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LOCAL GOVERNMENT PROCUREMENT BUSINESS INTELLIGENCE REPORT

LOOKING INTO THE PROCUREMENT TRENDS OF ALBAY LGUs FOR
SUPPLIER/CONTRACTOR BUSINESS INTELLIGENCE



OCDEX

This report is made in support to the international open data movement, and to generate business insights from open procurement data to help suppliers be more efficient and competitive when joining government procurement.

Please note that **Layertech is not giving any conclusive statements about the agencies and organizations mentioned in this report.** We highly encourage that additional research and validation be conducted when using the information stated in this report.

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Kindly take time to read the notes, recommendations and delimitations mentioned in this report.



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Table of Contents

Business Intelligence What is Business Intelligence?	4
Province of Albay Brief Profile of Albay Province	5
The Questions Some Questions Bidders Always Ask	6
Data Source and Processing Data Used and Processing Method	6
What are the Local Governments in Albay Buying? QUESTION #1	8
How Much are the Local Governments in Albay Spending? QUESTION #2	12
How Long is the Procurement Process, From Posting of Tender to Contract End Date? QUESTION #3	21
Who and How Many are Supplying the Local Government? QUESTION #4	24
Recommendations and Final Notes	25
References	26

BUSINESS INTELLIGENCE

Business Intelligence (or BI) is the practice of systematically transforming raw data into useful information, which an organization can use to make informed decisions, monitor performance, and optimize resources (Grossman and Rinderle-Ma, 2015).

BI can unravel a clearer picture of what exactly is happening in a business process, narrow down potential bottlenecks, and serve as a guide in asking the right questions.

BI can be used in public procurement. With BI for example, bidders can see exactly how much governments are spending, what exactly are their governments spending on, how long does the procurement process take, where are the bottlenecks in the process, and how projects and services are being acquired and delivered.

Getting a hold of these trends and insights offers a strategic advantage to suppliers, contractors, locators, in planning for their bids, or in deciding whether to invest in a particular local government based on the procurement climate.



Province of Albay and Profile



(map taken from google maps)

Albay is a province located in the Bicol Region, southeastern of Luzon Island of the Philippines. The Province is composed of 15 municipalities and 3 component cities, the capital being Legazpi city. The population of Albay¹ is 1,233,423 and a total land area of 2,554.06 sq. km.

The main industry in the entire province is agriculture, producing crops like coconut, rice, sugar, and abaca, as well as handicrafts making. Tourism is also a major focus by the local governments in the province². In the recent years, Information Technology – Business Process Management services (IT-BPM) is also being explored by the city of Legazpi to provide more jobs for its constituents.

LOCAL GOVERNMENT UNITS (LGU) EXPLORED IN THIS REPORT:

Provincial Government of Albay	City Government of Legazpi	City Government of Ligao
City of Tabaco	Municipality of Bacacay	Municipality of Camalig
Municipality of Daraga	Municipality of Guinobatan	Municipality of Jovellar
Municipality of Libon	Municipality of Malilipot	Municipality of Malinao
Municipality of Manito	Municipality of Oas	Municipality of Pio Duran
Municipality of Polangui	Municipality of Rapu-Rapu	Municipality of Sto. Domingo
Municipality of Tiwi		

¹ As of 2010 census Philippine Statistics Authority official website

² Information from Albay provincial government official website

The QUESTIONS:

Interviews and focus group discussions with a number of contractors in Albay from 2017-2019 revealed the following **common questions** that potential bidders ask, in consideration whether to submit a bid to an open tender or not:

1. What are the local governments buying?
2. How much are the local governments spending?
3. How long is the procurement process from posting of tender to contracting?
4. Who and how many are currently supplying the local governments?
5. How many bidders participate in every tender?
6. How long do governments pay awarded suppliers after successful delivery?

Due to constraints in the availability of procurement data, the BI can only help answer the first four questions. The remaining two questions will be tackled in the recommendations section of this report.

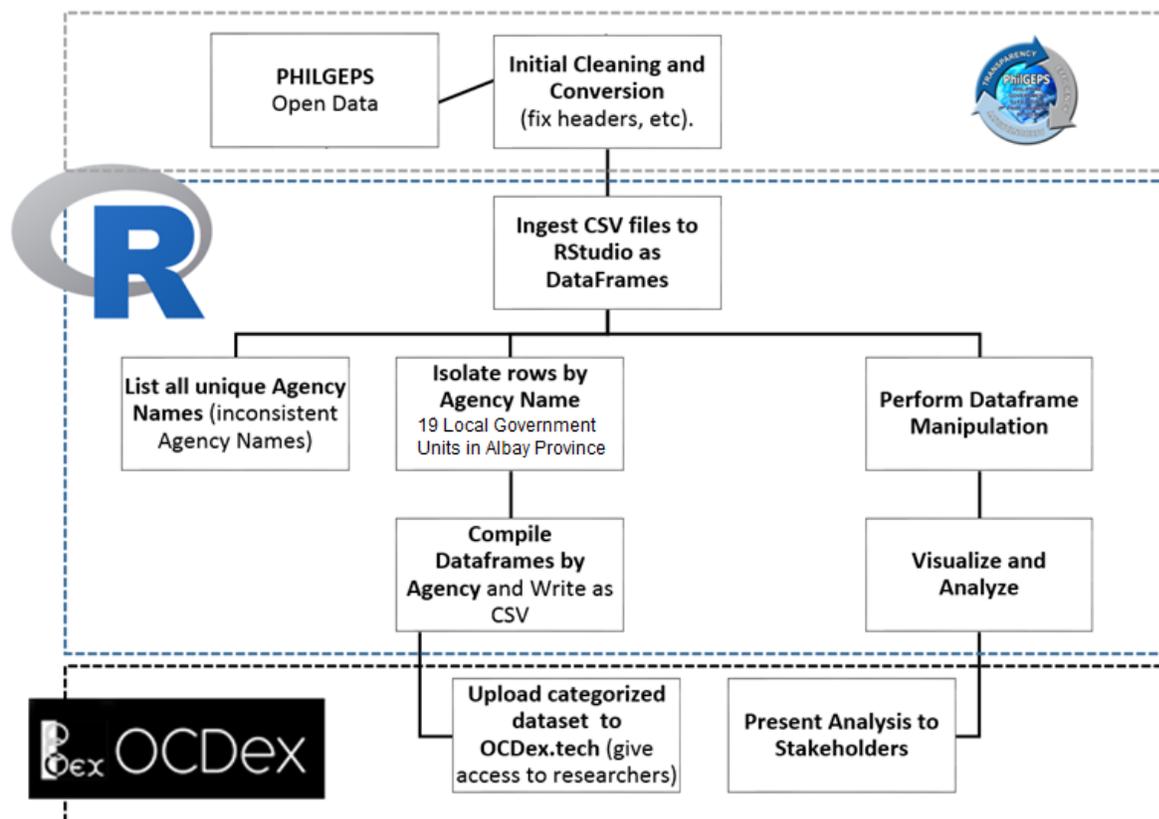
Data Source and Processing

The Government Procurement Reform Act (GPRA) and its Implementing Rules and Regulations require procuring entities to post procurement information in the Philippine Government E-Procurement System or PhilGEPS.

PhilGEPS continuously releases these procurement datasets in quarterly increments as excel files, downloadable for free in the PhilGEPS official open data portal.

For this BI run, we use the datasets from the official PhilGEPS open data portal.

Please note that PhilGEPS dataset uploaded in the PhilGEPS Open Data Portal is the **SOLE SOURCE of DATA** used in this report. While the dataset does not have consistent field formats and requires standardization, this paper assumes that all data in the PhilGEPS dataset are **OFFICIAL and ACCURATE**.



The datasets in the PhilGEPS portal are fragmented (quarterly), contains thousands of rows from procuring entities all over the Philippines. Furthermore, the dataset values have inconsistent procuring entity names, date and time formats.

Before processing the data for BI, the datasets were pre-processed, standardized, to ensure “clean” datasets for processing, visualization, and analysis.

As shown in the schematic diagram above, the first step is to isolate all rows related to the target procuring entities (in this report’s case, 19 Local Government Units from Albay Province).

This report used data from Years 2016 to 2018.

The datasets are then ‘cleaned’ and visualized using R environment³.

³ R is a software environment for statistical computing.

Question #1:

What are the Local Governments in Albay Buying?

