalent to the Sponsor’s problem. It provides me an opportunity to analyze and build respective models and dashboards which helps the stakeholders to take an action. Planning, designing, gathering data, analyzing, making concrete interpretations, and publishing results are all statistical approaches involved in this project. The statistical analysis brings life to previously lifeless data. Only when proper statistical methods are used are the findings and inferences accurate.

My project includes a brief overview of the variables, as well as a discussion of quantitative and qualitative variables.

* Frame the Problem
* Get the Data
* Do some Exploratory Data Analysis
* Perform in-depth Descriptive and Inferential Statistics
* Data Visualization

Hypothesis testing assesses if a certain premise is true for your data set or population. In data analysis and statistics, I generally consider the result of a hypothesis test statistically significant if the results couldn’t have happened by random chance. I commonly use R, Excel, Tableau to do the Statistics and interpret the outcomes in a visualizing way.

My project will serve as the foundation for a new process system for conducting data research. Quantifying the data is important for any business to assist in comparing different processes and make some improvements. The necessary stakeholders can drive the organization by decision-making and strategy consistency’s

**References:**

[1] Zulfiqar Ali and S Bala Bhaskar (Sep 2016), Basic statistical tools in research and data analysis was retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5037948/

[2] Scot H Simpson (July-Aug 2016) Creating a Data Analysis Plan: What to Consider When Choosing Statistics for a Study was retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4552232/

**Module 4 Discussion: Influencing Decision Making with (Big) Data**

**Who are your main contacts at the sponsor who will be able to answer questions about the project goals set by the sponsor? What challenges do you imagine in talking to them?**

Usually, a project sponsor is an individual or organization in charge of moving the project in the direction that will result in the effective realization of anticipated benefits. The project sponsor oversees project budgets, approves ideas and improvements, participates in key decision-making, manages participation and communication processes, assists in the creation of the initial scope and project charter, and manages stakeholder relationships. If more companies adopt a data-driven decision-making strategy, businesses must encourage learning and invest in their employees so that they can obtain value-added certifications in this field. Companies must take the lead in sponsoring workers for specific training programs on analytical methods and strategies, equipping their staff with the skills needed to use data to make informed decisions.

Some of the responsibility’s that a sponsor has to adhere to are:

* Aligning the project with the company's overall plan.
* Participating in the preparation of a project.
* Creating a succinct and straightforward issue statement.
* Assuring that the purposed solution resolves only the agreed-upon problem.
* Creating and expressing an optimistic vision to keep the project team motivated.

Common challenges are:

* Project sponsors are often named to projects in which they have little interest because the project requires approval
* The project sponsor may be taking on the role of the accidental project sponsor
* Project sponsors do not have the resources and they simply do not know what is required of them.
* They may not have the time to provide helpful advice and assistance to projects that are struggling.
* Unclear expectations and Inaccurate estimates
* Scheduling conflicts and uncertainty regarding the progress of the project

**References:**

[1] Marijn Janssen, Haiko van der Voort, Agung Wahyudi (January 2017), Factors influencing big data decision-making quality was retrieved from https://www.sciencedirect.com/science/article/abs/pii/S0148296316304945

[2] Nada Elgendya, Ahmed Elragal (Spetember 2016), Big Data Analytics in Support of the Decision-Making Process was retrieved from https://www.sciencedirect.com/science/article/pii/S1877050916324206

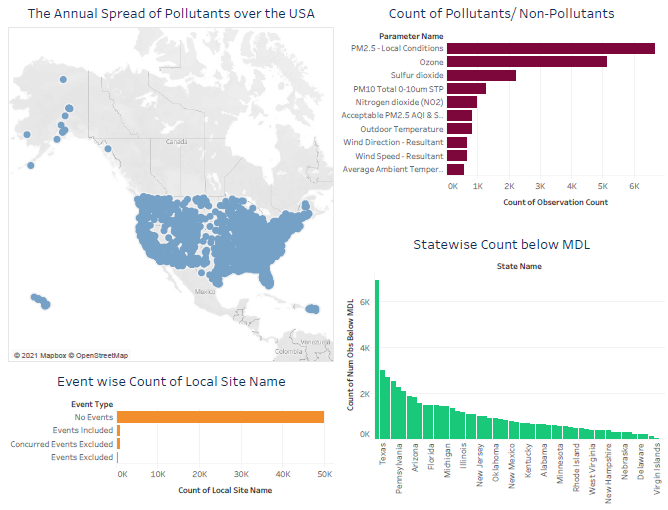
**Module 5 Discussion: Integrated Project Strategy Development**

**Provide visuals of your exploratory analysis. Provide feedback to your classmates on their visuals.**

**In your response, discuss the effectiveness of the visuals:**

* **Do the visuals present a clear message?**
* **Are they visually appealing?**
* **Are the visuals faithful to the data?**

**Add sources/references of best practices on visualization to your replies.**



Data from the AQS is used to analyze air quality, help in attainment/non-attainment designations, evaluate State Implementation Plans for non-attainment areas, a model for permit review analysis, and generate reports. Over the last decades, data visualization has been an indispensable part of the ever-changing business world because it can enormously impact any business decision-making, either positively or negatively. In our discussion, I will provide data visualization in the following graphs to emphasize how a good data visualization can convey a compelling story.

