

TECHNOLOGY CONSULTING

IN THE GLOBAL COMMUNITY

Final Consulting Report

Palau FIC

Jonah Nascimento

August 2024

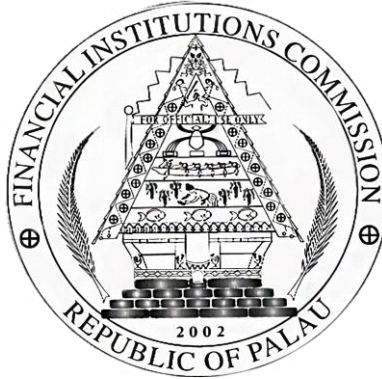
Carnegie Mellon University



Palau Financial Institutions Commission

Executive Summary

Student Consultant, Jonah Nascimento



Global Community Partner, Cjay Shiro

I. About the Organization

The Palau Financial Institutions Commission (FIC) is an independent regulatory agency, and a six-member board governs this organization. The FIC was established in 2002 and is located in Koror, Palau. The mission of the organization is as follows:

To establish and maintain a financial regulatory and supervisory system for the Republic of Palau, consistent with international standards, which promotes a stable banking and financial sector that facilitates economic growth and development.

II. Goal 1 – Digitizing the Bank License Application Form

The current process of applying for a bank license involves a nonsystematic combination of physical and digital forms to deliver applicant information. This goal seeks to fully digitize the application form to standardize the application procedure and minimize redundant work for the FIC.

Outputs

- Created an online form that allows applicants to submit all their required information in an intuitive format using the JotForm platform
- Organized a publicly available folder that applicants can access to obtain bank license application templates
- Trained the Executive Commissioner on navigating the new bank license application form

Outcomes

- Necessary form templates are all located in one place
- Submissions are automatically saved with timestamps to a standardized location for future reference

Risks to Sustainability

- The form is built to support the current application process, and changes to this process may require the form to be updated. To mitigate this concern, I have trained the community partner on how to modify the form to make minor changes

Recommendations

- Ensure that malicious actors are not able to imitate the FIC through secure practices

- Ensure that all future applicants understand the intent of the online application form through an information section on the official FIC website

III. Goal 2 – Streamlining the Internal License Approval Process

Communication within the FIC organization and between the FIC and bank license applicant during the application process is not standardized. This goal seeks to automate the process and create a simplified system so that everyone involved in the application process is aware of how the application is proceeding.

Outputs

- Drafted an activity diagram outlining the proposed approval process
- Created a digital approval process that automatically sends email updates, tracks dates, and allows feedback to applicants throughout the standardized application process
- Drafted email messages to send to applicants in different outcomes in the application process

Outcomes

- Faster and more accurate application throughput due to a specifically outlined process
- Better communication throughout the application process

Risks to Sustainability

- None noted

Recommendations

- Utilize the feedback section on the form to gain more insight into how the overall application process might be improved
- Hire another staff member to assist with the Executive Commissioner's workload

IV. Additional Recommendations

- The procurement of organizational tools, including a Google Suite and Jotform subscription can strengthen the capabilities of the artifacts that I have developed for a relatively low cost.

Consulting Partner

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About the Consultant

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Jonah is finishing his Master of Information Technology Strategy this fall. He will attend pilot training in the spring.

Palau Financial Institutions Commission

Final Consulting Report

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I. About the Organization

Organization

The Palau Financial Institutions Commission (FIC) is an independent regulatory agency, and a six-member board governs this organization. The FIC was established in 2002 and is located in Koror, Palau. The FIC has three full-time employees and shares an administrator with the Financial Intelligence Unit (FIU). The mission of the organization is as follows:

To establish and maintain a financial regulatory and supervisory system for the Republic of Palau, consistent with international standards, which promotes a stable banking and financial sector that facilitates economic growth and development.

The FIC has two primary responsibilities, namely bank regulation and the provision of corporations' registry services. Presently, the FIC's funding is derived from a combination of government funding and regulation fees collected from the five banks operating in Palau, amounting to a total annual budget of 1 million USD. This funding is allocated to support the FIC's day-to-day duties related to bank regulation. Starting in October 2023, the FIC began to receive additional funding specifically for the corporations' registry. In general, the organization is adequately funded to support its ongoing operations.