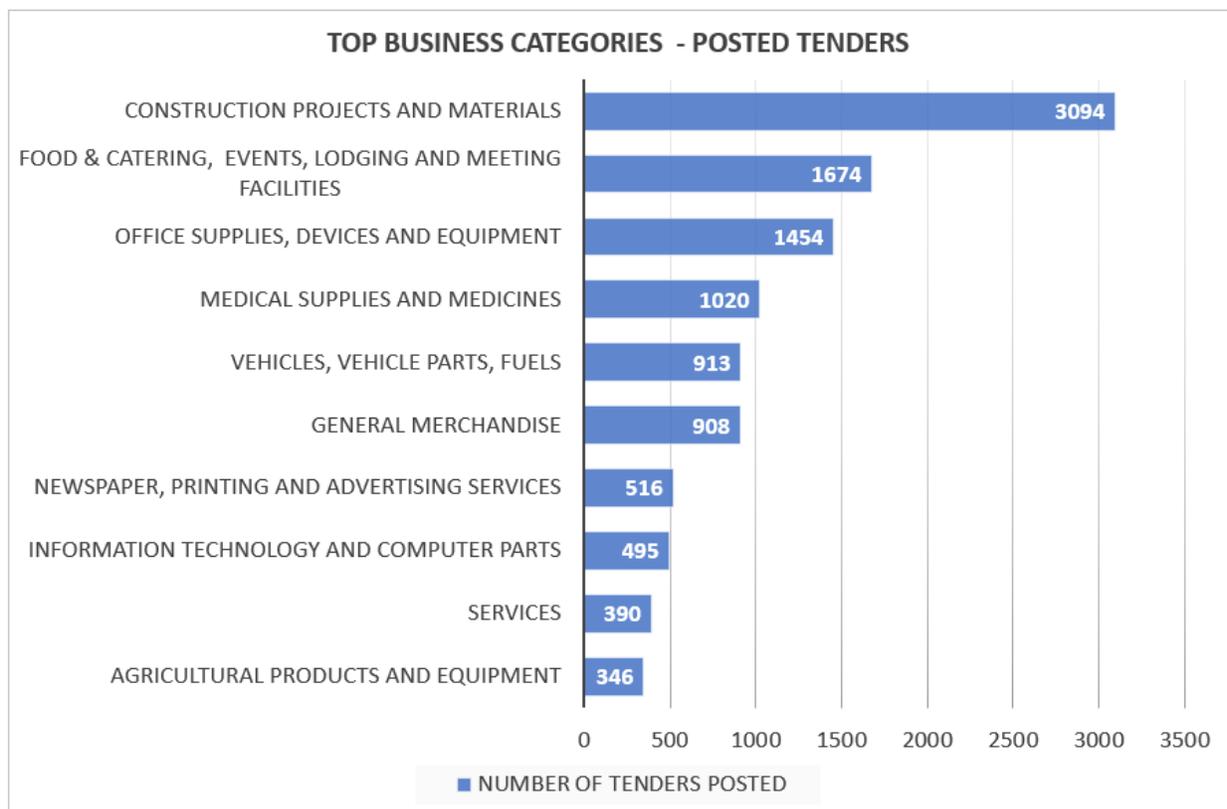


Figure 1: The Top Business Categories in Albay LGUs by Number of Tenders Posted from 2016-2018

The TOP 10 business categories according to the number of tenders posted by LGUs in Albay are shown in Figure 1. The most frequent purchase is under Construction Projects and Materials category, followed by Food and Catering, Office Supplies, Medical Supplies and Medicines, Vehicles, General Merchandise, Newspaper and Printing, IT, (general) Services, and Agricultural Products and Equipment.

While Figure 1 shows a general picture of the business categories of the entire Albay Province's purchases, it is helpful to see how each LGU in Albay Province contributes to these numbers. Figure 2 shows the breakdown of Figure 1 per LGU, while Figure 3 shows the percent contribution of each LGU to the top business categories in Albay Province.

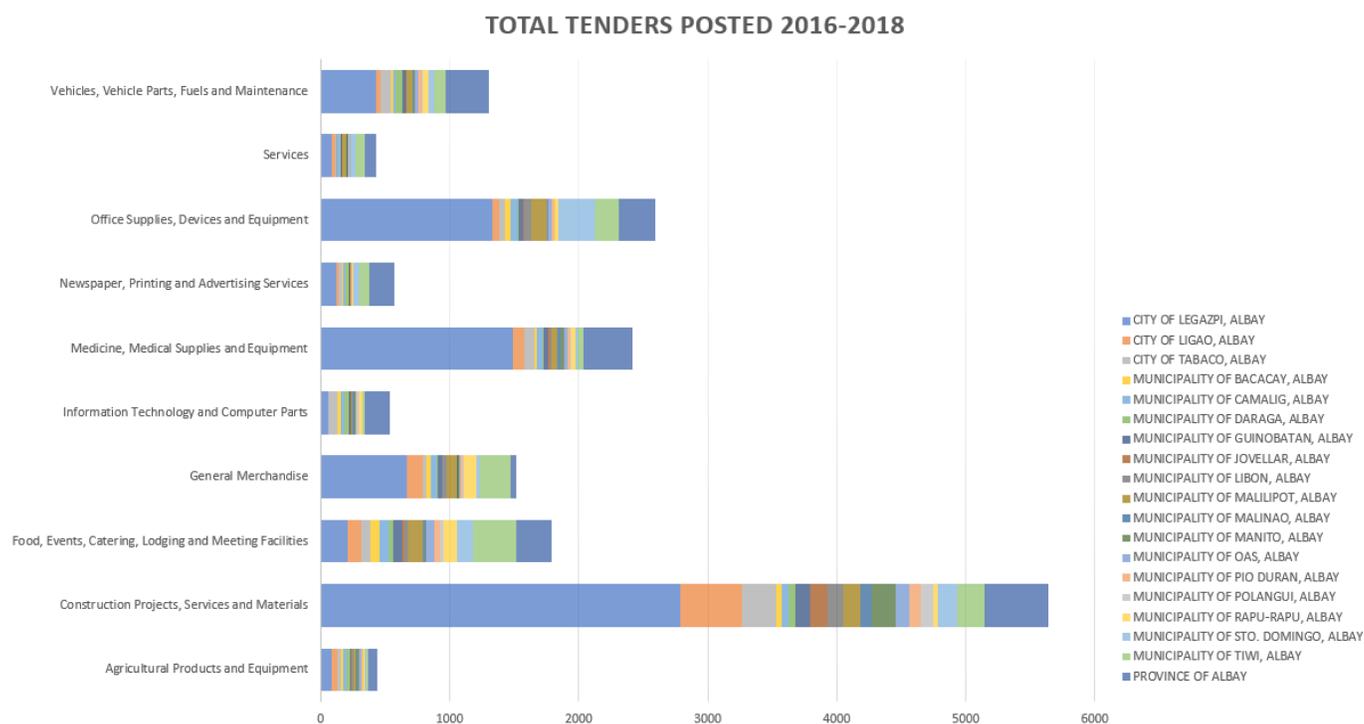


Figure 2: The Top Business Categories in Albay, Classified by LGU from 2016-2018

In Figure 3, we can immediately see that the highest number of tenders under each category are primarily from the Province of Albay and City of Legazpi (except for Food and Catering, which is from Municipality of Tiwi, and Information Technology, from Albay Provincial Government).

For a food catering business for example, the likelihood of a tender opening under its business category would be higher in Tiwi Municipality than in Legazpi City.

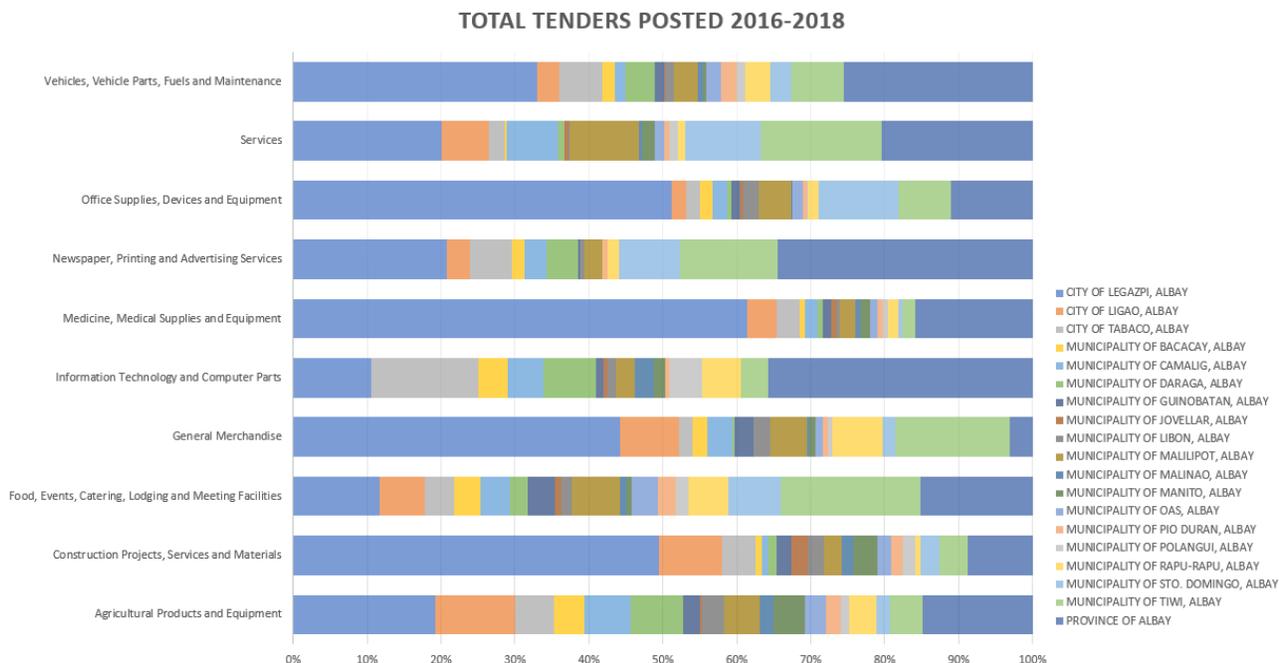


Figure 3: Percentage of the Top Business Categories in Albay, Classified by LGU from 2016-2018