The above dashboard is built using Tableau. I took the EPA’s AirNow Data(<https://aqs.epa.gov/aqsweb/airdata/download_files.html>) and went ahead to explore this. I did some basic EDA in R and plotted the visuals in Tableau.

I observed the spread of pollutants all over the USA using a Map. The counted number of observations below MDL. Plotted the event-wise count of the local site name and observed that No Events Type has almost 99% of the data. PM 2.5 – Local Conditions attribute has been observed the most by the AQS Monitors. Some contain data summarized on an annual basis (annual summary files), some contain data summarized daily (daily summary), and some contain raw data (sample data as reported). These are the standard time aggregations EPA calculates and stores (we do not have monthly data).

Tableau is a Data Visualization tool that is widely used for Business Intelligence, Data Analysis, Dashboarding, and Reporting. It helps create interactive graphs and dynamic charts in the form of dashboards, worksheets, and stories to gain business insights and make strategic decisions.

**Reference:**

[1] The differences between good data visualization and bad data visualization Part 1. (2020, July 17). Was retrieved from https://resagratia.com/2020/07/the-differences-between-good-data-visualization-and-bad-data-visualization-part-1/

**Module 6 Discussion: Roadmap:**

**What do you imagine will be the most challenging aspect of your project proposal? What is the weakest link that is most likely to make the project fail? Are there considerations to make regarding Data Governance? How will your project deal with it?**

**In your response, discuss the similarities or differences in the challenges you identified.**

**Challenging Aspect – Individual Project Proposal:**

The most challenging aspect that I believe is the evaluation. It becomes a project within a project and the assessment, necessitates the development and signature of a charter by the stakeholders of the failing project before any assessment work can commence. Also, schedule the interviews as much as feasible in a row, with no substantial pauses in between. To preserve assessment momentum, continuity of purpose, and uniformity of data collection, all project team interviews should be completed in one or two days.

**Weakest Link – Project Fail:**

Managing a team is an important part of project management. You must ensure your team can work together to deliver a product or service. Try to answer this question with an example of how you were able to successfully handle a conflict. I always encourage my team to try to resolve conflicts on their own first. Letting my teamwork things out together helps them build up their relationships and improves their communication. Sometimes I must intervene

**Data Governance:**

Data governance is a collection of ideas and procedures that ensure that your data is of good quality throughout its entire lifecycle. Data is quickly becoming a critical corporate asset that will decide your company's success. Everywhere, digital transformation is on the agenda. Only by being able to regulate your data can you fully utilize your data assets and complete a successful digital transformation.

* Implement a data governance framework that is tailored to your organization's future business objectives and business models
* Delegate the necessary roles and duties within your firm and to the business environment in which it works
* Establish data ownership and related duties to improve data security
* Define and validate data dissemination policies, including roles and responsibilities of internal and external parties involved

**Reference:**

[1] Discenza, Richard, and Forman, James B. (2007), Seven causes of project failure was retrieved from https://www.pmi.org/learning/library/seven-causes-project-failure-initiate-recovery-7195

[2] Profisee, Data Governance – What, Why, How, Who & 15 Best Practices was retrieved from https://profisee.com/data-governance-what-why-how-who/

[3] Jeff Petters, Data Governance Framework Best Practices, Definitions and Examples was retrieved from https://www.varonis.com/blog/data-governance/

**Module 7 Discussion: Project Scoping**

**What has surprised you in your project work? What was easier than you had imagined or more challenging? How did you overcome the challenges?**

**Project Scope:**

The work that must be done to provide a product under the product's scope is referred to as project scope. A scope statement, which is an essential component of every project plan, documents the project scope. It's a written document that serves as the foundation for future project decisions. What is in scope is clearly stated in the scope statement (the work required). Everything else is outside the scope of this project. Simply put, this refers to everything that does not fall under the scope statement's needed functionality and standards.

**What has surprised you in your project work?**

Surprises are part and parcel of any inevitable research project. They have to be managed after their occurrence or else they have to be predicted well in advance to avoid them over time. The team members should be collaborated on a common platform to discuss such issues during the project. I was surprised with the tools that can be used for data visualization and found out a wide variety of tools in the market.