However, the FIC does face certain limitations. Firstly, there is a constraint in terms of office space availability, as the current FIC office is fully occupied. Secondly, the employees of the FIC are operating at maximum capacity, as the members of the FIC are consistently occupied with their daily responsibilities.

Facilities

The FIC office is located on the second floor of a building in Koror and is shared with the Financial Intelligence Unit, a government organization that investigates and monitors all financial activity in Palau. The area is comprised of a lobby area with several desks, five office rooms where FIC and FIU employees work, and a conference room.

The executive commissioner, office manager, and corporate registry specialist use several office rooms. All rooms have sufficient lighting, adequate power outlets, and air conditioners, which create a good work environment. There is also a conference room with a six-person desk, which also contains the Network Access Storage (NAS). The front door and other doors are locked during non-work hours to maintain office security. Staff members of the FIC and the FIU are the only people with keys.

Programs

The FIC primarily encompasses two key programs and responsibilities. Firstly, the FIC is entrusted with the crucial task of overseeing, supervising, and regulating Palau's financial sector. This entails

evaluating proposals for the establishment of new banks on the island and conducting comprehensive on-site and off-site monitoring of existing banks.

Secondly, the FIC is responsible for the management of the Palau Corporate Registry, which serves as a registry platform mandatory for both local and foreign-owned businesses intending to operate in Palau. The purpose of this registry is to ensure proper identification of the business model, foundation, operations, procedures, and policies of registered entities. Currently under development, the Palau Corporate Registry platform is expected to be deployed for production use by December 2024. At present, all corporate information in Palau is maintained in hard copy format, and the FIC has been assigned the responsibility of managing this legacy information.

Staff

There are currently three full-time staff members in the FIC.

Mr. Cjay Shiro - Executive Commissioner

Mr. Shiro joined the FIC team in March 2020 as a Bank Examiner. He holds an Associate's Degree in Liberal Arts from Kapiolani Community College and a bachelor's in Business Administration and Marketing from the University of Hawaii. He is currently working on his Master of Science in Finance from the University of Hawaii Manoa. Mr. Shiro has prior experience in commercial insurance and finance. He also has certified training in operational analysis and risk management in anti-money laundering. Mr. Shiro also brings additional management accreditation from his ten-plus years of active-duty service in the United States Military. Mr. Shiro conducts onsite examinations and performs off-site analyses of reporting financial institutions from quarterly prudential returns.