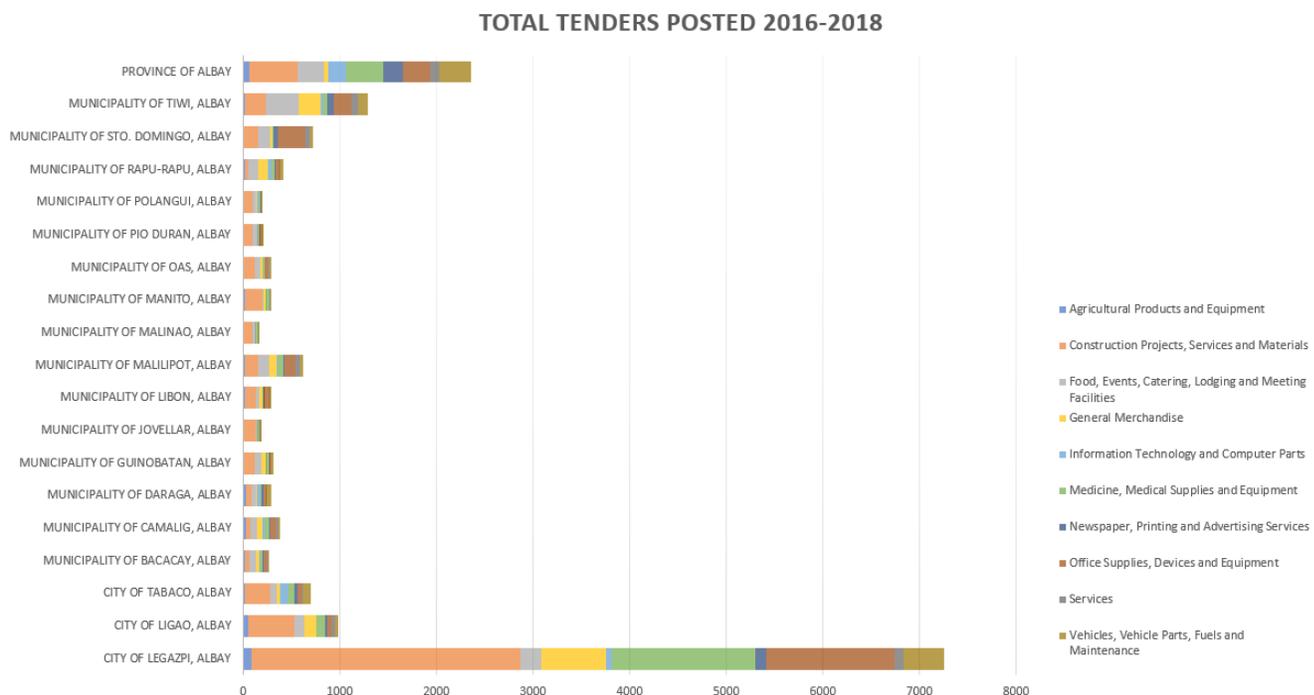


Figure 4: LGU-View of The Top Business Categories in Albay by Number of Tenders Posted from 2016-2018

Figure 4 is another visualization focusing on each local government, and how many tenders they are posting per business category. If a business is geographically-locked to a municipality or city in terms of delivery, this view might be more interesting, to understand the opportunity to participate in its target LGU's procurement.

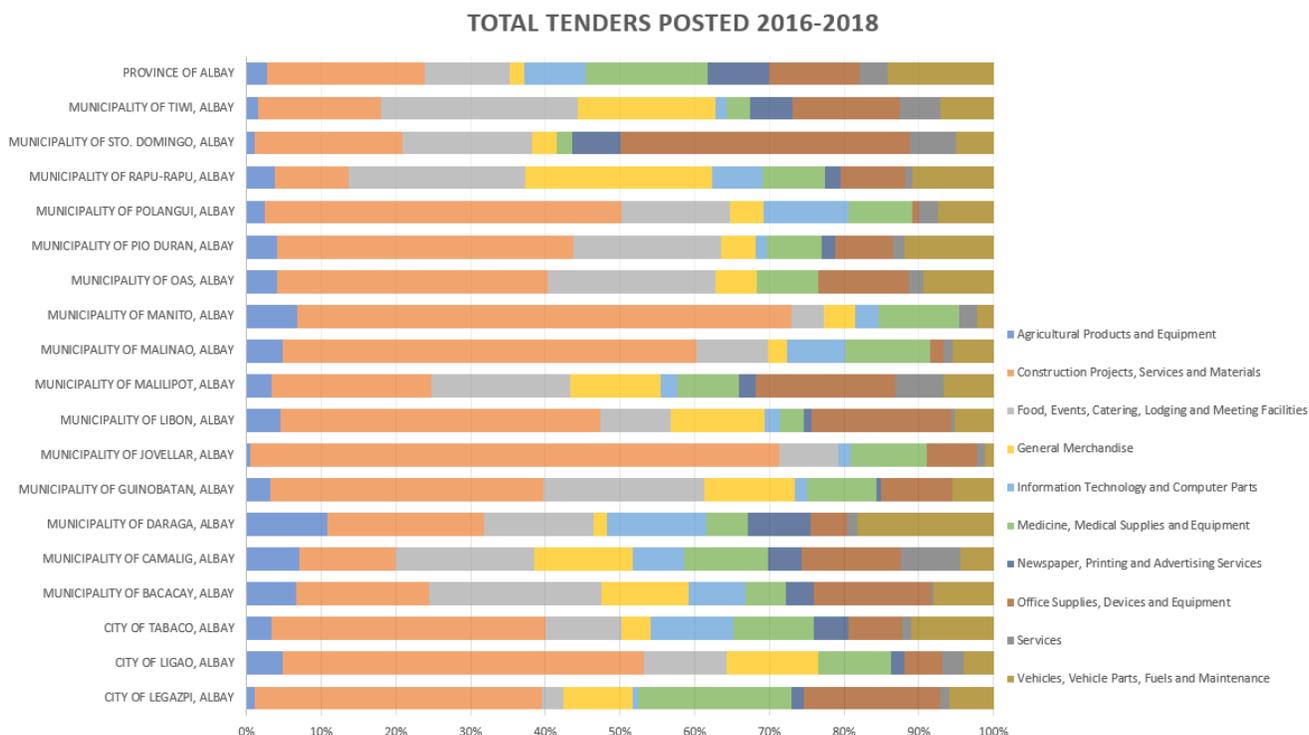


Figure 5: Percentage of Business Categories of Tenders posted by LGUs in Albay from 2016-2018

Figure 5 is an LGU-view of Figure 3, showing the percentage of each business category in the total tenders posted by each LGU. This view can be helpful in identifying buying patterns of a select LGU in Albay.

For example, if a business is geographically catering to the Municipality of Rapu-Rapu (Island) only, the most frequent tenders for these are under the 'General Merchandise' and 'Food and Catering' business categories.

Question #2: How Much Are the Local Governments in Albay Spending? (For each tender)

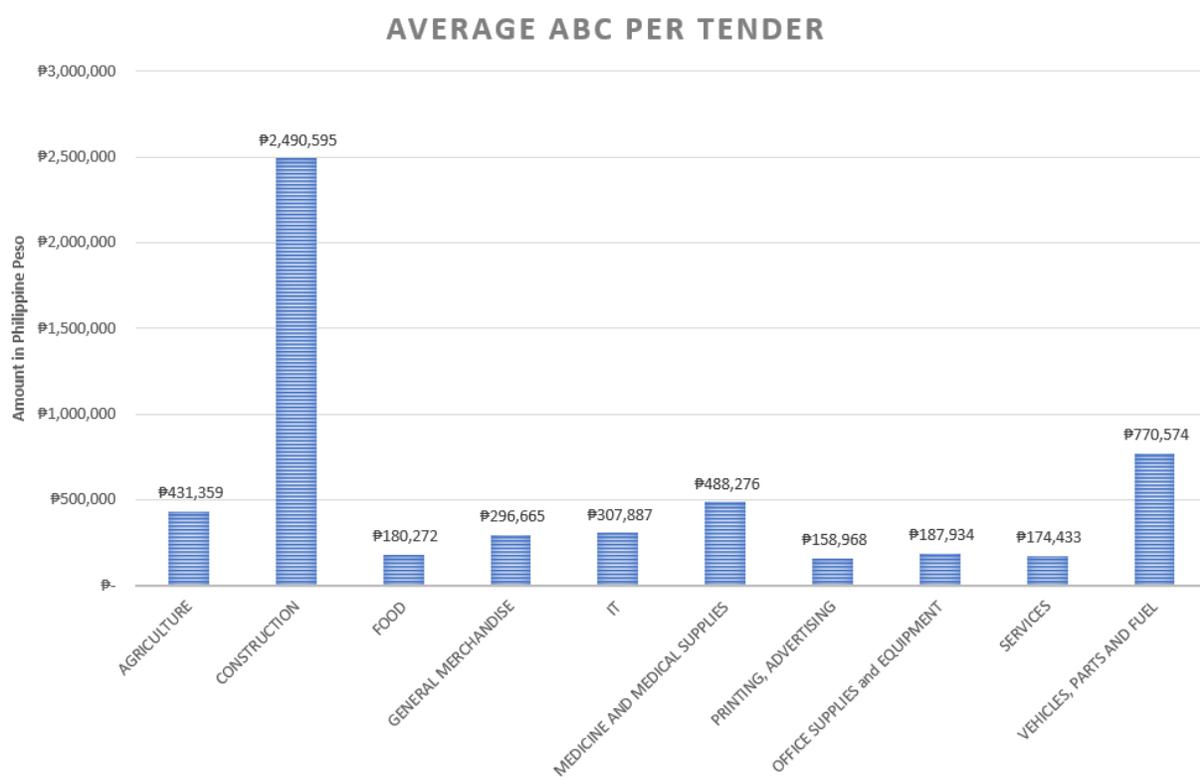


Figure 6: Average Approved Budget of Contract Per Business Category in Albay LGUs from 2016-2018

Figure 6 shows the average⁴ Approved Budget of Contract (ABC) per business category in Albay LGUs, and Figure 7 shows the collective Average ABCs of each LGU in Albay.

