Business Case
For COBIT Consultants

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1. EXECUTIVE SUMMARY

The COBIT 19 framework software is a solution by Phenyo Modisane. The client's idea is based on the simplification and automation of audits within organizations. Information Technology (IT) audits are essential in the governance and management of an organization, they make it possible to manage and allocate tasks, resources and people within the organization. The overall effectiveness of an IT audit determines the productivity and functioning of an organization. At the end of the day an effective organization is equal to a productive organization which in turn equals to profitability. However, organizations are still using the legacy system; which can be time consuming, error prone and costly. Moreover, they may lead to inconsistencies and inefficiencies in the audit process.

The scale at which digital transformation takes place within organizations driving them to transform their business models and processes, which requires new approaches to governance and management of information technology; the mitigation and management of cyber security threats and the growing number of regulatory requirements related to information technology i.e. ISO and ITIL, all of these aforementioned factors are important when auditing an organization but the auditing task becomes daunting and prone to errors and inefficiencies when using the traditional manual auditing processes. Thankfully, these issues are addressed by the COBIT19 Framework software proposed by the client.

The client has commissioned the project team to develop software to address the mentioned factors, to simplify and automate audits with the objective of improving the performance of an organization. The COBIT19 framework will provide organizations with the opportunity to improve their IT governance and management practices, to give an organization an overview perspective of its efficiency and areas that need improvement. Section 2.1.3 provides where the strong points (and their potential benefits) and opportunities provided by the framework are addressed.

COBIT Consultants has identified 3 solutions to address the above-mentioned factors in the problem statement. The first solution was to continue the development of the client's already existing COBIT 19 solutions, the second option would be to create a new software from scratch and lastly, the third option would be to purchase or subscribe to a pre-existing software solution from a 3rd party vendor. The first solution was adopted by the team-that is the development team will be put onto the continuation of the existing COBIT 19 solution owned currently by the client. Modifications upon brief with the client will be made to the system, bugs fixed, and the system functionalities improved to aid the simplicity and

efficiency of the design. The team is confident in the adoption of the solution as it is viable, cost-saving, and feasible because it uses a web browser which can work on many devices.

Having the solution on a web browser makes it easier for users to access the application without having to download or install any additional software. The solution will be more versatile compared to the traditional desktop applications which are operating system specific. A web application is also easier to maintain because updates can be pushed to all users at once. The continuation of the existing software will also allow for the software to be developed before the end of the year and to enter the market. Time is one of the key constraints motivating the development team; the sooner the COBIT 19 software is functional, running and market ready the better for its lucrativeness to be exploited, please refer to section 2.1 to observe the positive potential impacts when realizing the opportunity to sell or rent the COBIT19 software.

COBIT consultants will be using a mixture of agile, waterfall and prototyping methodologies. The project will be developed in small, but consumable increments following strict deadlines and routine analysis of progress from the project manager. This would be done to allow the team to deliver faster and with fewer headaches. Close monitoring will also allow for any shortfalls to be mitigated in time. The waterfall methodology will be incremented to the development of the project in the sense that there will be sequential approach to development where each phase of the development cycle is completed before moving to the next phase, the phases include; requirements gathering, design, implementation, testing, and maintenance.

The prototyping methodology will be adopted since we are continuing with the development of the current system – this will allow for the quick development of a working model of the software to gather feedback and refine. The client will be involved in every step of the way to ensure that the development is in line with his expectations and having a working prototype helps in that way. Various management tools will be utilized by the team to manage the project's time, resources, quality and any other related project factors. The implementation approach is addressed in Section 6 of the business case.

2. BUSINESS PROBLEM

2.1. Environmental Analysis

COBIT is a widely acknowledged and globally recognized framework that provides guidance for the governance and management of enterprise information technology. It is developed and maintained by the Information Systems Audit and Control Association (ISACA), which is an international professional association for IT governance professionals. COBIT offers a comprehensive set of practices, tools, and models that can help organizations effectively manage and control their IT resources. It provides a structured approach for aligning IT objectives with business goals, managing risks, and ensuring compliance with regulatory requirements. With its focus on IT governance the main objective of the COBIT19 software is to offer direction and empower evaluators to carry out a COBIT evaluation that can help organizations to optimize their IT investments, improve performance, and achieve business objectives in a more efficient and effective manner. The COBIT19 software is intended to provide organizations with a clear, coherent, consistent, dependable, and strong approach for evaluating the development of their Information and Technology processes, based on the COBIT 2019 core model. After conducting an assessment, the organization can use the results to report internally to its executive management or board of directors about the capability/maturity of its I&T processes and establish a target for improvement based on business requirements.

The internal and external business environments refer to the various factors that can affect the performance and success of an organization. The internal environment includes factors such as the organization's culture, structure, resources, capabilities, and management practices. On the other hand, the external environment includes factors such as economic conditions, political and legal regulations, technological advancements, competitive landscape, and social trends. Information technology plays a crucial role in both the internal and external business environment landscape. In the internal environment, IT can help organizations to streamline their operations, improve productivity, and enhance collaboration among employees. In the external environment, IT can help organizations to stay competitive, adapt to changing market conditions, and meet the evolving needs of their customers. Overall, IT has become an essential component of modern business operations, and organizations that effectively use technology in their internal and external environments are better positioned to succeed in today's rapidly changing business landscape.