**What was easier than you had imagined or more challenging?**

Effective project management communication is critical to the project's success and to stay productive all the time. To guarantee that all stakeholders are involved in the process, we must have timely and transparent communication techniques. Initially, it’s been tough to communicate but later on, we have come up with a solution.

**How did you overcome the challenges?**

We have overcome this by having a group on Microsoft Teams App which is a collaboration technology that not only makes it easier for us to carry out our responsibilities but also assures greater project transparency and team accountability. Contextual comments, @mentions, and priority assignment capabilities are used to accomplish this.

**Reference:**

[1] Project (May 17, 2021), What is Project Scope Management and Why is it Important? was retrieved from https://kissflow.com/project/project-scope-management/

[2] William Malsam (Sep 24, 2020), How to Make a Scope Management Plan was retrieved from https://www.projectmanager.com/blog/scope-management-plan

[3] Avantika Monnappa (May 13, 2021), Understanding What Is Project Scope Management and Its Importance in 2021 was retrieved from https://www.simplilearn.com/project-scope-management-importance-rar89-article

**Module 8 Discussion: Project Review 1**

**Share the summary of your project proposal including the title, a short description, and the annotated bibliography. In your response, provide feedback that furthers your peers' proposal in terms of goal, analysis, and annotated bibliography.**

**Title:**

Big Data Analytics in Respiratory Health

**Short Description:**

Asthma is one of the most common chronic diseases in the world, and it is marked by rapid worsening. The most frequent type of asthma is allergic asthma. Approximately 90% of children with asthma have allergies, compared to roughly 50% of adults with asthma. Allergies that produce sneezing fits and watery eyes in some people can also trigger an asthma attack in others. Keva Health Inc is a digital platform that provides all individuals with personalized health care. Surgeons can also use this tool to follow and manage patients with respiratory diseases.

**Goal:**

Keva Health Inc, as we all know, is a healthcare firm that focuses on its real-time monitoring technology, which creates individualized health care for everyone. Despite the development of new medicines, people with chronic respiratory problems continue to have poor results. Create analytics based on publicly available datasets (air now, ER visits in the United States) to provide a visual depiction and the ability to study air quality and its impact on ER visits connected to Asthma. Also, provide recommendations based on the models developed.

**Analysis:**

Customer data is extremely important, especially in healthcare, since it is more personal. Keva Health, for example, should be committed to its clients and establish stringent security regulations to avoid being harmed by security breaches. In health care and medicine, understanding how data may be utilized to monitor and maximize the value of treatment delivered to patients is becoming increasingly important. Decision-making has long been defined by the intuition and skill of the decision-maker, but incorporating data into the process can help to make better-informed conclusions. It will be simple for Keva Health to measure and assess vital organizational data. It can make healthcare better.

**Annotated Bibliography:**

Novel approaches to data analysis often open the door to predictive algorithms that can help predict exacerbations, opening the door to preventive therapies that can adjust treatment as disease behavior shifts. Keva Health hopes to improve long-term adherence and involvement with self-management practices by combining advanced remote-tracking functionality with evidence-based self-monitoring programs. Patients receive personalized, actionable feedback in response to symptoms and peak flow measurements recorded by them, and they may also send and receive messages about their treatment from their physician's office.

**Reference:**

[1] Himes, B.E., Weitzman, E.R. Innovations in health information technologies for chronic pulmonary diseases. Respir Res 17, 38 (2016). https://doi.org/10.1186/s12931-016-0354-3

[2] Nasim Sadat Mosavia, Manuel Filipe Santos (November 2020), How Prescriptive Analytics Influences Decision Making in Precision Medicine was retrieved from https://www.sciencedirect.com/science/article/pii/S1877050920323437/pdf?md5=4a2552a092b4323fe61df65dba3829e7&pid=1-s2.0-S1877050920323437-main.pdf

[3] NEJM Catalyst (January 1st, 2018), Healthcare Big Data and the Promise of Value-Based Care was retrieved from https://catalyst.nejm.org/doi/full/10.1056/CAT.18.0290

**Module 9 Discussion: Project Review 2**

**Discuss your team's current state of affairs. What has been difficult? What have you overcome? What are the barriers still standing in the way of success? What will you do to "workaround" current or anticipated difficulties? OR What is your presentation strategy – what visualizations do you imagine? Are there Data Governance considerations to make for the group XN deliverable? In your response, share how your team has addressed or plans to address similar difficulties or share how the "workarounds" presented could help your group.**

**Current State:**

We are good with the project and going forward with the plan as proposed previously. We all are working on different tasks and will update them in the coming days. Currently, dealing with the task allocation, connecting the resources, presentation outlook, deliverables, visualizations, and recommendations to the sponsors.

**What has been difficult?**

All project team members have to meet and discuss the project work, tasks, data analysis, and others. During the project, the team members should collaborate on a shared platform to discuss such challenges. The number of tools available for data visualization astounded me. They must be managed once they occur, or they must be predicted well in advance to avoid them in the long run.

