



IS428 VISUAL ANALYTICS FOR BUSINESS INTELLIGENCE

Web Application User Guide

November 22nd, 2018

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This document lists the steps to explore the visualization application

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Introduction

Government Procurement Visualisation Tool

Currently, there is no available tool to aid the public to understand and gain insights on the procurements made by the government.

We created a visualisation tool which allows public and ministries to:

1. Gain an overview of procurement spending made by the ministries and agencies
2. Identify the relationships between ministries, agencies and suppliers
3. Identify what are the goods and services procured by ministries and agencies under each category

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Last Updated: 22nd November 2018

The **Introduction** page provides the user with an overview of the project, including the project objectives and the creator profiles. On top of the page is the navigation bar with 4 other tabs that will lead the user to 4 different analysis aspects of the visualization.

Overview

Procurement Spending by Category

Description
The size of the treemap represents the number of procurement contracts and the colour intensity represents the spending amount under each category.

Year:
2017

Ministry:
Prime Minister's Office

Total Amt (\$S) in Thousands

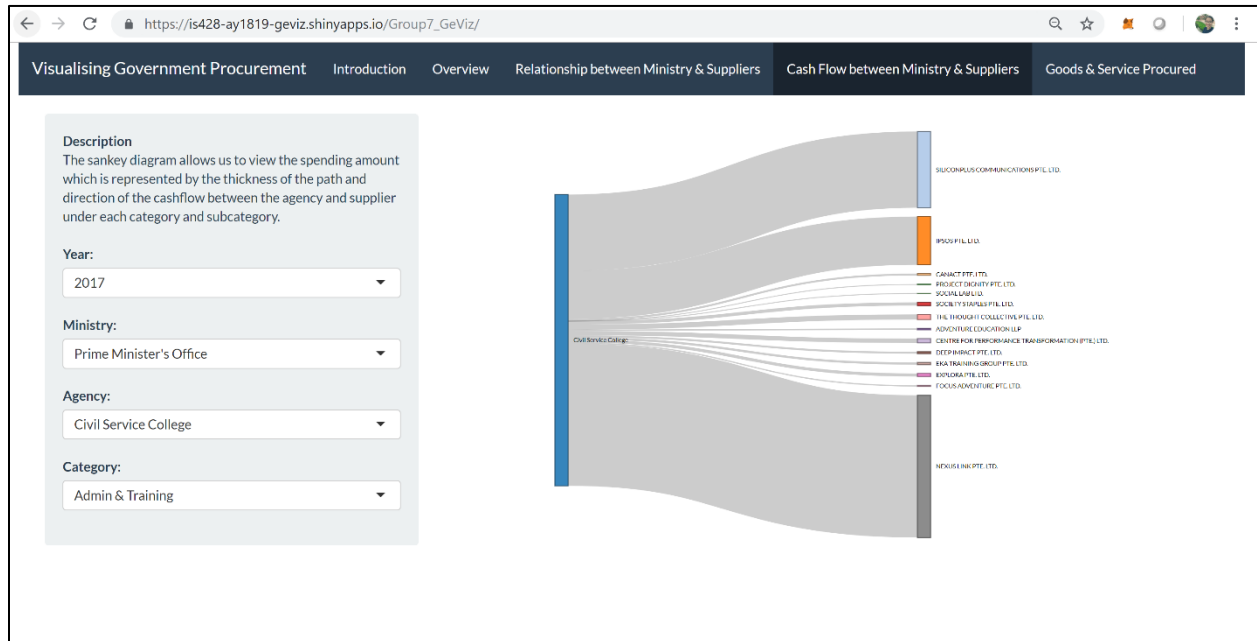
The **Overview** page shows the overview of procurement spending under different categories within the ministry based on the Year and Ministry chosen from the drop-down filter on the left side of the dashboard. User can choose the ministry and year of procurement from the drop-down filter.

Visual Interpretation

Under the chosen Ministry in a specific Year:

- The size of each box in the tree map represents the number of procurement contracts. The greater number of contracts under the category, the bigger the size of the box.

Cash Flow between Ministry & Suppliers



After understanding the relationship between Agencies and Suppliers under one Ministry, the user can navigate to **Cash Flow between Ministry & Suppliers** page to get a view of the amount spent on each Supplier by each Agency under a certain Ministry.

User can choose the Agency and Category of interest from the filter panel on the left-hand side.

Visual Interpretation

The thickness of each path between the Agency and each Supplier represents the total awarded amount under the chosen Category.

Goods & Services Procured

The screenshot shows a web application interface for visualizing government procurement data. The browser address bar shows the URL: https://is428-ay1819-geviz.shinyapps.io/Group7_GeViz/. The navigation menu includes: Visualising Government Procurement, Introduction, Overview, Relationship between Ministry & Suppliers, Cash Flow between Ministry & Suppliers, and Goods & Service Procured.

Description: The word cloud shows the top key words within the procurement category. The size of the words reflect the frequency of the goods and services procured, as well as the demands of each of agency.

Filters:

- Year: 2017
- Ministry: Prime Minister's Office
- Agency: Civil Service College
- Category: Admin & Training

Word Cloud: The word cloud contains the following terms: college, civil, journeys, programmes, teambuilding, experiential, design, learning, and activities.

Table:

| ministry | agency | tender_description | awarded_amt | |
|----------|-------------------------|-----------------------|---|-------|
| 1 | Prime Minister's Office | Civil Service College | Invitation to Tender for Provision of Full Design & Production Services for the Journal "Ethos" for Civil Service College | 74410 |
| 2 | Prime Minister's Office | Civil Service College | Invitation to Tender for Research Study on Expectations of Public Service's Delivery for Civil Service College | 47016 |
| 3 | Prime Minister's Office | Civil Service College | Invitation to Tender for the Delivery of Experiential Learning Journeys and Activities under a Period Contract of One (1) Year with an Option to Extend for Another Two (2) Years | 1822 |

Showing 1 to 3 of 14 entries. Search: [input field]. Page navigation: Previous, 1, 2, 3, 4, 5, Next.

To dive down into the details of goods and services procured by each Agency under a Ministry, user can use **Goods & Services Procured** page. From this word cloud, user can see the top key words appearing in the tender description under a specific category.

User can choose the Agency and Category of interest from the filter panel on the left-hand side.

Visual Interpretation

The size of the words represents the frequency of that terms appearing in the tender description, which links to the frequency of that goods and services being procured.

To drill down into the details of each item in the word cloud, user can use the search bar to get all the procurements that have the same word appearing in the tender description.