The key aspects of the internal and external business environment that have resulted in the need for the COBIT 19 framework include:

2.1.1. Internal Business Environment

- Changing Technology Landscape: The pace of technological change is rapidly increasing, which has resulted in new technologies and disruptive innovations that need to be incorporated into the framework. The updating and addition of extra functionality to COBIT 19 is necessary to keep up with the ever-evolving technological landscape.
- Increasing Complexity: The complexity of IT systems and processes is increasing, which makes it challenging for organizations to manage IT effectively. The updated COBIT 19 framework aims to simplify the governance and management of IT by providing a clear, concise, and comprehensive approach.
- Changing Business Models: Many organizations are adopting new business models that rely heavily on technology, such as cloud computing, big data analytics, and artificial intelligence. The COBIT 19 framework provides guidance on how to effectively govern and manage IT to support these new business models.

2.1.2. External Business Environment

- Evolving Regulations: The regulatory landscape for IT is constantly changing, with new laws and regulations being introduced. The COBIT 19 framework incorporates these changes to help organizations comply with regulations such as ISO, ITIL and KING.
- Cybersecurity Threats: Cybersecurity threats are becoming more sophisticated and frequent, making it essential for organizations to have robust IT governance and management practices. The COBIT 19 framework provides guidance on how to effectively manage cybersecurity risks.
- Increasing Transparency: Stakeholders are increasingly expecting organizations to have transparent and effective IT governance and management practices. The COBIT 19 framework helps organizations meet these expectations by providing a clear and comprehensive approach to IT governance and management.

2.1.3. Strong Points and Opportunities

- The COBIT 19 framework is designed to be more practical, affordable and user-friendly, making it easier for organizations to implement and use.
- It provides guidance on how to effectively govern and manage IT to support business objectives, which can lead to improved efficiency and effectiveness.
- It incorporates the latest trends and developments in IT, ensuring that it remains relevant and up to date.

- The COBIT 19 framework provides an opportunity for organizations to improve their IT governance and management practices, which can lead to improved efficiency, effectiveness, and compliance with regulations.
- It can help organizations to stay up to date with the latest trends and developments in IT, which can give them a competitive advantage.
- It can provide a framework for organizations to assess their current IT governance and management practices, identify gaps, and develop a roadmap for improvement.

2.1.4. Weak Points and Risks

- The COBIT 19 framework may be too complex for smaller organizations with limited IT resources.
- The cost of implementing the updated framework may be too much for some organizations.
- The complexity of the software and framework may lead to confusion and resistance from employees who are not verry skilled in IT, which could lead to a failure to implement the framework effectively.

There is evidence to support the need for the COBIT 19 framework based on the trends and challenges facing organizations today. For example, a 2020 study by ISACA found that a lot of organizations are increasing their investment in cybersecurity in response to the growing threat landscape. Similarly, According to Modus Create's 2022 State of Digital Transformation report found that 62% of organizations are investing in digital transformation initiatives. These trends highlight the importance of frameworks like COBIT 19 to help organizations effectively govern and manage their information and technology.

In summary, the key aspects of the business environment driving the need COBIT 19 framework include digital transformation, cybersecurity threats, regulatory compliance, and the complexity of IT environments. While there are implementation challenges, changing regulatory landscapes, and technology advancements to consider, COBIT 19 provides strong guidance to help organizations navigate these challenges and opportunities.

2.2. Problem Analysis

2.2.1. Business Problem

The core business problem that COBIT 19 is addressing is the need for effective governance and management of information and technology in the face of rapidly evolving technologies, growing cybersecurity threats, increasing regulatory requirements, and outdated software.

Problems COBIT 19 solves:

- Digital transformation: The increasing pace of technological change is driving organizations to transform their business models and processes, which requires new approaches to governance and management of information and technology.
- Cybersecurity threats: The frequency and sophistication of cybersecurity threats are increasing, and organizations need to take proactive measures to manage these risks.
- Regulatory compliance: Organizations are subject to a growing number of regulatory requirements related to information and technology, such as ISO and ITIL. Organizations must comply with these regulations by law so that they are standardized.

Problems with COBIT 19

- Complexity of the COBIT framework: The COBIT framework is a comprehensive set of guidelines and best practices for IT governance and management. However, many organizations find it challenging to implement and maintain due to its complexity and the need for specialized knowledge and skills.
- Manual nature of audits: Many organizations still rely on manual processes for IT auditing, which can be time-consuming, error-prone, and costly. This manual approach may also lead to inconsistencies and inefficiencies in the audit process.
- High costs of audits: Traditional IT audits can be expensive, requiring significant resources in terms of time and personnel. This can be a significant burden for organizations, particularly smaller ones with limited resources.

By automating and streamlining the IT audit through a software solution many of the challenges of IT auditing and implementing the COBIT-19 framework could be addressed. This could potentially save time and resource offloading much of the heavy work to a software solution.

Potential positive impact on the business if COBIT19 is introduced:

- Positive impact on revenue: The business problem presents an opportunity for a new product or service that add value to other companies by streamlining the implementation process of COBIT and doing IT audits of their IT infrastructure. By addressing the problem, the opportunity arises to generate revenue by adding value in the form of increased efficiency for other companies.
- Competitive advantage: Addressing the business problem can give the business a competitive advantage over its competitors. By solving a problem that others have not, like extra functionality and affordability, the business can differentiate itself and attract new customers.

- Increased innovation: The business problems can lead to increased innovation as the business seeks to find a solution. This can result in the development of new products or services, which can increase the long-term success of the business.