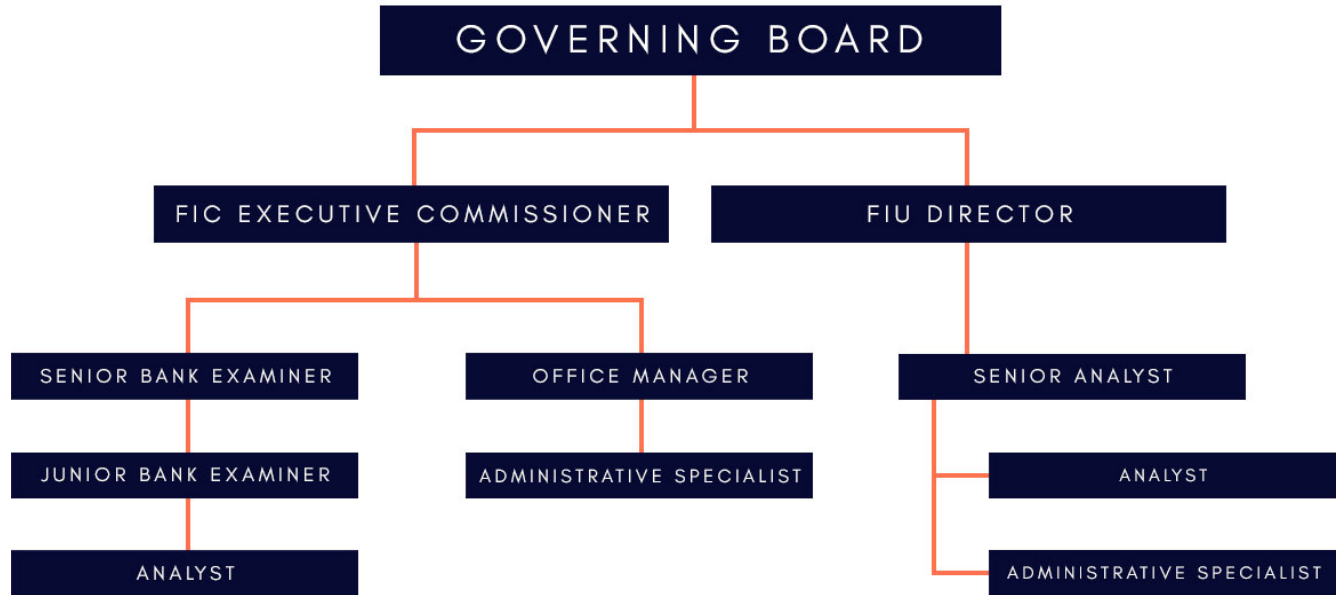
Ms. Valorie Tikei Sbal - Office Manager

Ms. Sbal joined the FIC in 2010 as the office manager and in January 2013 became the filing officer for the secured transaction registry for the Republic of Palau. Ms. Sbal is responsible for the maintenance and organization of the FIC's administrative tasks, duties, and documentation.

Mr. Kedul Nathan Andreas - Corporate Registry Specialist

Mr. Kedul Nathan Andreas joined the FIC in September 2023 as a Corporate Registry Specialist (CRS). Mr. Andreas graduated cum laude from Saint Martin's University in May 2023 with his Bachelor of Arts in Business Administration. As part of his CRS responsibility to assist the Registrar of Corporations with the implementation and day-to-day administration and operations of the Corporate Registry and Secured Transactions Registry, Mr. Andreas also assists the Executive Commissioner and examiner personnel with filing, processing, and analysis of Financial Institutions' prudential data as well as provide general IT support for the agency.

Two bank examiner and one analyst position are currently unfilled, which leaves the responsibility on the Executive Commissioner. This is due to a lack of on-island experience and an inability to recruit skilled workers from off the island. An organization chart is shown below:



Technology Infrastructure

Hardware	<ul style="list-style-type: none"> ● 5 Operating Computers ● 4 Operating Laptops ● 4 Operating Printers ● 2 Operating Internal Networks ● 4 Mobile Cell Phones
Hardware-Specification	<ul style="list-style-type: none"> ● Processors – All machines have Core i3-i7 processors ● Ram – 8-12 GB ram ● Storage – 9 TB of total storage
Software	<ul style="list-style-type: none"> ● 9 Microsoft Office Licenses <ul style="list-style-type: none"> ○ On 5 PCs and 4 Laptops ● 8 Antivirus software packages <ul style="list-style-type: none"> ○ On 4 PCs and 4 Laptops ● 8 Security Encryption certified <ul style="list-style-type: none"> ○ On 4PCs and 4 Laptops ● 8 Internet Security software installed <ul style="list-style-type: none"> ○ On 4 PCs and 4 Laptops
Internet Connection	Wifi
Operating System	All machines have Windows 10 Operating System installed

Technology Management

Cjay assumes primary responsibility for managing the technology infrastructure within the FIC. This entails crucial tasks such as data backup and software installation. He also maintains communication with the third-party organization that manages the official website and any tools related to the developing Corporate Registry System.

Daily backups are diligently performed from the Network Access Storage (NAS) to a secondary drive, as well as two USB drive passports. One of these passports is securely locked in a fire and weatherproof safe located within the office premises. The other USB drive is kept off-premise. Before transporting these USB drives outside the building, Cjay dutifully records this information in a logbook maintained by the Office Manager. Upon Cjay's return to the office each morning, the logbook is once again updated with the Office Manager to ensure a comprehensive record of the process. This diligent routine is adhered to consistently, including on weekends. Additionally, the daily backups are stored on the cloud via the Synology iSync software.

Since joining the FIC, Cjay has taken the initiative to acquire licensed Microsoft software, ensuring compliance and legality. Furthermore, he is tasked with procuring any necessary hardware required by the organization.

Technology Planning

Technology planning at the FIC follows a relatively informal process. Cjay is allocated a budget of approximately \$25,000 annually for IT purposes. In cases where additional funding is required, the FIC has the option to apply for funds from the Palau Government. When there is a need for new technology, Cjay approves the purchase and subsequently informs the Office Manager, Tikei, to initiate a purchase order through the government procurement office. To ensure a competitive and transparent procurement process, the FIC submits three different quotes for the desired items to the Procurement Office. In instances where the required item is not available locally in Palau, alternative means such as utilizing online services like Amazon are employed to facilitate the procurement process.

