



FiTecServ



| Data Visualization

Introduction

A picture speaks more than a thousand words and so does data visualization. Our visualization services represent data as charts, diagrams, pictures, etc. that makes even the most complex information easy to understand and analyze thus, saving on time and budget. This data for visualization should ideally reside on a Datawarehouse.

Using various tools and technologies, a massive amount of information is reduced to a pictorial form which makes decision-making more efficient and quick. Data visualization helps us understand the trend. Especially in today's world when we deal with big data, visualization is becoming increasingly important for organizations to understand and take necessary action on the useful information.

The tools and techniques used in data visualization should create a balanced output. The data presented in visualized form should neither be too simple that can be too boring to grab any attention or tell incomplete but powerful point, neither the visualization should be over stunning that can fail to tell the important point. Here the data and the visuals should work together giving a balanced output.

AitecServ Data Visualization Service

Our data visualization service focuses on developing dashboards and reporting with a strong visual and graphical component, preferentially capturing data from a Datawarehouse. We develop solutions that will be implemented to allow visual and more intuitive assessment of the information existing in the company, allowing better interpretation and faster decision making.

Our services are characterized by the defining the Key performance indicators (KPI's) and the characterization that contextualize. This information can then be obtained from structured and/or non-structured data (video, sound, etc).

Adding our data science and/or artificial intelligence services we can bring new knowledge and improve your Datawarehouse with additional information that we capture from all kinds of data available, but in specially, information that we extract by processing unstructured data like: tags; objects detected; sentiment analyses; etc

Our Experience:

We have gained enormous experience while working with clients for more than 20 years and we have assist on the utilization of various technologies to achieve goals. Right from traditional to more modern solutions, we have been at the core of analytical solutions for the last 20 years.

We help organizations make sense of the data generated every day. Using our services you can transform your enormous data into a form easier to understand, highlighting the trends and outliers and telling a story while removing unnecessary data and highlighting the useful information. This task may look easy as just dressing up a graph to make it look better but in reality effective data visualization is a delicate balancing act between form and function.

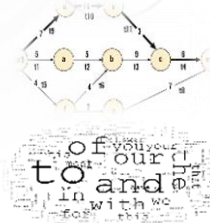
Key Principals to Build effective Data Visualization

- **Focus on audience:** The visualized data should respond exactly to the specific needs of the organization and give relevant information about consumers.
- **Visual design:** We use attractive color schemes or fonts to highlight visual elements that demand user attention.
- **Mobile design:** Technologies have changed and we understand that we need to design and optimize data visualization for mobility phone since the number of mobile users as increased and continue to grow.
- **Balanced design:** Equally distribute visual elements and select between the visual to be symmetrical, asymmetrical or radial and detect the right balance of elements that work best.
- **Focus on the key areas:** Ensure that the key areas are well- highlighted and keeping in mind that the user's attention is generally drawn from top-left corner quadrant.
- **Keep it simple:** Ensure that the visuals are simple and easy to understand. Adding unwanted information may make it confusing, which defeats the purpose of data visualization.
- **Use patterns:** Display similar types of information with the help of patterns. Establish patterns by using similar chart types, colors, or any other element.
- **Compare aspects:** Display a side-by-side comparison of aspects to make understanding of data easier and consider to align them either horizontally or vertically so that it can be compared accurately.
- **Storytelling flow:** Data is presented in a way that data visualization looks like the user is reading a story and can drill down or drill up in a correct sequence of events.

Data Visualization Techniques examples

Techniques for Unstructured Data

- **Network diagrams:** It is a visual representation of a network. It shows the components that make up a network.
- **Word cloud:** Visual representation of words. Popular words are highlighted.

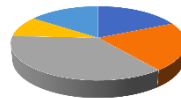


- **Edge Stack:** Edge Stack is used to collect, analyze, and visualize IoT data.

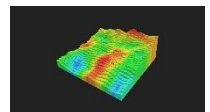
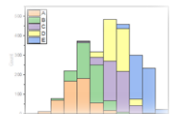


Techniques for Structured Data

- **Charts (Bar charts, Pie Charts and Line Charts):** Here data is represented by symbols, such as bars in a bar chart, lines in a line chart, or slices in a pie chart
- **Scatter charts:** Here we use dots to represent values for two different numeric variables.
- **Plots:** Here we represent a data set showing the relationship between two or more variables.

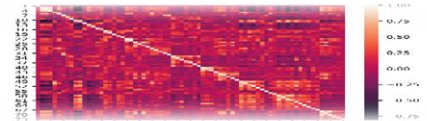
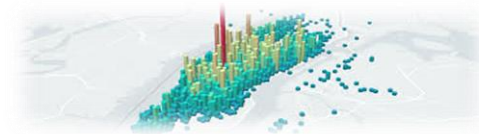


- **Histograms:** This is a graphical representation that organizes a group of data points into user-specified ranges.
- **Heat Maps:** Two-dimensional representation of data in which values are represented by colors.
- **Bubble Charts:** Multi-variable graph that is a cross between a Scatterplot and a Proportional Area Chart.
- **Gauge charts:** In gauge chart, the value for each needle is read against the colored data range or chart axis.