⁴ Arithmetic mean

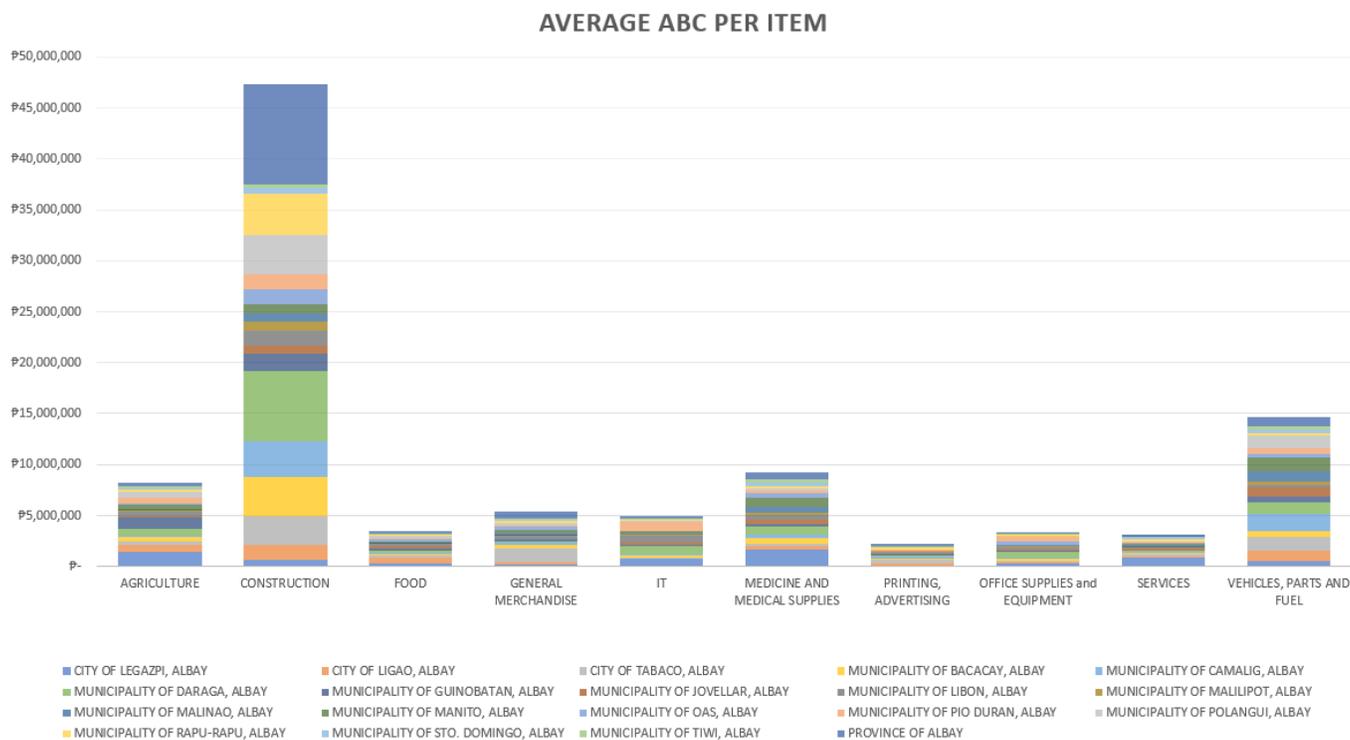


Figure 7: Average Approved Budget of Contract Per Business Category of all Albay LGUs from 2016-2018

As seen in Figure 7, the average ABCs of each LGU is not uniform across the different business categories. Figures 8-17 shows a more specific, business-view of the budget of each Albay LGU per business category.

Figures 8-17 shows significant variation among the average ABCs of the business categories across the LGUs in Albay. When estimating for the average ABC of an incoming tender, it is advisable therefore, to look at the disaggregated view of the average ABCs per business category.

Figure 18 is an LGU-view of figure 7, and a summary of Figures 8-17, showing the average ABCs of each business category.

If a business is more interested in a specific LGU, the LGU-view figures may be more appealing and insightful compared to the business-views. On the other hand, if a business is more interested in the business category as a whole, the business-view offers a more appealing format.

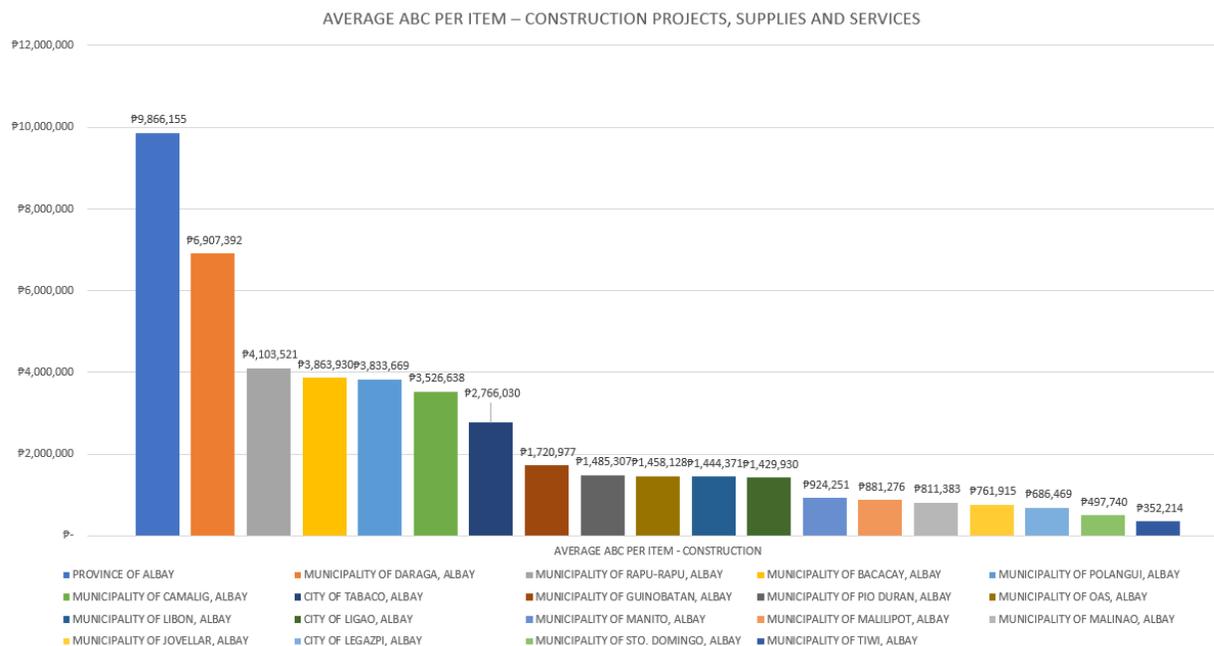


Figure 8: Average Approved Budget of Contract of Construction Projects and Supplies of all Albay LGUs from 2016-2018

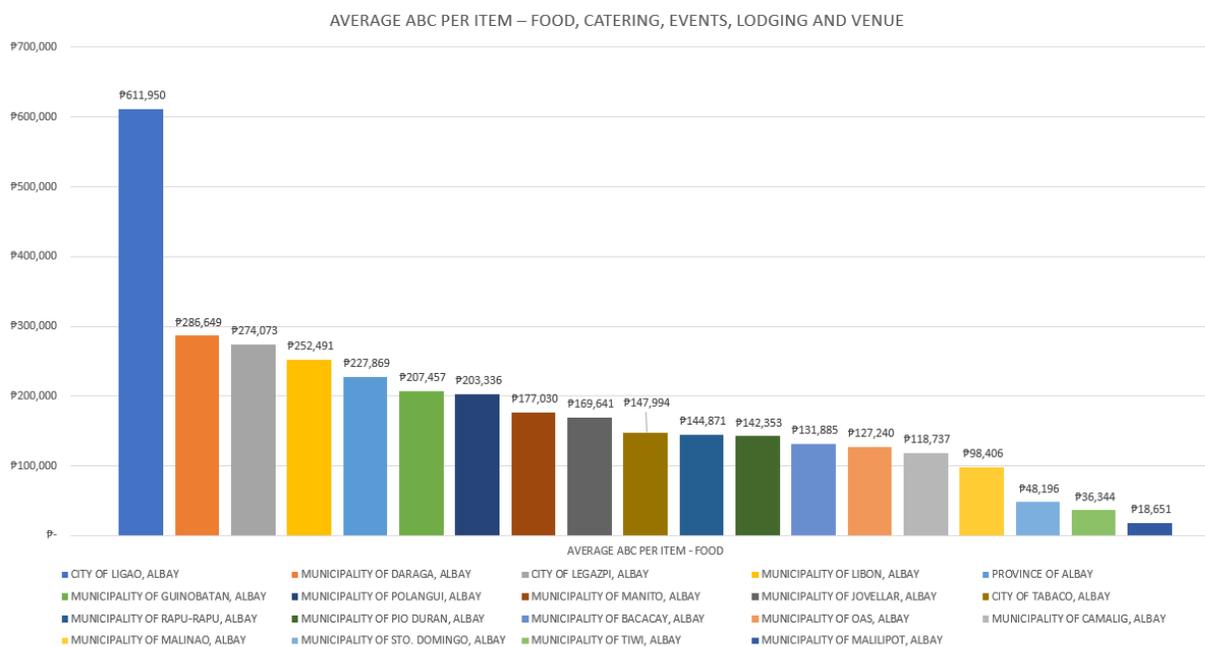


Figure 9: Average Approved Budget of Contract of Food, Catering and Events of all Albay LGUs from 2016-2018