**What have you overcome?**

We have overcome this by having a group on Microsoft Teams App which is a collaboration technology that not only makes it easier for us to carry out our responsibilities but also assures greater project transparency and team accountability. Contextual comments, @mentions, and priority assignment capabilities are used to accomplish this.

**What are the barriers still standing in the way of success?**

Unclear expectations and Inaccurate estimates. Conflicts and uncertainty regarding the progress of the project. Managing a team is an important part of project management. I always encourage my team to try to resolve conflicts on their own first. Letting my teamwork things out together helps them build up their relationships and improves their communication. It’s been tough to communicate but later on, we have come up with a solution.

**What is your presentation strategy - what visualizations do you imagine?**

We are working on the project and looking to present it in a visually appealing manner like PowerPoint Presentation filled with Dashboards, Analysis, and Recommendations to Keva Health. Power BI/ AWS QuickSight/ Tableau is a Data Visualization tool that is widely used for Business Intelligence, Data Analysis, Dashboarding, and Reporting. It helps create interactive graphs and dynamic charts in the form of dashboards, worksheets, and stories to gain business insights and make strategic decisions.

**Are there Data Governance considerations to make for the group XN deliverable?**

Data governance is a collection of ideas and procedures that ensure that your data is of good quality throughout its entire lifecycle. Data is quickly becoming a critical corporate asset that will decide your company's success. Everywhere, digital transformation is on the agenda. Only by being able to regulate your data can you fully utilize your data assets and complete a successful digital transformation.

* Implement a data governance framework
* Delegate the necessary roles and duties
* Establish data ownership and related duties to improve data security
* Define and validate roles and responsibilities

**Reference:**

[1] The differences between good data visualization and bad data visualization Part 1. (2020, July 17). Was retrieved from https://resagratia.com/2020/07/the-differences-between-good-data-visualization-and-bad-data-visualization-part-1/

[1] Discenza, Richard, and Forman, James B. (2007), Seven causes of project failure was retrieved from https://www.pmi.org/learning/library/seven-causes-project-failure-initiate-recovery-7195

[1] Project (May 17, 2021), What is Project Scope Management and Why is it Important? was retrieved from https://kissflow.com/project/project-scope-management/

**Module 10 Discussion: Project Review 3**

**What are the barriers still standing in the way of success? What will you do to "workaround" around current or anticipated difficulties?**

**What are the barriers still standing in the way of success?**

Throughout the project, the members of the team should collaborate on a shared platform to discuss such issues. All members of the project team must meet and discuss the project's activities, tasks, data analysis, and other issues. They must be dealt with as soon as they occur, or they must be predicted in advance to avoid them in the long run. The sheer amount of data visualization tools available shocked me.

* Time
* Poor Communication
* Resource Availability
* Clarity and Uncertainty

Unclear expectations and projections that are inaccurate lead to conflicts and ambiguity over the project's progress. Allowing my team to work things out together strengthens their bonds and increases their communication. Communication has been difficult initially, but we have found some ways to mitigate it. I usually tell my team that they should strive to solve problems on their initiative.

**What will you do to "workaround" around current or anticipated difficulties?**

According to my perspective, I believe, decisions made collectively also tend to be more effective than decisions made by a single individual.

* Root-cause Analysis
* Critical Thinking
* Research & Planning
* Decision Making

By confronting these and therefore improving project outcomes we can boost our project while working better together benefits everyone on the team. Conflict or a difference of opinion can be good and, when handled properly, can lead to productive dialogues. It has the potential to cause people to think in new ways, broadening their knowledge and understanding; innovation can occur, and results can grow. It is not a terrible thing to have different points of view. What makes a difference is how we deal with disagreement. We are pleased with the project and will proceed with the plan as previously suggested. Currently, I'm dealing with task allocation, resources, presentation outlook, deliverables, visualizations, and sponsor recommendations. We're all working on different projects and will provide updates in the next few days.

**References:**

[1] PSMJ Resources, Inc. (June 2019). 20 Ways to Overcome Project Problems. *PSMJ Resources.* Retrieved from https://go.psmj.com/blog/20-ways-to-overcome-project-problems

[2] Jennifer Bridges. (Dec 5, 2019). 8 Steps for Better Issue Management. *Project Manager*. Retrieved from https://www.projectmanager.com/training/managing-project-issues

[3] Mandy Flint. (11 Aug 2016). 10 common problems project teams face. *Association for Project Management*. Retrieved from https://www.apm.org.uk/blog/10-common-problems-project-teams-face/

**Module 11 Discussion Board: XN Project Presentation Feedback.**

**Post your group presentation (ppt with or without audio) here to get peer feedback. Make sure to give thoughtful feedbacks and back up your point of view with online resources**