Potential negative impacts on the business if COBIT19 is introduced:

- Increased costs for the business: Addressing the business problem can require additional resources and investment, which can increase costs.
- Risk of failure: Addressing the business problem may not always result in success. There is a risk that the solution may not work as intended or may not be well-received by customers.
- Expensive product or service: Companies may prefer to purchase less expensive products or services, and if this product or service is too costly, it may not be purchased at all.

Timeframes for resolution:
The COBIT 19 software needs to be functional at the end of 2023 to be able to enter the market and be sold.

2.2.2. Business Opportunity

COBIT 19 presents a promising business opportunity where the software implementation framework can be sold to organizations seeking to govern and manage their information and technology effectively, particularly considering the rapidly evolving technological landscape, growing cybersecurity threats, and increasing regulatory requirements. Implementing COBIT 19 enables businesses to better align their IT with their overall objectives, manage risks, ensure compliance, and make the most of new technologies to drive business value. The COBIT19 software will have add value, because rivalling products and services are expensive or too complicated to use. The software can be sold as service, where clients subscribe to get access to the software and framework to assess and analyse their policies and to provide them with best practice guidelines to increase their maturity level. Consultant options are also viable, where the business consults with the client using the COBIT19 software to assess and analyse their policies and to provide them with best practice guidelines to increase their maturity level. These business models will be further explored in upcoming sections.

Timing is key, the sooner a the COBIT19 software is functional, running and ready for the market, the better. Although there are already alternatives for COBIT19, they are very expensive, but new software may be produced by other businesses that may be more affordable which will render our COBIT19 software useless.

There are several potential positive impacts when realizing the opportunity to sell the COBIT19 software and framework:

- Revenue generation: By selling COBIT19, the business can generate revenue in the form of sales, licensing fees, or subscriptions. This can be a significant source of income for the business.
- Market expansion: The sale of COBIT19 can help the business expand their market reach beyond their local or regional customer base. With the global reach of the internet, the business can potentially sell their product worldwide, increasing their customer base and revenue potential.
- Competitive advantage: COBIT19 can provide a competitive advantage for the business. This unique or innovative software solution can differentiate the business from its competitors and attract customers who are looking for a more user-friendly and affordable solution.
- Scalability: Selling COBIT19 allows for scalability, as the cost of production is relatively low compared to physical products. This means that as sales increase, the cost per unit decreases, resulting in higher profit margins for the business.

In conclusion, if the business is seeking to take advantage of the COBIT 19 opportunity they can expect to see significant benefits in terms profitability and business growth. The opportunity window is not open indefinitely, and early finalisation of the COBIT19 software and framework will give businesses a competitive edge.

3. Alternative Solutions

Solutions Analysis

In this section multiple solutions to the problem statement are analyzed to determine the feasibility and business viability of pursuing to solve this problem. A set of metrics was identified to evaluate each solution to rank them and determine how feasible each option was and to determine if this is something worth pursuing.

These were the 3-options worth inspecting:

- The modification of the solution created by the class of 2022.
- Development of a native desktop solution from scratch.
- Provide consulting services using 3rd party software.

The following set of metrics was used to compare these options with each other to determine the best solution.

Monetization strategy

How would this solution be monetized or what value would be added if this solution were to be developed?

- This would be a valuation in South African Rands

Business problem satisfaction

How effectively does this solution satisfy the business problem laid out in the previous section?

- This would be a rating out of 10.

Feasibility

Is this even something that could be done, and would it make sense to do it? A variety of metrics would be evaluated in this section.

- A value out of 10 for each metric.

Benefits

How would this solution add value to the customer and what other benefits could come of pursuing this project?

- Brief description of each benefit.

Risks

In what ways can this project fail, how likely is this scenario to occur and what would be lost if it does?

- A value out of 10 for each scenario.

All these factors were analyzed, and a value was assigned to all metrics so they could be evaluated empirically and ranked to determine the solution most likely to succeed economically.

3.1. Continuation on development of existing solution

3.1.1.1. Description

This option would entail putting the development team onto the existing COBIT 2019 software solution currently owned by the client. Our developers would then work to fix any identified bugs in the solution, improve existing features and add any new functionality as directed by the needs of the client. Since this would be a continuation of the existing solution, the specifications of the solution would be a Web Application.

Implications of the solution being a web application would be that any of the users of the web application would have to meet a few pre-requisites to use said solution. One would require a device that is able to access a web browser as well as a working internet connection. On top of this, any new features or changes included into this existing solution might require training for end-users as they would have to be made aware of these new functionalities and how to make proper use of them.

The goal of the developers working on the project will be the following:

- Certain aspects of the solution, such as navigation or progress indication features will be made clearer to the users. This will allow them to better use the software and be able to better understand the progress being made by the organization regarding COBIT 2019 implementation.
- Useful functionality will be added to the solution to improve the ability of the software to aid organizations in implementing the COBIT 2019 framework.
- The existing solution will be made to integrate useful technologies such as Power BI and Microsoft 365 to improve data visualization and provide further functionality.

Monetization strategy

This solution would focus on a subscription-based monetization strategy. The basic idea would be to provide different subscription options for the clients relating to COBIT Focus Areas that they could apply to their business. Such a system would be required since there is quite a lot of customization involved when it comes to the goals and strategies of a company, and so not every part of the COBIT 2019 framework will apply to each company. To be more specific, the default subscription provided will just give a company access to the

COBIT Core Model and be sold at a fixed price. Options will also be given to add COBIT modules that would target certain areas of the company, this would then be an added cost to the default subscription cost.