Communication

The FIC utilizes various communication methods to interact with external parties. Email and telephone are the primary means of communication for external engagements, while virtual meetings are conducted via Zoom. For internal communication purposes, email or in-person conversation is the preferred mode of correspondence. The relatively small size of the organization makes this simple. In-person meetings take place at the FIC's physical office when engaging with the Governing Board. Additionally, for more informal group messaging among employees, a Signal group is utilized as it offers a secure communication channel.

Internal file sharing is facilitated through the use of the Synology Network Access Storage (NAS) drive. Staff members are provided with email accounts through webmail (<https://www.ropfic.org/webmail>), ensuring that staff email communication is encrypted and secure. When communicating with non-FDIC-insured banks, the bank examiner employs encrypted email communication. For accessing prudential return forms from FDIC-insured banks, a bank portal is utilized through a provided link.

Information Management

Important information managed by FIC is:

1. Bank regulation information
2. Local corporations' registry information
3. Secure transaction registry

Everything related to the first type of information was taken care of by the 2019 and 2020 TCinGC consultants.

Previously, all corporates' business information submitted before December 2023 was stored in hard-copy form in an off-site location. Since then, strong efforts have been made to digitize this information. Currently, all information is stored digitally in a cloud drive hosted by the Asian Development Bank, a third-party organization based in Silicon Valley. Specific corporates' business information is archived at the Judiciary building located at the capitol.

Business Systems

The office manager uses Quickbooks Pro for bookkeeping within the FIC office.

II. Digitizing the Bank License Application Form

Motivation

From my initial conversations with Cjay, we discussed several ways in which technology could improve the work that their organization conducts. One issue that stood out to me was the lack of modernization in the bank license application process in Palau. The bank license application process was designed to ensure that prospective bank owners present a legitimate and feasible plan, safeguarding investors' funds from misuse. It typically requires the applicant to fill out several forms and obtain references that will be cross-checked by both the FIC and an independent auditor. Applicants primarily are overseas investors who have partnered with a local resident, though this is not always the case. This goal is driven by the current system's lack of standardization in the bank application process. Some applicants submit their applications to the FIC via USB drive, while others still use printed, physical stacks of paper stored in large boxes which are subject to getting lost or damaged. The differing methods of application submission lead to extra time being devoted to processing them in two major ways. The paper copies are much more tedious to look through, and they need to be scanned and uploaded to the servers for later documentation. Additionally the different ways of submitting the application lead to different methods of verifying the information given.

Through the brainstorming process, several potential solutions for a digital application method were discussed. These included creating a web portal, developing a website, utilizing a version control system like Github, or using a form-making tool like Google Forms. Discussions with the community partner helped to generate a list of important factors that played into the selection of the optimal solution. Emphasis was placed on maximizing the security of sensitive information, ensuring project feasibility to the consultant, partner, and stakeholders, and integration into the existing FIC website. Additional considerations included the long-term sustainability of the solution and minimizing costs. Though a web portal would provide a distinct place for applicants to securely maintain all information regarding their application, it was determined that this method would result

in much longer development time and would create yet another system that applicants would have to navigate. A separate website provided similar considerations. Using a version control system like Github provided an interesting way to provide status updates to applicants throughout the application process, however, it would be much more difficult for applicants to learn how to use the application if they are not familiar with the software. Finally, a simple form was considered because of the ease of use by all parties, however, this solution generally lacked strong security for private documents.

As a result of the considerations mentioned above, the solution that made the most sense was to choose a form-building software that would meet all the requirements (see Appendix A). JotForm is a solution that allows for many of the benefits of a form, including ease of use by the applicants and community partners, as well as integration into the existing website. Additionally, it is feasible to accomplish within the time of the consulting project and maintain a high standard of security. Once a standardized form is developed, it will be simple for the FIC to maintain and relatively easy to add any necessary changes. This solution has several tiers of service offered, which can be modified to meet the needs. The main limiting factor is the amount of monthly submissions that will be accepted. At the current rate of applicants, the free version is sufficient, however, if deemed necessary, the Bronze or Silver options are available for less than \$40/month. This amount is within budget for the FIC.