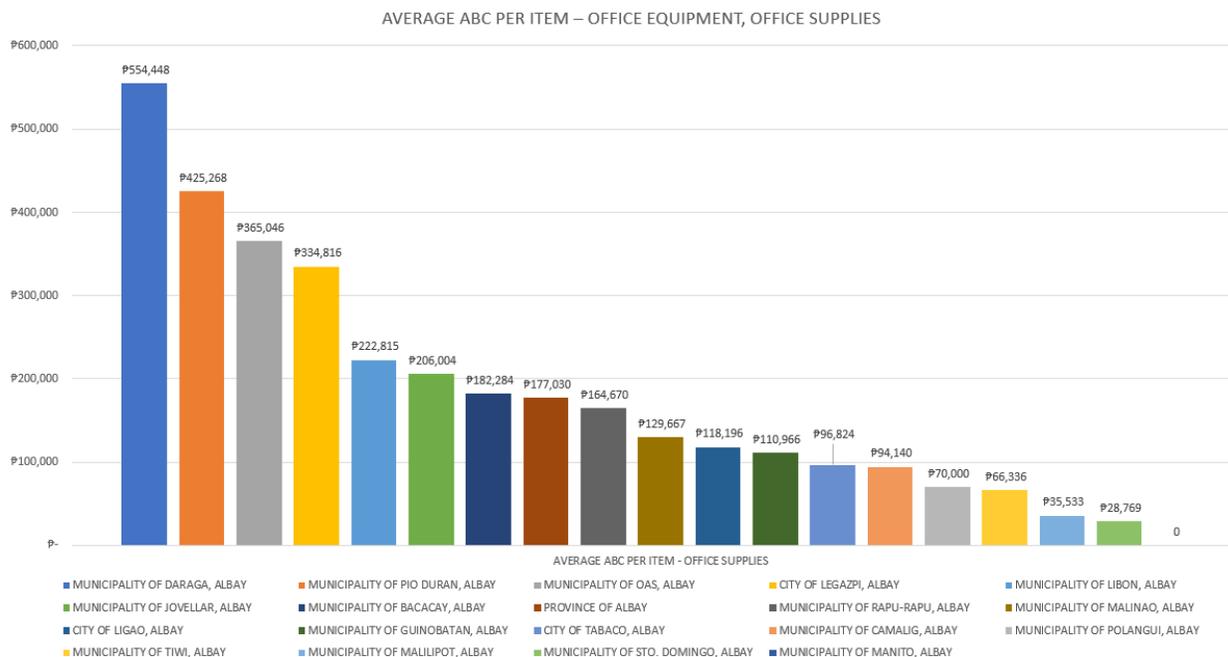


Figure 10: Average Approved Budget of Contract of Office Equipment and Supplies of all Albay LGUs from 2016-2018

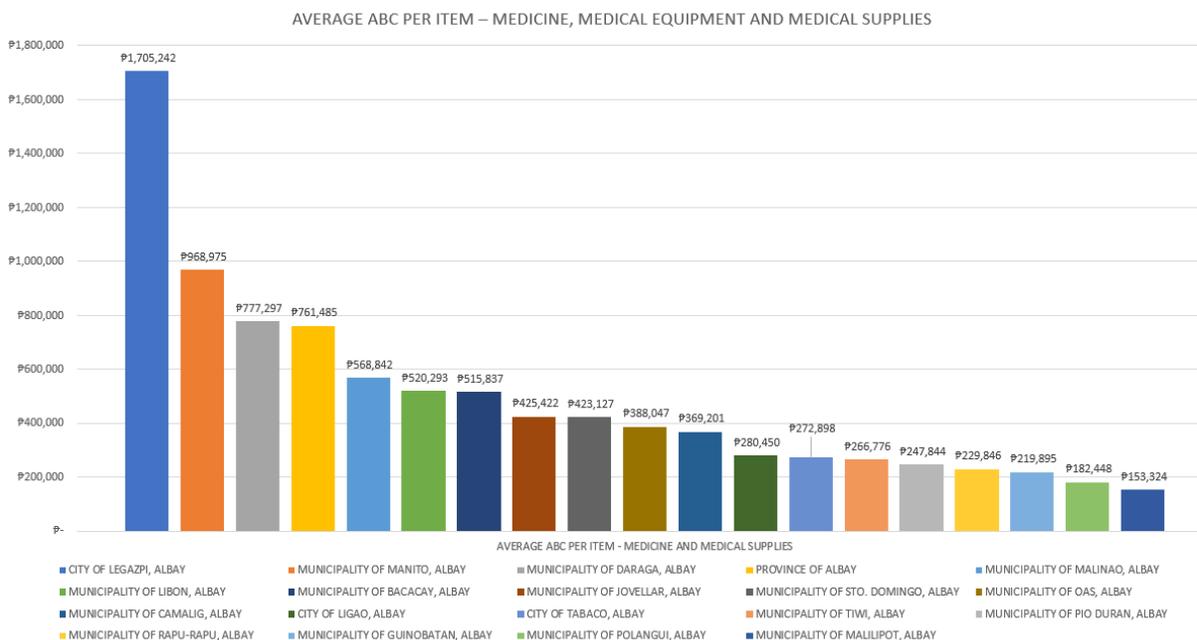


Figure 11: Average Approved Budget of Contract of Medicine, Medical Equipment and Supplies of all Albay LGUs from 2016-2018

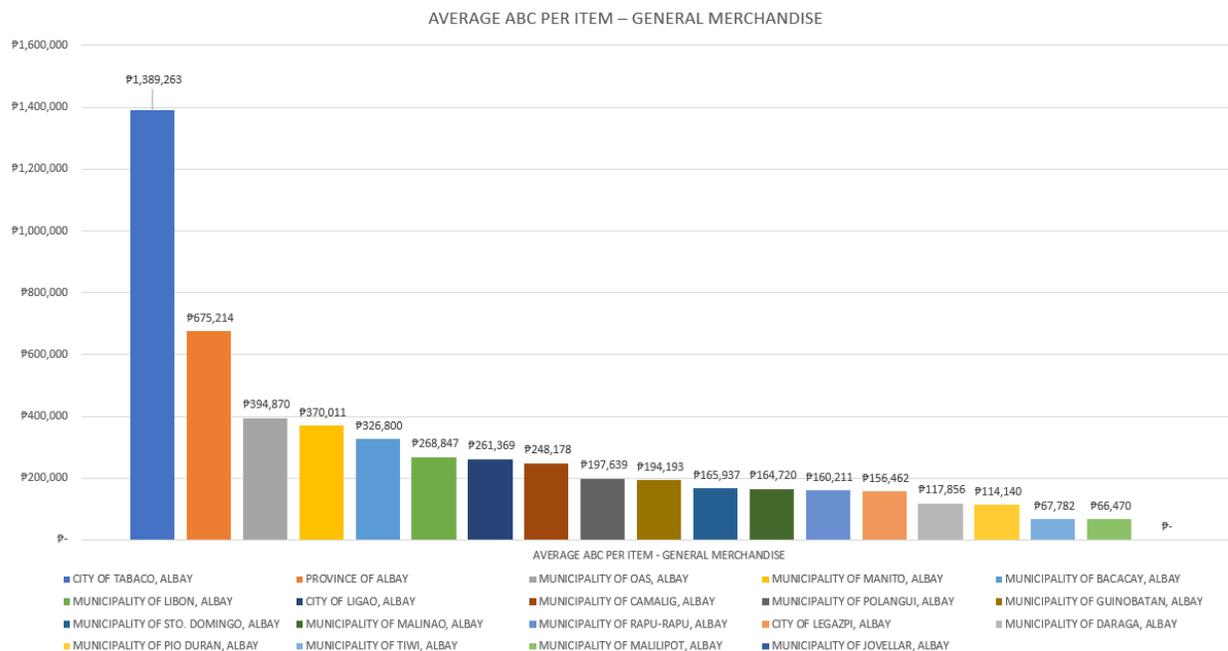


Figure 12: Average Approved Budget of Contract of General Merchandise of all Albay LGUs from 2016-2018

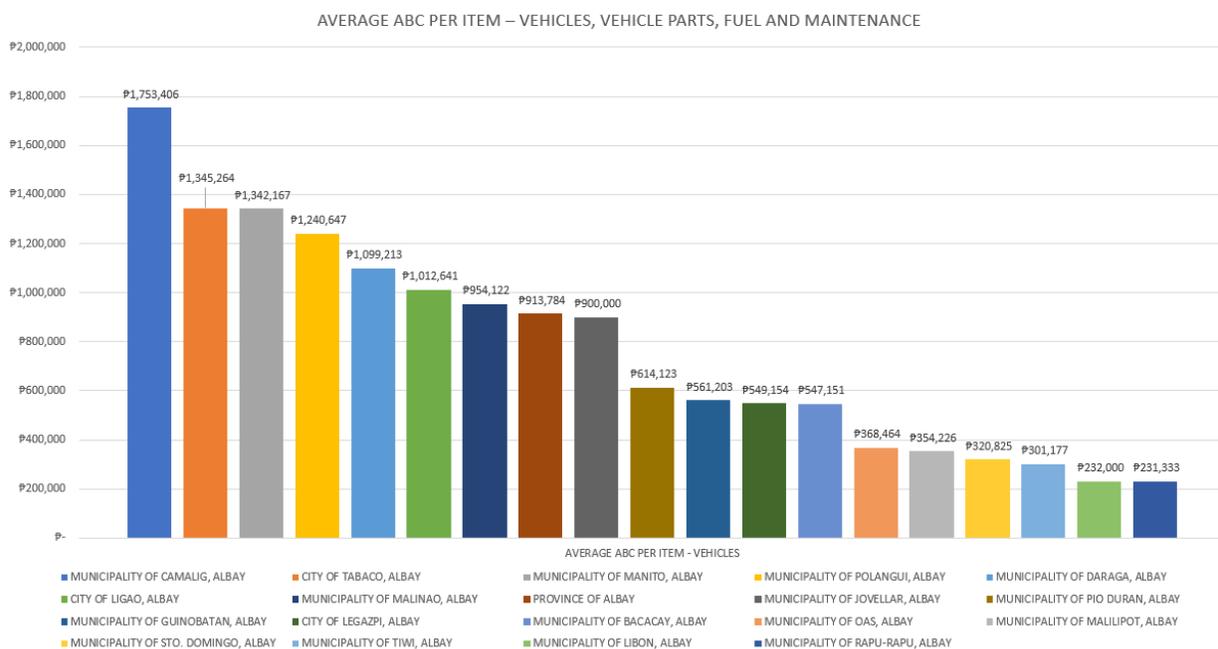


Figure 13: Average Approved Budget of Contract of Vehicles, Vehicle Parts and Accessories of all Albay LGUs from 2016-2018