3.1.1.2. Benefits

Benefit Category	Benefit Description	Benefit Value
Requirements	The solution will satisfy the business requirements which have been stipulated which will obviously provide large benefits	10
End Users	End Users will be benefited as development will be focused on improving ease of use and functionality. This will in turn make end users much more productive and satisfied.	8
Organization	The organizations that use this solution will see a huge improvement in their governance, risk and compliance processes as a result.	9

3.1.1.3. Costs

Expense Category	Expense Description	Expense Value	Expense Type
Cost of labour	This is the expense involved with the work hours put in by the development team to create the solution.	*450000*	*Fixed*
Cost of equipment	There will be costs involved with implementing the solution such as payment for a server to run the solution.	*12000*	*Fixed*
Maintenance costs	Maintenance of the solution and keeping it up to date.	*R2000 per hour*	*Variable*

3.1.1.4. Feasibility

Solution	Feasibility Rating	Assessment Method
Schedule	10	The solution will be provided within the decided deadline.
Budget	7	Having an already existing solution does mitigate costs, but there will still be cost involved with the development team learning how the current solution was built up plus the continuation of development. A quality server host must also be found, this cost may go higher for a proper product to avoid downtimes.
Business Requirements	10	With the resources and knowledge of the development team, the business requirements will be easily met.
Ease of use	9	Careful attention will be put into the design of the solution, this will make sure ease of use is accomplished.
Installation	10	Installation only occurs in a single place since it will be deployed on a server and accessed on the internet. This makes installation very quick and easy.
End user training	7	An adequate training program will be put into place for use of any new features. It might be the case that some end users will not understand the training, however.
Maintenance	10	Updates and fixes to the solution are done in one place, this makes the Maintenace of the solution manageable.
Accessibility	5	This category depends on server downtime and quality of internet connection of end users. This will generally vary greatly so an average score is observed.

3.1.1.5. Business Problem Satisfaction

Business Problem	Satisfaction	Satisfaction Value
Digital Transformation	This solution will help to streamline and digitalize IT decision making and governance processes. By making it possible to manage and do audits inline using this system.	8
Cybersecurity Theats	This solution will be implementing the Cobit 2019 framework that has extensive functionality to help companies more effectively handle such threats. This will help greatly to minimise cybersecurity threats.	10
Regulatory Compliance	This solution will help the client implement the COBIT 19 standard as well as run audits to inform them of their compliance level. This system will most certainly help the client improve or at least be certain of the regulatory compliance level.	8
Complexity	This solution is intended to help the client implement the COBIT 19 framework even if they do not fully grasp all the complexities. Simplicity and intuitive UX design are at the core of this solution.	7
Manual Audits	This solution would allow companies to run their own audits or use the software to audit other companies by	9

	automating much of the intricacies and functions of the COBIT framework.	
High cost of Audits	After the initial cost of developing the system. This solution will most certainly reduce cost of audits as time spent doing audits will be dramatically reduced.	7

3.1.1.6. Risks

Risk Description	Risk Likelihood	Risk Impact	Risk Mitigating Actions
Deadline not met	Low	High	Careful planning and continuous work will be done for the project, making said risk unlikely.
Business requirements not met	Low	Very high	The client and any other relevant parties will be part of the development process throughout.
Higher budget than expected	Low	High	Careful planning in the early stages of the project life cycle and constant monitoring of potential new costs will make sure any budget changes are alerted to the client as early as possible.

3.1.1.7. Issues

Issue Description	Issue Priority	Action Required to Resolve Issue
Access to internet is imperative	Very High	Any business that uses this software will need to make sure a proper internet

		connection is put into place.
Depends on end user's technological competency	High	A comprehensive training process will be put into place for the new features implemented. The software will also be focused on ease of use, mitigating this issue even more.

3.1.1.8. Assumptions

Since this is an already existing solution owned by the client, any assumptions that were made before for this solution would still be valid. This would be factors such as end users of the solution having access to the internet and devices being able to access web browsers adequately.

3.2. Development of a new native software solution

3.2.1.1. Description

This option would entail the development of a native desktop solution from scratch and installing the new software package on the client's computer infrastructure. This solution would be geared towards windows machines and would simplify and unify all processes that were previously done on an Excel sheet to audit IT infrastructure according to the COBIT 19 framework. The development team would do a study to determine all the necessary and auxiliary functions that the client would require and setup a detailed scope of how these features would be implemented. The team would then build the solution after the set of features has been agreed on by stakeholders and the development team.

The implications of a native solution would be that the user would have access to a windows machine and the software installed on it. Since it is not a web-based solution this program would function in offline conditions. The users might have to receive training to use this solution effectively. Scheduled automatic updates will take effect when available provided the machine is online.

Monetization Strategy

This product will be sold on a subscription basis much like the first solution. Within the main core model different modules could be subscribed to adding additional functionality as is required by the client. As businesses have so many diverse needs a single solution would

not be feasible thus a modular toolbox that has the option to add different tools on demand would be the best solution.

In the future training could be provided as a service to clients to ensure they make optimal use of our product and ensure customer satisfaction. Another service that could be investigated later down the line would be a consultation service where a client is evaluated by a representative and a recommendation is made as to what modules they should subscribe to satisfy their needs.

The base product without any additional functionality will be sold at a fixed price with some basic functionality. Additional modules could then be added to the base solution at a fixed price for each module.