Outcomes

Cjay and I wanted to spend time considering several possibilities before we decided to go with a particular solution. We met several times to discuss the shortcomings of the current process, as well as what he thought would be helpful in a potential solution. In these meetings, Cjay also provided me access to the current forms that applicants needed to complete before submitting an application. I drafted a list of options and justifications outlining both pros and cons that I presented to Cjay and received feedback on. Eventually, we both agreed that a form would meet the needs for ease of use, convenience, and modifiability. I looked into several possible form-building platforms and settled upon Jotform after investigating its approval feature, which allowed for the second goal of this engagement to be performed. A majority of the consulting engagement involved me finding ways to effectively acquire the necessary information from applicants while maintaining simplicity. Through the development cycle, I sought Cjay's feedback and integrated it into my solution. Near the end of the consulting engagement, I demonstrated the form capabilities to Cjay and showed him what the users would experience as they applied for the bank license. I created a folder that potential applicants can utilize to access templates of the necessary documents.

The specific outcome of this solution is a shareable form that can be filled out by applicants without many of the factors that caused uncertainty with the current solution. Furthermore, I was able to add a feature to the form so that all information is documented and filed in one place for easier access as the Palau economy begins to scale up. Although the form has not yet been released for use, the FIC hopes to begin using it within the next six months as they unveil another new corporate registry system. This new form will cut down on inaccuracies due to confusion and should cut down on time spent gathering resources on the applicant's end. While the previous system may have taken weeks of back and forth getting documents, this solution potentially allows an applicant to submit a complete package in just a few hours. Additionally, the manual labor that was required to scan and file documents is completely removed since all submissions will be online. Test submissions have been made to test the robustness of the form.

Recommendations

Two main obstacles hinder the integration of this solution into the FIC's operation. The first of these is prioritizing security to ensure that malicious actors are not able to imitate the FIC and confuse potential applicants. Towards this end, I proposed two solutions: applicants must either directly contact the Executive Commissioner who will then share the form, or create a specific tab on the FIC official website where the form can be accessed. These specifically outlined procedures will prevent malicious actors from reaching out to applicants who might be curious about applying for a bank license. The second obstacle is the transition from the mix of physical and online forms as the current process to the new form. I would recommend including an additional section on their website that clearly outlines the new process so that potential applicants can easily use the new system.

III. Streamlining the Internal License Approval Process

Motivation

My primary goal for this project is to identify and implement an optimal solution to digitize the bank license application process in Palau. However, once I began to work on my solution, I realized that restructuring the approval process in the application cycle would lead to much more efficiency and time saved.

The current time it takes for an applicant to go from opening a bank license application to attaining the license can take as long as 8 months. This process starts with the applicant calling the FIC office or going to the official website to get the necessary forms. The applicant then completes the five core requirements and submits the application to the FIC. Upon receiving these documents, the FIC reviews the submission to determine whether they are "fit and proper" and independently verifies the data. If any issues arise at this point, the FIC indicates which requirements still must be met, and the applicant has six months to correct all changes before they must restart the process from the beginning. If both of these requirements are met, the application is determined complete. At this point, the FIC has 60 days to assess the application. Then, the FIC Board of Directors, a six-person team votes on whether a license should be granted to the applicant. There are three potential outcomes: a full license is granted, a provisional license is granted, or no license is granted.

This lack of a set method of applying for banks puts unnecessary difficulty onto the FIC. Firstly, this problem is important to solve because doing so will save time for both the applicants and the FIC employees, who already have a small team as is. By having a streamlined process, the expectations of the FIC will be made clearer to the applicants and it will be much more difficult for applicants to take shortcuts in their application submission. Addressing this issue directly relates to the FIC's mission of promoting a stable banking and financial sector that promotes economic growth in Palau. A digitized and standardized process will likely make applying for a bank license more accessible, contributing to economic diversity in Palau's economy. Updating the processes to meet current technological capabilities may also improve the public reputation of the FIC.