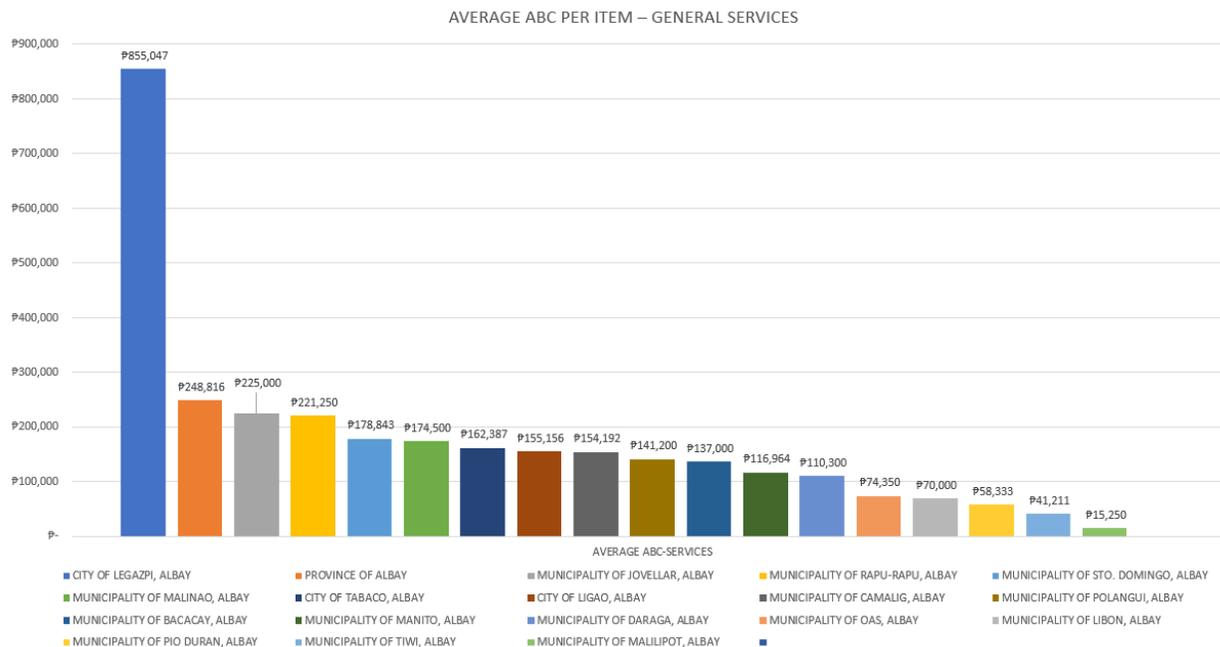


Figure 14: Average Approved Budget of Contract of General Services of all Albay LGUs from 2016-2018

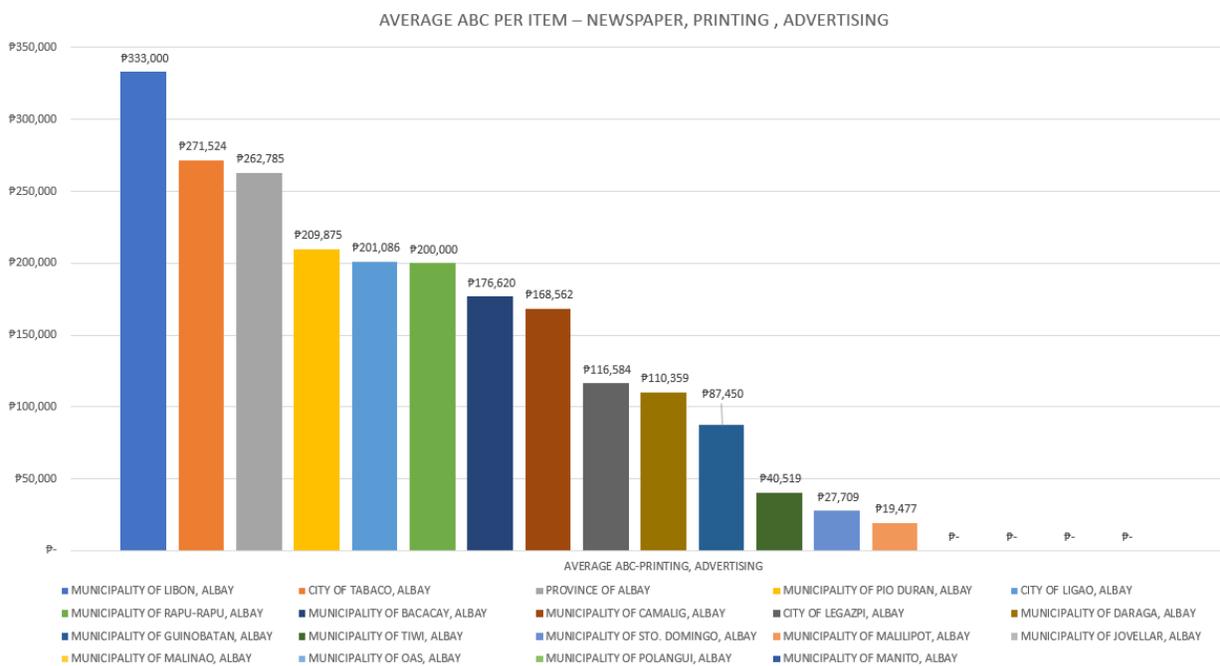


Figure 15: Average Approved Budget Contract of Newspaper, Printing and Advertising of all Albay LGUs from 2016-2018

AVERAGE ABC PER ITEM – INFORMATION TECHNOLOGY and COMPUTER PARTS

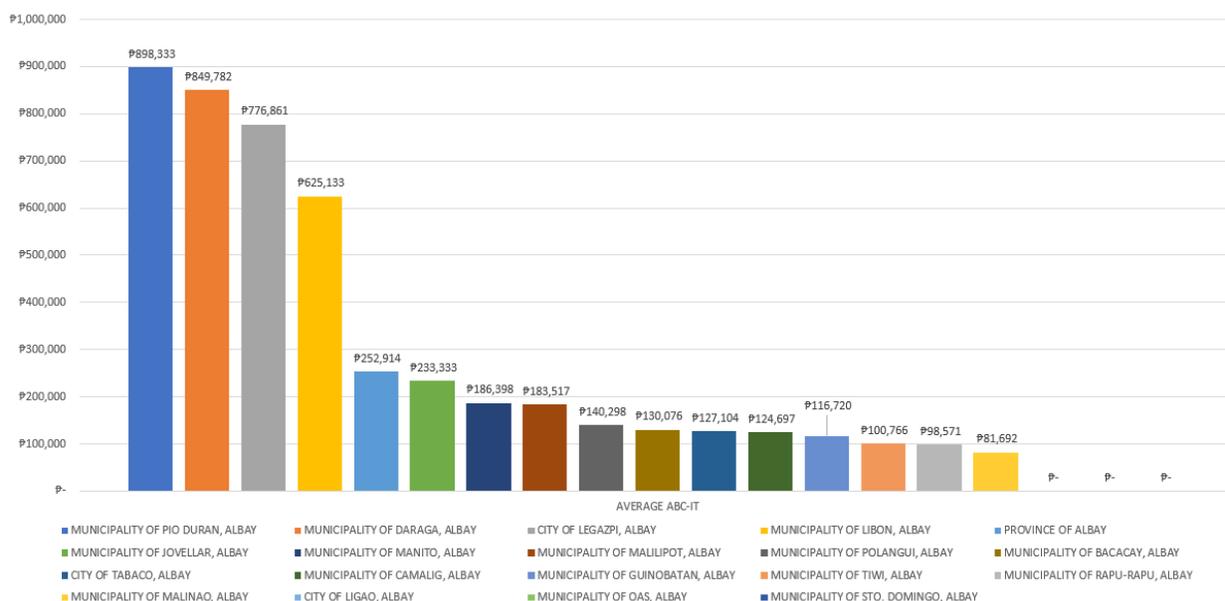


Figure 16: Average Approved Budget of Contract of Information Technology and Computer Parts of all Albay LGUs from 2016-2018

AVERAGE ABC PER ITEM – AGRICULTURAL PRODUCTS AND EQUIPMENT

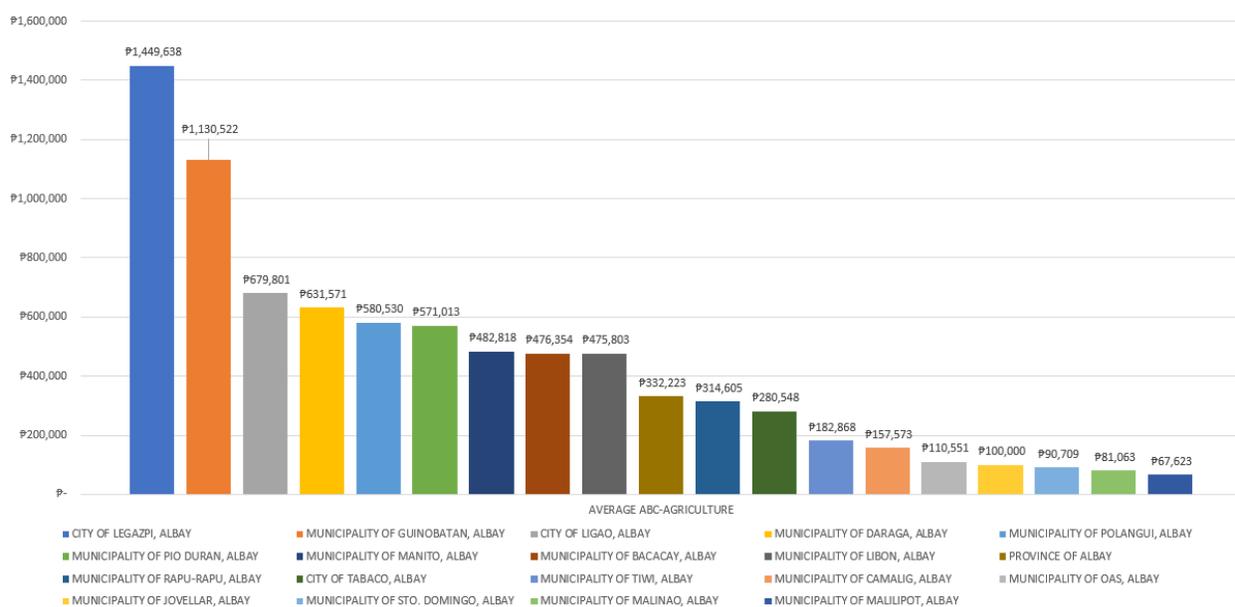


Figure 17: Average Approved Budget of Contract of Agricultural Products and Equipment of all Albay LGUs from 2016-2018