3.2.1.2. Benefits

Benefit	Benefit Description	Benefit Value
Could be implemented in own work environment	The implementation of the proposed solution holds promising potential for generating substantial economic benefits, whether it is commercialized or tested on NWU's own IT infrastructure. Additionally, NWU can save money by evaluating its own infrastructure through the utilization and testing of the solution.	8
End Users Experience	End Users will benefit as development focuses on improving ease of use and functionality. This will in turn make end users much more productive and satisfied.	10
Organization	This project could be a valuable learning school and tool to teach	5

	what works and what does not.	

3.2.1.3. Costs

Expense Category	Expense Description	Expense Value	Expense Type
Cost of labour	This is the expense involved with the work hours put in by the development team to create the solution.	*525000*	*Fixed*
Cost of equipment	There will be costs involved with implementing the solution such as payment for a server to run the solution.	*5000*	Fixed
Maintenance costs	Maintenance of the solution and keeping it up to date.	*2000 per hour*	*Variable*

3.2.1.4. Feasibility

Solution	Feasibility Rating	Assessment Method
Schedule	9	Since this solution needs to be developed from the ground up missing deadline may be a real possibility.
Budget	6	Since all must be developed from scratch the cost of development will be high. At least hosting costs should not be as high as very little to nothing would be hosted on the cloud.
Business Requirements	10	With the resources and knowledge of the development team, the business requirements will be easily met.
Ease of use	9	Careful attention will be put into the design of the solution, this will make sure ease of use is accomplished.
Installation		Installation will be a longer task in this case as

	10	the software will need to be installed and setup properly on each device that will need access to it.
End user training	7	An adequate training program will be put into place for use of any new features. It might be the case that some end users will not understand the training, however.
Maintenance	6	Updates and Maintenance might be a hassle as versions of the software will be hosted on many devices. But solutions exist to force clients to update their system when it is needed.
Accessibility	8	This solution will only be accessible on functional devices running windows, the majority of systems these days do run windows, however.

3.2.1.5. Business problem satisfaction

Business Problem	Satisfaction	Satisfaction Value
Digital Transformation	This solution will help to streamline and digitalize their IT decision making and governance processes.	8
Cybersecurity Theats	This solution will be implementing the Cobit 2019 framework that has extensive functionality to help companies more effectively handle such threats. This will help greatly to minimise cybersecurity threats.	10
Regulatory Compliance	This solution will help the client implement the COBIT 2019 standard as well as run audits to inform them of their compliance level. This system will most	8

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	certainly help the client improve or at least be certain of the regulatory compliance level.	
Complexity	This solution is intended to help the client implement the COBIT 19 framework even if they do not fully grasp all the complexities. Simplicity and intuitive UX design are at the core of this solution.	7
Manual Audits	This solution would allow clients to run their own audits or use the software to audit other companies by automating much of the intricacies and functions of the COBIT framework.	9
High cost of Audits	Upon subscribing and purchasing additional modules, the client can do as many audits as they want reducing costs of audits.	7

3.2.1.6. Risks

3.2.1.7. Issues

Issue Description	Issue Priority	Action Required to Resolve Issue
Issues could be had with understanding the Cobit 2019 framework adequately to implement a solution.	Medium	The dev team must access the relevant resources to gain proficient knowledge necessary.

3.2.1.8. Assumptions

We assume that businesses looking to make use of this software solution will have access to devices that are able to run the Windows operating system.

3.3. Purchasing of a pre-existing solution

3.3.1.1. Description

The final option would be to purchase or subscribe to a pre-existing software solution from a 3rd party vendor. There exist many companies that provide services and products to address the need for IT governance auditing and evaluation. These tools and products all vary from simple baseline IT audits to full-blown management and governance solutions that involves letting 3rd parties manage your whole IT infrastructure. Although these systems would require less effort to implement, they may not provide the same level of customization and control as a software solution specifically designed for the COBIT framework. Additionally, relying solely on third-party solutions can be costly, especially if multiple solutions are needed to address different aspects of IT governance and management.

Monetization Strategy

The monetization strategy involved with such a solution will differ greatly from the previous two offered solutions. With regards to this solution, we will simply be purchasing the GRC solution software from a third-party vendor. We will then use this purchased software to effectively manage Information and Technology aspects of a company and perform necessary audits. This will entail that we solely provide these monitoring and auditing services as our business model. Making is a consultation service we are selling instead of a product.

3.3.1.2. Benefits

Benefit Category	Benefit Description	Benefit Value
No risk of failed development cycle	This Solution negates much of the risk that is associated with developing a large IT system from scratch.	8
Organization	The organization will not maintain the system as that responsibly is offloaded to a 3rd party vendor. This would mean the company could spend its	9

	resources on other areas.	

3.3.1.3. Costs

With this specific solution the cost can vary immensely and to get a general estimation from a 3rd party proves to be quite a hassle. Depending on the extent to which the responsibilities is offloaded to the 3rd party vendor the cost can vary.

Expense Category	Expense Description	Expense Value	Expense Type
Cost of equipment	The main cost involved with this solution which would be the purchasing of the third-party software.		
Cost of training	Auditors will need to be trained to sure the software.		

3.3.1.4. Feasibility

Solution	Feasibility Rating	Assessment Method
Schedule	10	Since an already working solution will simply be bought, it will already be working and therefore meet the schedule.
Budget	5	Costs of these solutions are rather hard to exactly quantify without contacting them and understanding exactly which products will be needed from them. Costs will very likely be higher than the other solutions, however.
Business Requirements	6	Offered GRC solutions won't necessarily have systems that comprehensively implement the Cobit 2019 framework. Because of this, doubts may arise around exactly to what level the business requirements can be met.
Ease of use	9	Pre-existing software will be most likely well developed and be easy to use.
Installation	8	Pre-existing solutions seem to all be setup as

		web applications and so installation should be simple and only require communication with developers of the decided upon product. Only negative being if communication is difficult with said company.
End user training	7	Current solutions have various resources to help end users with operating the solution. It is a possibility however that some end users might not understand the resources.
Maintenance	10	The selected company will provide updates and fixes to their software; hence this should be done excellently.
Accessibility	5	This category depends on server downtime and quality of internet connection of end users. This will generally vary greatly so an average score is observed.