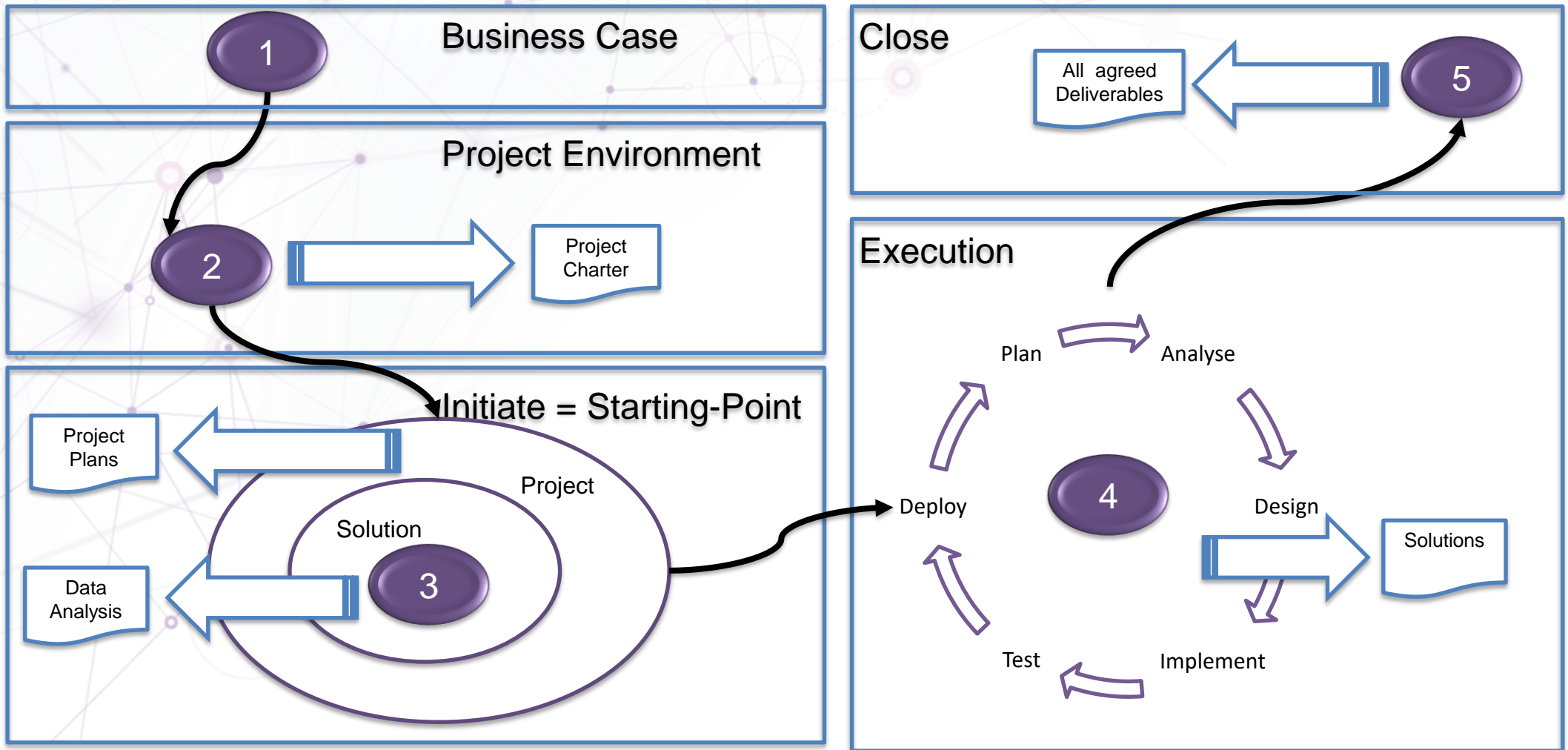


More Advance Techniques

- **Maps:** Under this technique, maps can be represented in 2D, 3D or static form, dynamic or interactive maps. This representation is generally used in combination with points, lines, bubbles and more.
- **Correlation matrix:** It is a table showing correlation between variables. Each cell in the table shows the correlation between two variables.
- **Dendograms:** A dendrogram is a diagram that shows the hierarchical relationship between objects. It is most commonly created as an output from hierarchical clustering.



AitecServ Implementation Model (AIM)



AIM – Business Case & Project Environment

Business Case

Identify Stakeholders
(Key: Product Owner)

Preparation/Identification of Business
Case

Project Vision

High Level Requirements

Project Environment

Understand the organization's change
management process

Identify and analyze the factors
surrounding the project

Identify compliance needs

Capture assumptions, constraints and
prior agreements

AIM – Starting Point

Management:

In this stage the main focus is to elaborate the several management plans. This projects normally require a very clear and detailed plans to ensure project success.

This kind of service is characterized by small teams and low complexity project management requirements.

Solution:

In this stage the focus is to identify with the customer the main reporting needs and the major KPI's (Key Performance Indicators) and there contextualize characteristics.

We also identify with customer the needs related to process and extract information from non-structured data.

Management

Identify Major Deliverables

Identify Risks

Initial preparation of project plans

Solution

Evaluate non-structured data needs

Determine Reporting Requirements

AIM – Execution

Management

Monitor and control project objectives

Manage the various project plans

Manage Product and Sprint Backlog

Solution

Implementation following AGILE principles

first release of a pilot with a “Go-No Go”

Incremental and interactive

Management:

The main task are to monitor and control the project objectives and performance, making the necessary adjustments to keep the project on track.

Solution:

Our services follow preferentially an agile approach, providing in the first release a pilot version with the minimum valuable product for solution evaluation, address the expected objectives and to a refine the product backlog.

The idea in the first release is to deliver some tactical dashboard with few important KPI's visualized.



Atecserv

Thank
You!

For more information or to Schedule a
meeting please contact us on:



<http://www.atecserv.pt/en/contact>
<mailto:geral@atecserv.pt>