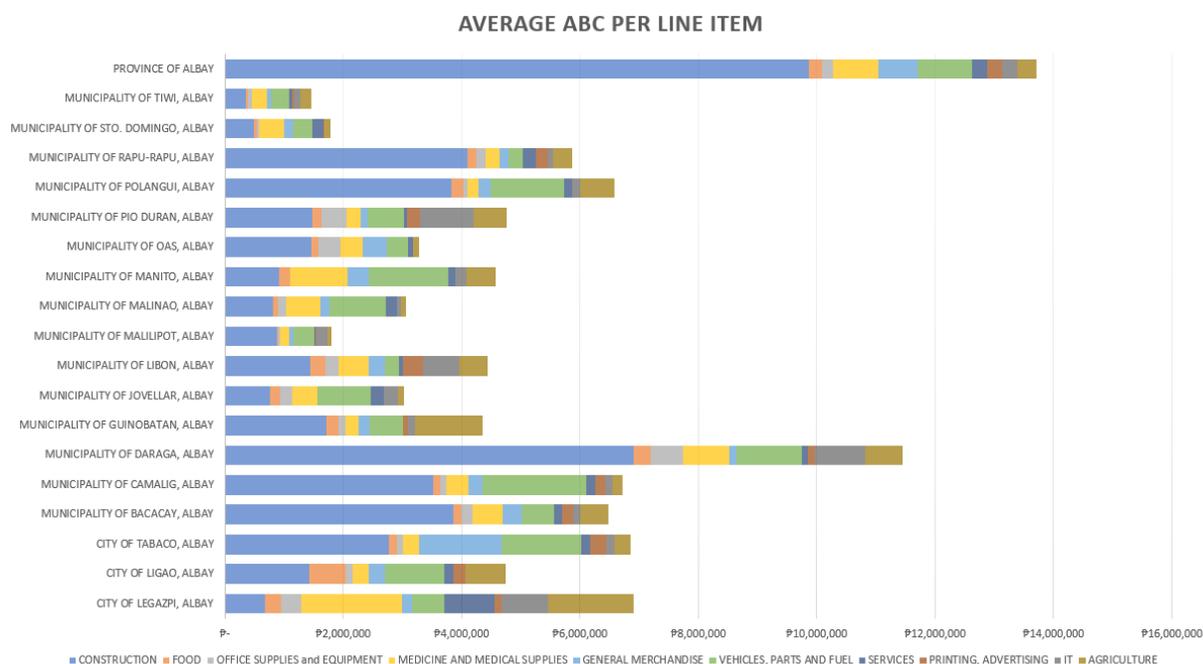


Figure 18: LGU-View of Average Approved Budget of Contract Per Business Category of all Albay LGUs from 2016-2018

NOTE: In general, Provincial Governments and City Governments have bigger budgets than municipalities, with more expenditures, thereby resulting in higher tenders posted and larger average Approved Budget of Contract.

Value versus Frequency?

Figure 19 is a value-frequency chart of the top business categories in Albay. Construction-related procurement are noticeably higher both in value and in frequency of tender posting for all LGUs in Albay.

Removing the 'Construction' business category in the picture, we get a zoomed-in version of the relative value-frequency chart in Figure 20. In this zoomed-in chart, the relative value-frequency classifies vehicle purchases in the high-value, low-frequency quadrant, the 'Medical Supplies' in the high-value, high-frequency quadrant, 'Office Supplies' in the low-value, high-frequency quadrant, and the rest in the low-value, low-frequency quadrant.

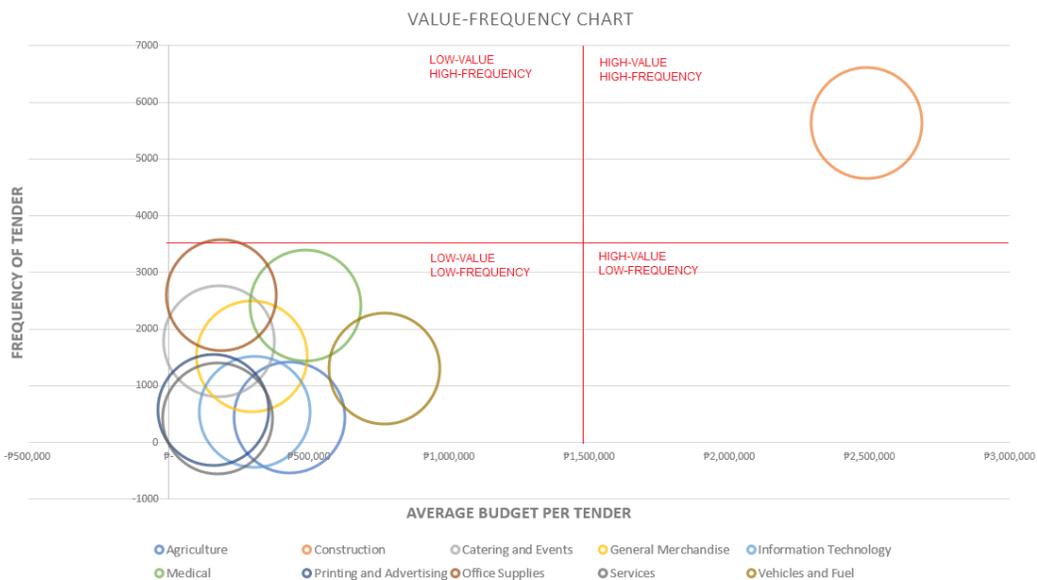


Figure 19: Relative Value-Frequency Chart of All Business Categories in Albay from 2016-2018

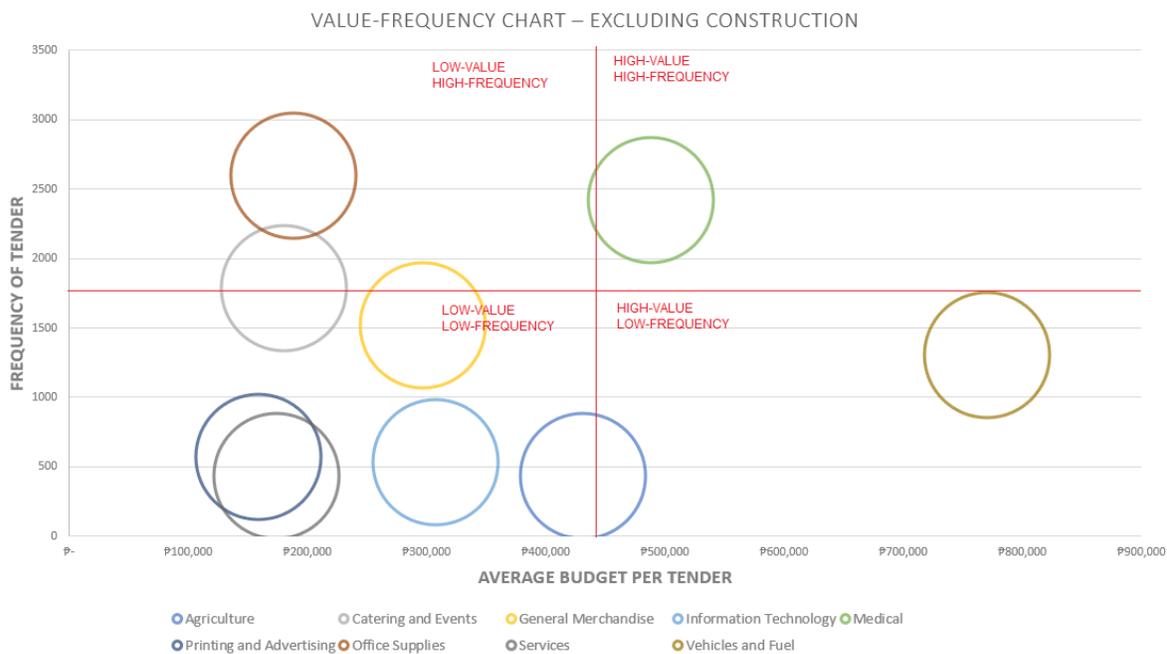


Figure 20: Relative Value-Frequency Chart of All Business Categories, except Construction, in Albay from 2016-2018

Question #3: How Long is the Procurement Process from Posting of Tender to Contracting?

When are the LGUs posting tenders?