3.3.1.5. Business problem satisfaction

Business Problem	Satisfaction	Satisfaction Value
Digital Transformation	These solutions are tried and tested allowing customers to digitalize their business with confidence knowing these systems are reliable.	9
Cybersecurity Theats	This solution will be used to audit IT systems on multiple facets including the Cobit 2019 framework that has extensive functionality to help companies more effectively handle such threats. This will help greatly to minimise cybersecurity threats.	10
Regulatory Compliance	This solution will help the client to improve their IT governance	

Commented [GU2]: With regards to Cybersecurity threats, should this part not address how the solution will help with cybersecurity risks in a business. As in how the solution will help the business mitigate these factors, not necessarily how safe the solution will be

	protocols and standard as well as run audits to inform them of their compliance level. This system will most certainly help the client improve or at least be certain of the regulatory compliance level.	8
Complexity	Many of these software suites focus on more than just COBIT increasing complexity even more. So, training auditors to use the system could be a hassle.	5
Manual Audits	Auditing would be made way simpler and streamlined with these 3rd party solutions. Though it does mean staff needs to be trained to perform these audits on other companies.	7
High cost of Audits	This solution would be the most expensive of all the options as software needs to be purchased and staff needs to be trained.	2

3.3.1.6. Risks

Risk Description	Risk Likelihood	Risk Impact	Risk Mitigating Actions
Business requirements not met	High	Very high	Extensive research would have to be done to find an adequate solution. Most likely, however, all the requirements will not be met, and a more customizable solution should be explored.
Budget not met	Medium	High	Research into the modules offered by these companies will be conducted to determine exactly what is needed by the

			business.
Maintenance may be a hassle as the 3rd party will be responsible for any updates or upgrades.	Medium	High	As we will be a kind of vendor for the 3rd part company special arrangements could be made prior to ensuring that we get priority when it comes to maintenance of the software.

3.3.1.7. Issues

Issue Description	Issue Priority	Action Required to Resolve Issue
Requires quality internet connection	High	This will have to be managed by the business in use of the software, they must make sure employees have means to access the internet.
Limited by skills of the user.	Low	The solution has been specifically built with ease of use in mind and adequate training resources will be made available.

3.3.1.8. Assumptions

The major assumption that is made with solution would be that the business involved will be comfortable outsourcing their GRC management systems to third-party vendors.

4. RECOMMENDED SOLUTION

From the above solutions that we have explored, we will now compare the different aspects of each solution. The same feasibility rating system will be applied here as has been done for the previous solutions. We will then pick the highest scoring solution as the recommended solution to be implemented.
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4.1. Solution Rating

Assessment Criteria	Existing web application	Native desktop solution	Pre-existing solution purchase

Schedule	*8* *10*	*5*	*10*
Budget	8 7	*6*	*5*
Business Requirements	10	*10*	*6*
Ease of use	8 9	*7*	*10*
Installation	10	*10*	*8*
End user training	7	*7*	*10*
Maintenance	10	*10*	*7*
Accessibility	9 5	*7*	*9*
Total Score	**70**	***62***	***65***

4.2. Rating Result

As seen from the table above, the solution with the highest rating would be the continuation of development on the current existing Web Application solution. One can see that on many criteria, this solution would have the same performance on many of the criteria that we have noted down. What makes it the preferred solution would be the crucially important aspects of deadlines being met and a better budget being involved for the same quality. The third solution should also be noted as a final resort, especially because of the doubt involved with business requirements being met which is the most important aspect to be met.

5. IMPLEMENTATION APPROACH

Since we are continuing with the current system, we are going to implement prototyping. Prototyping is an iterative approach to development where a basic version of the software is developed quickly and then refined over time based on user feedback. The goal of prototyping is to quickly build a working model of the software to gather feedback and refine the design. Prototyping allows for more flexibility in design and requirements gathering.
A mixture of both Waterfall and Agile methodologies will be utilized, whereby the Waterfall methodology will allow for sequential approach to development, where each phase of the development cycle is completed before moving on to the next phase. The phases typically include requirements gathering, design, implementation, testing, and maintenance.

The Agile methodology would allow for each phase to be broken up into several phases, that way flexibility will be allowed. This will also allow for faster development of the prototype with fewer headaches.

5.1. PROJECT INITIATION

The project will be defined as aimed at organizations complying with the COBIT19 framework, it is designed to control and manage business information and technology throughout the entire organization and achieve better and presentable documentation of an organization. This software solution will be continuation of the development of a web application designed to implement COBIT 2019 into a business.

The project will have the following personnel project leader, project manager, senior software developer, junior software developer, and documentation specialist. Each of the project team has the necessary knowledge, skills, and experience to carry out the project and each team member has a clear understanding of their roles and responsibilities.