Outcomes

In the initial meetings that I had with Cjay, I realized that beyond digitizing the forms for bank license applications, I could also streamline the process that the applicants are sent through. I continued to meet with Cjay to discuss the current process of applying for a bank license. Using the information that I gained from our meetings, I drafted an activity diagram to outline the current method, as well as my proposal to improve this process. I used this activity diagram to create a Jotform approval flow. The flow that I developed automates much of what was previously done manually, and I wrote up and implemented emails that will automatically be sent to keep applicants in the loop on the status of their applications (see Appendix B). Additionally, there are simple reminders that will be sent to the FIC if there is a delay in the approval process on their end. The Executive Commissioner is now able to approve certain steps in the application process with the click of a button. I also had to work out many bugs and test edge cases to ensure the robustness of the approval flow.

The main objective that was met through this goal is that a simplified, streamlined, and standardized approval flow was made and implemented. This will cut down on time wasted as a result of trying to track where in the process applicants are and through miscommunication. Although the approval flow has yet to be used by applicants, it smooths out communication because there is now a single application method that both the applicant and FIC office are on the same page about. Additionally, the automated emails allow the applicant to know exactly where their application stands in the overall process. Whereas the old way could have taken up to eight months (and often took nearly that long), this new method could shorten the process to about a month. Time will show whether this new application process will yield more bank license applications or possibly more complete applications.

Recommendations

I have two recommendations that could ensure the effective implementation of this tool. The first is to have information on the new flow readily available. I have drafted up a paragraph that can be paired with the activity diagram to show applicants the general process they will go through as they begin to apply for a bank license. This will make the process transparent. The second recommendation I have is to hire another bank examiner to help ease the workload of the Executive Commissioner. Cjay has many responsibilities, and having another employee to parse through applications would allow the volume of applications to increase. I included a feedback section in the bank application form, which would give applicants the opportunity to voice their concerns or criticism, which can be valuable information to improve the approval process.

IV. Additional Recommendations

Acquisition of Organizational Tools

Broadly speaking, acquiring subscriptions for an organizational Google Suite and Jotform is an inexpensive way to allow the FIC to include more of their distinct branding while giving them more capabilities. I drafted a brief justification memorandum (see Appendix C) that shows several different subscription options. The main subscription levels I proposed would cost the FIC around \$25 per month. Although it is difficult to put a monetary value on the gains that would result from this recommendation, the increase in control and security of mind will well outweigh the costs. Currently, the FIC is in the process of procuring these tools.

About the Consultant

Jonah Nascimento is a Master's student in Information Technology Strategy, with a Data Analytics concentration at Carnegie Mellon University. He was involved with the Technology Consulting in the Global Community internship over the summer and returned in the fall to finish his last semester. He will attend pilot training in Oklahoma following his program completion.

Appendix A
Jotform First Page



Bank License Application Submission

Please ensure all relevant documents are available prior to starting this form.

Financial Institution Name: *

Email Address: *

example@example.com

Date of Submission: *

MM-DD-YYYY



Date

Appendix B Final Jotform Approval Flow



Appendix C Subscription Recommendations

Service #1

- Google Suite for Bank License Application Submission Tracking
 - Pricing Options
 - **Business Starter: \$6 per month**
 - Business Standard: \$12 per month
 - Business Plan: \$18 per month
 - Justification/Reasoning
 - Standardizing under a Google Suite would allow the workspace to access a shared drive to collaborate on documents
 - Additionally, Google Drive has strong integration with JotForm and can allow for cross-platform collaboration for document-saving
 - Jonah's Recommendation
 - Business Starter will meet the needs at this point (shared drive and email to secure and centralize all necessary documents) and can upgrade to business standard if necessary down the line. The main benefit of upgrading is more storage space, which is not needed at this time.
 - Link to more information
 - <https://workspace.google.com/pricing>

Service #2

- JotForm Subscription for Bank License Application Form
 - Pricing Options:
 - Starter: Free
 - **Bronze: \$19.50 per month**
 - Silver: \$24.50 per month
 - Gold: \$64.50 per month
 - Justification/Reasoning
 - The limitations of the free platform create an issue if the form is to be expanded in the near future (particularly in the 100 fields per form and monthly submissions)
 - Additionally, upgrading would allow us to remove some of the JotForm branding on the form
 - Jonah's Recommendation
 - The Bronze subscription meets the needs at this time, reducing any of the bottlenecks that would form as a result of the free subscription.
 - Link to more information
 - <https://www.jotform.com/pricing/>