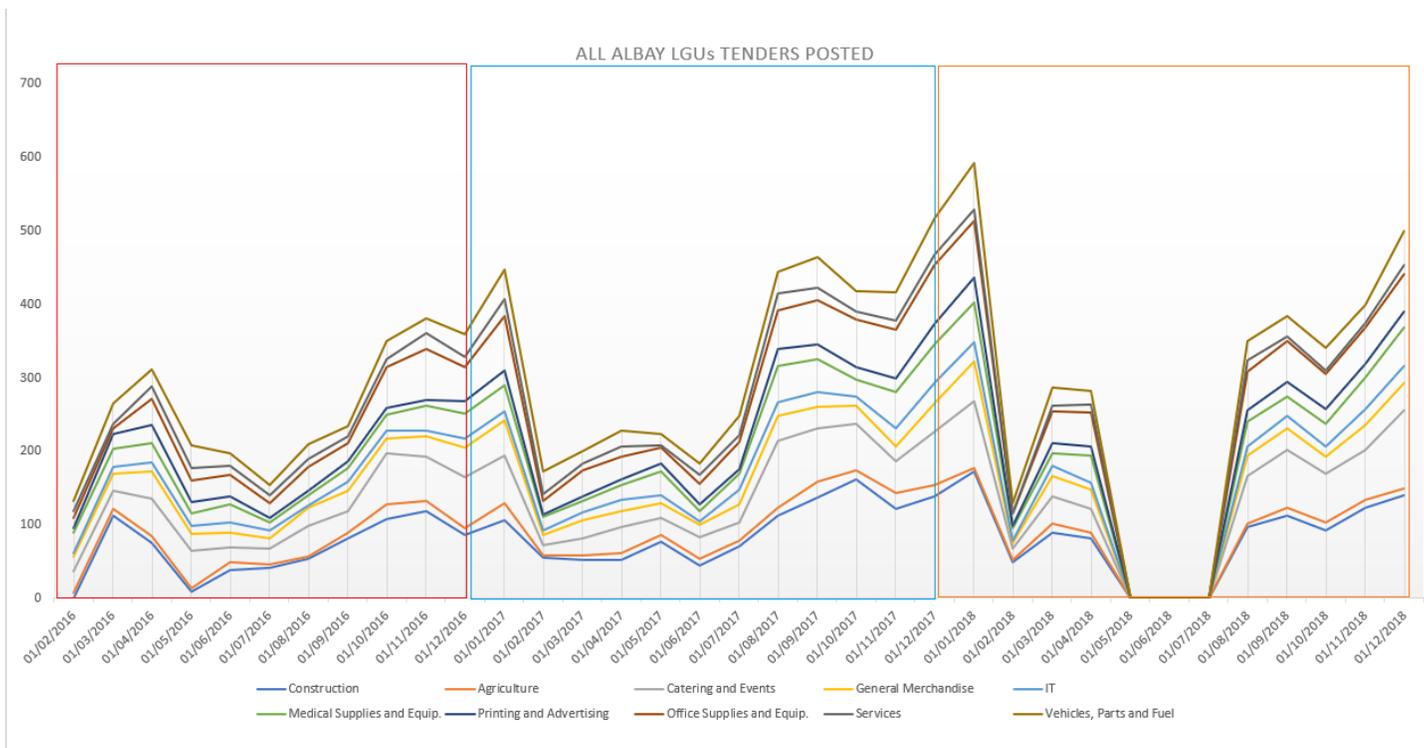


Figure 21: Temporal graph of Tenders Posted by Albay LGUs from 2016-2018

Figure 21 shows a time-series graph of tender posting, each series/line representing a business category.

The trends of all business categories are similar to each other, with 'Agriculture' and 'Construction' business categories having the most similar tender posting patterns.

It is also worth noting that the number of tenders posted spike from the month of July, going up until December, while the lowest number of tenders are posted from February to June.

Please note that the flat line in Figure 21 shows ZERO tenders posted, due to the *barangay* elections, which restricts LGUs to post tenders during the elections and the transition period of the newly-elected officials.

How Long is Albay’s Procurement?

ESTIMATED PROCUREMENT TIMELINE OF ALL ALBAY LGUS

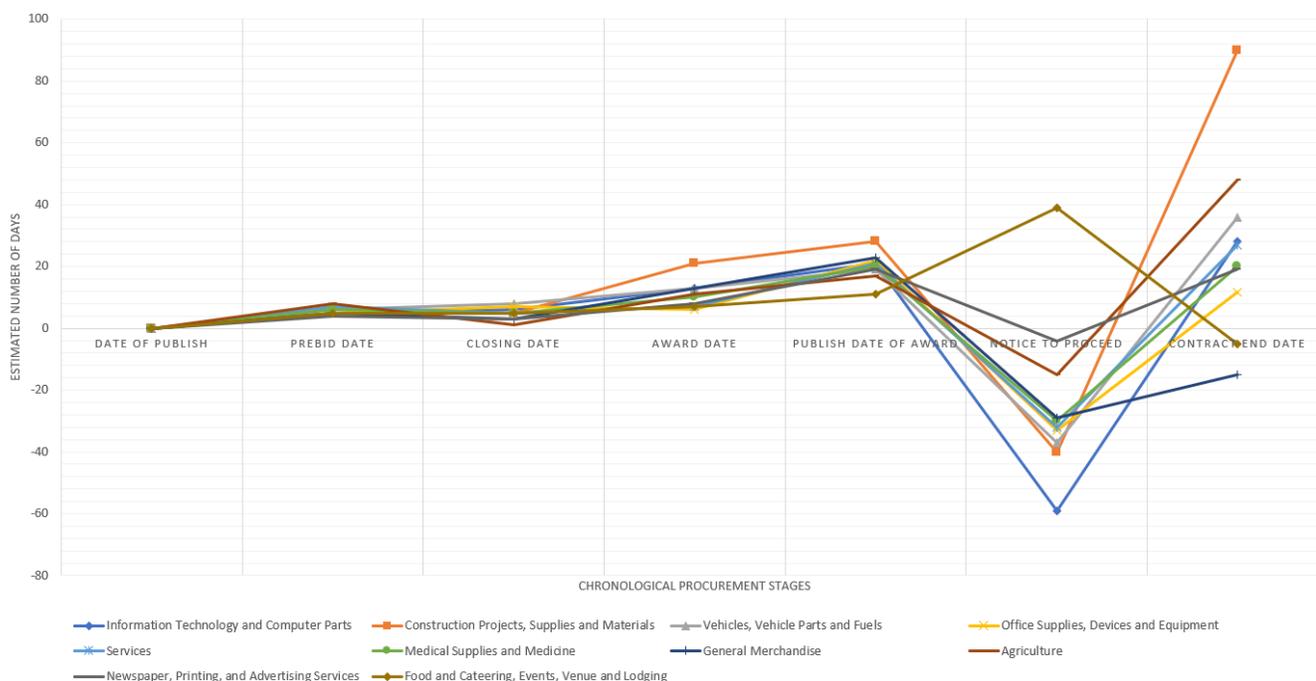


Figure 22: Average Procurement Timeline of Albay LGUs from 2016-2018

Figure 22 shows the approximate number of days from posting of tender to contract end date, per business category. Table 1 shows the average number of days for each procurement step, for each business category. Please note that the negative values in the table either mean that the step is made earlier than the prior step, or an input error by the procuring entity in PhilGEPS interface.

The graph shows the same pattern for all business categories, except for construction projects which takes approximately a week longer compared to other business categories, from the closing date to the award date. The major difference between the business categories arises when the procuring entity issues the ‘Notice to Proceed’ document, up to the contract’s end.

Bidders may want to take note of the potential bottleneck in the issuance of the Notice to Proceed, and/or Publishing of Awards. Possible reasons for these bottlenecks include post-qualification assessment issues and posting issues in PhilGEPS, as raised in focus group discussions with LGUs.

Business Category	Date of Publish	Pre Bid Date	Closing Date	Award Date	Publish Date of Award	Notice to Proceed	Contract End Date
Information Technology and Computer Parts	0	5	6	13	21	-59	28
Construction Projects, Supplies and Materials	0	6	5	21	28	-40	90
Vehicles, Vehicle Parts and Fuels	0	6	8	13	19	-37	36
Office Supplies, Devices and Equipment	0	5	7	6	22	-33	12
Services	0	7	5	7	21	-32	27
Medical Supplies and Medicine	0	6	5	10	20	-30	20
General Merchandise	0	5	3	13	23	-29	-15
Agriculture	0	8	1	11	17	-15	48
Newspaper, Printing, and Advertising Services	0	4	3	8	19	-4	19
Food and Catering, Events, Venue and Lodging	0	5	5	7	11	39	-5

Table 1: Average Number of Days Per Procurement Step of Albay LGUs from 2016-2018

Question #4:

Who and How Many are Supplying the Local Government?



Figure 23 1: Tender to Supplier Ratio of Albay LGUs from 2016-2018 with the exception of Legazpi and Pio Duran

Figure 23 shows the ratio of tenders posted to the unique suppliers awarded per business category. For example, a potential bidder would want to look for business categories with more tenders and little suppliers.

Figure 23 shows that the business categories 'Construction Projects and Supplies', 'Vehicles and Vehicle Parts', and 'Newspaper Printing, and Advertising Services' have smaller number of supplier-to-tender ratio, compared to other business categories. On the other hand, business categories 'Agriculture', 'Medical Supplies and Medicine', 'General Merchandise' and 'Information Technology' have the highest number of unique suppliers relative to the number of tenders posted.

The corporate names of winning suppliers are also available in the PhilGEPS dataset.

Recommendation and Final Notes

The number of bidders per tender is not available in the PhilGEPS dataset. However, if LGUs have these data, the number of bidders per tender can be compared to the number of unique winning suppliers, as well as the number of tenders posted under a business category. This will answer Question #5. Similarly, if LGUs store records of the dates where awarded suppliers are paid, this data can answer Question #6.

Please be reminded that this report uses ONLY data from PhilGEPS. It is recommended that this be layered and compared vis a vis other industry-related data and visualizations, for a more complete picture.

Business Intelligence can be an extremely useful and powerful tool for decision making, but in itself, it is not a one-time cure-all. Business Intelligence guides us in asking the right questions, narrowing down potential bottlenecks and issues in a process, and monitoring immediate and long-term effects of activities in a business process

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Invited Private Sector Representatives of Albay (2018) Focus Group Discussion– Venezia Hotel, 11 June.

Individual Contractor in Albay (2017) Conversation with Layertech, 22 February.

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