Role	Description	Personnel
Project leader	A project leader is an expert who manages teams and ensures a project is completed. They interact with the team, inspire them, attend to their requirements, promote a welcoming and effective work atmosphere, and schedule meetings with the client and the project manager.	Tina Van Niekerk
Project manager	A project manager guides the team through the project life cycle, making sure that the team is	Gerni Visser

	going in the right direction through proper planning, budgeting, scheduling, and monitoring of a project plan. The project manager is the one that presents the team and makes sure that the client is satisfied with their product and makes sure that the deadlines are met in time.	
Senior software developer	A senior developer is an experienced developer that is responsible and has technical experience, they are responsible for testing, designing software applications, and leading a development team.	Badenhorst Keagan Coetzee Daniel
Junior software developer	A less experienced developer, writing simple code, addressing bugs, and helping the Development Manager with all design-related duties are their main responsibilities.	Mnisi Given Oarabile Makatise
Documentation Specialist	A documentation specialist has the necessary documentation for the software and proofreads any document that is passed on to the project manager, project leader, and client.	Oarabile Makatise

5.2. PROJECT PLANNING

Since there is a system that is already put into place, we will focus on accessing the current system, identifying the project goals, identifying stakeholders, developing a project plan, developing a communication plan, obtaining approvals, and executing the project.

- **Access the current system**

Since there is a system that is already implemented, now we have to access the system from the owner and check where it can be improved which usually includes its strengths, limitations, and potential improvements. The owner can also tell us where the system needs to be modified.

- **Identify the project goals**

Based on the assessment of the COBIT19 Framework system, we need to identify its objectives of it which may involve areas of improvement and enhancing the system's functionality and usability. Moreover, we will discuss with the stakeholders and the client so

that we can be aware of certain milestones before starting. Identifying goals lets us see the general outline of things to be followed.

- **Identify stakeholders**

Our stakeholders have already been identified which include, the project leader, project manager, teams that interact with the system, and mostly the client.

- **Develop a project plan**

A project plan should specify the precise tasks, deadlines, and resources needed to finish the project. All project components, such as software development, testing, deployment, and maintenance, should be covered in this. This also includes the resources that we will be utilizing throughout the project.

- **Develop a communication plan**

As a team, we should create a communication strategy on how we will update the client, with milestones, and the problems we encounter in our project. This will include regular updates and progress reports for handling any problems that might arise.

5.3. PROJECT EXECUTION

- **Design phase**

This phase involves looking at developing and enhancing the current system according to the client's requests and specifications. Which involves coming up with new design concepts and ideas. Looking at the different objectives and project expectations are established and examined.

- **Procurement phase**

Involves gathering all the tools and equipment that will be needed, in this instance, it will be software tools like Visual Studio, DBMS, and many more. This is where we need to talk to our project leader and enquire which tools are the most efficient to enhance the system. This phase makes everything easier when the development process has started.

- **Construction phase**

Creating the tangible software following the plans and specifications. Tracking the progress of the plan and making necessary revisions. We must also verify with the project leader regularly to make sure that it goes along with the client.

- **Inspection and testing phase**

This phase involves a thorough inspection of the software and testing whether it works properly and meets the client's expectations. The activities also include addressing any issues that were encountered during the testing phase and confirming that the deliverables of the software meet the client's requirements and specifications.

- **Approval and delivery phase**

This phase includes presenting the solution deliverables to the client for approval. The delivery phase should involve documentation and other additional resources for the client, the client can also give us important feedback in this phase. Overall, the project execution involves phases that must be taken for the project to be executed successfully.

5.4. PROJECT CLOSURE

- **Final quality control check**

Before we hand over any deliverables to the client, it is crucial to conduct a final quality control check to ensure that everything is up to the desired quality standards. This procedure usually involves conducting a thorough inspection or review to assess the completeness of the deliverables and whether they meet the required specifications. To ensure high-quality deliverables, it is necessary to check for any defects or errors that could impact their overall quality. Therefore, we will double-check everything to guarantee that the client receives high-quality deliverables.

- **Install and configure deliverables**

To successfully implement the software in an organization or business environment, it is crucial to configure the deliverables properly. This might include setting up the system, configuring accounts, and connecting the system appropriately to a server. This is to make sure that the systems and technologies can perform as intended, and that business processes can be streamlined efficiently.

- **Train users**

After successfully installing and configuring the system, the project team will train users on how to utilize the system. This may include training the users, developing suitable training materials, conducting training sessions, and providing continuous support to the users whenever required. The objective is to ensure that the users understand how the deliverables function and can use them effectively to achieve their goals.

- **Obtain sign-off**

After all the previous steps, we will obtain a sign-off from the client to confirm that the system has been received and is working as expected. This sign-off can be taken as formal consent from the business stakeholders that the project has reached a successful conclusion. It serves as an official acknowledgment. Lastly, the project leader will have a meeting with the project team and reflect on the project.

5.5. PROJECT MANAGEMENT

- **Time Management**

For effective time management, we must define the project scope, develop a project schedule, allocate resources, monitor the project progress, adjust the schedule when needed, and communicate with stakeholders.

To implement the steps project managers may use project management software or other useful tools to plan and oversee the execution of each task involved in their projects. They also hold meetings with stakeholders to ensure that everyone is well informed about the status of the project and any modifications made to the timeline. By doing so, the project managers can manage and control the project more efficiently, ensuring the success and completion of the project within the set timeframe.

The project manager should establish a culture of accountability in the team where team members take ownership of their duties and responsibilities. This approach helps to promote cooperation among team members toward achieving the project's deadlines and goals. By establishing this culture, team members will have a clearer understanding of their responsibilities, leading to more efficient and effective project completion. Additionally, team members' attitudes towards their tasks and the project become more positive. Finally, to identify areas for improvement and make any necessary adjustments to the project timeline or resource allocation, project managers should routinely analyse project progress and performance.

- **Cost Management**

The project manager will be responsible for overseeing the budget to ensure the project remains within budgetary constraints. Additionally, the project manager will be responsible for managing any unforeseen events or setbacks that have an impact on the budget and take all necessary steps to control costs and minimize the impact of setbacks on the project's budget.

- **Quality Management**

To effectively manage a project, the project manager must consider the quality aspects of the project. This includes establishing quality requirements, developing a quality management strategy, communicating quality expectations to all stakeholders, carrying out quality assurance and control procedures, monitoring and tracking quality performance, and continuously improving the project's quality processes and deliverables. Through proper execution of quality management techniques, the project manager can ensure that the project meets all necessary stakeholder expectations and quality requirements throughout the project's lifespan.

- **Change Management**

When there's any change, we will have a meeting with the relevant parties to ensure that the client is aware of it and is also satisfied with it. These changes should also be implemented, if the changes are different from the old system, the project team will assist the end users transition from the old system to the new system by this we will ensure that the end users are satisfied with the system and can navigate easier.

- **Risk Management**

Risk management in project management is to find ways of mitigating risks that can be present in the project or that can affect the system's life cycle. This can be done by following the following phases:

  - Identify the risk factors – notice any risks that might have an impact on the project. This can be achieved by studying historical data from previous initiatives of a similar nature, engaging in team brainstorming, and carrying out risk assessments.
  - Analyse the risk – asses the possibility and potential effects of each risk in the project after the risks have been identified. Techniques for qualitative or quantitative analysis might be used for this.

- Prioritize risk – Based on their likelihood and potential impact, rank the identified risks in order of importance. This will make it easier for the project team to concentrate on the risks that have the greatest potential to negatively affect the project.
- Develop strategies and monitor risks – Create plans to reduce or manage each risk that has been identified. This can entail minimizing the risk, accepting the risk, transferring the risk, or all of the above. Keep a close eye on the hazards that have been identified and the efficiency of the risk mitigation techniques. By doing this, the project team will be sure to be informed of any changes in the risk environment and be able to modify the risk response tactics as necessary.
- Review the implemented strategy and communicate the identified threats – discuss the strategies with the stakeholders, to aware every of the potential risks and the strategies implemented.

- **Issue Management**

The objective of issue management is to identify the issues and find strategies to solve them by considering all the documents or information that is relevant. It can be done with the following phases:

- Determine problems – Determine any potential issues or difficulties that might affect the project. Ongoing team conferences, status reports, and project progress updates can all help with this.
- Look at the impact that the issues can cause on the project – by looking at the severity and prioritizing each issue based on its rank.
- Plan of action – Create strategies for resolving each issue that has been identified. The challenges that have been found and potential remedies are stated and considered. This is done to identify the best solution for the problems indicated and implement a plan of action for each issue that was identified.
- Track issues – Keep track of each issue's progress and record the steps you took to fix it and communicate it with the stakeholders.

- **Procurement Management**

The primary goal of procurement management is to acquire resources from another company or organization for use in the project. Procurement involves planning, executing, and controlling the procurement of goods and services for the project. Project managers should make sure that procurement activities are carried out transparently and ethically and

that they are in line with the project's goals and objectives. The project can receive the necessary goods and services with the needed degree of quality, while staying within the project's budget and schedule restrictions, with the help of effective procurement management.

- **Communications Management**

Communication is usually done by the project manager; they are the one that represents the project team. The manager needs to construct a communication plan. In project management, a communication plan is a thorough document that specifies how and when project stakeholders will communicate with one another during the project's lifecycle. The communication plan's major goal is to make sure that all stakeholders are kept informed about the project's status, progress, problems, and dangers. Which usually includes:

  - Communication method – Indicate the communication channels that will be used, such as email, conferences, face-to-face meetings, or project management tools.
  - Content to be communicated – Establish the information that has to be delivered, how it will be presented, and the tone of the conversation before you start communicating.
  - Responsible – the project is the one that is responsible for delivering the messages to the client, but the project manager must communicate with the project leader for the team.

- **Acceptance Management**
  - Acceptance management's primary goal is to make sure that the deliverables created throughout the project meet the agreed-upon standards and are approved by the client. To guarantee that all deliverables are approved by the end users, stakeholders, and clients, deliverables are delivered in phases.

6. Appendix

Supporting Documentation

Cost of human resources

Solution 1

Cost of Human resources					
	Cost per Month	**Cost per Day**	**Cost per Hour**	**Amount of time in Hours**	**Total cost**

Tina Van Niekerk	48000	2400	400	300	120000
Gerni Visser	36000	1800	300	300	90000
Daniel Coetzee	24000	1200	200	300	60000
Given Mnisi	24000	1200	200	300	60000
Keagan Badenhorst	24000	1200	200	300	60000
Oarabile Makatise	24000	1200	200	300	60000
				Total cost	**450000**

Solution 2

Cost of Human resources					
	Cost per Month	**Cost per Day**	**Cost per Hour**	**Amount of time in Hours**	**Total cost**
Tina Van Niekerk	48000	2400	400	350	140000
Gerni Visser	36000	1800	300	350	105000
Daniel Coetzee	24000	1200	200	350	70000
Given Mnisi	24000	1200	200	350	70000
Keagan Badenhorst	24000	300	200	350	70000
Oarabile Makatise	24000	1200	200	350	70000
				Total cost	**525000**

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