Dear Alison,

We would like to express our sincere gratitude for the opportunity to work with your organization on the work system analysis project. We are grateful for the trust you have placed in us and for the level of collaboration and support that you have provided throughout the engagement.

Over the past few months, our team started with an initial interview with you and other Housing Navigation team members, studied the work processes, analyzed current problems faced by your organization as well as the project requirements, came up with a few alternative solutions, and finally proposed our recommendation with the new case management software. The details and findings are covered in our final report. We are also impressed by your organization's commitment to providing high-quality services to seniors; we hope our recommendation would be helpful in streamlining your work processes and improving the overall quality of care provided to the seniors.

The success of this project would not have been possible without the contributions and feedback from you and your team members, who were instrumental in helping us understand your organization's unique needs and requirements. We also appreciate your open communication and willingness to work with us to identify the best solution for the problems faced by your organization. We are confident that our recommendations will have an impact on solving the problems SSSBC currently faces, and the risk mitigation strategies we have outlined will help ensure a successful implementation. We are available to provide more support and help should you require any assistance in the future.

Thank you again for the opportunity to work with your organization. We wish you all the best in your future endeavors.

Sincerely,

Alan, Sylvia, Silvy, William

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# Executive summary

## Overview

The Senior Services Society of British Columbia (SSSBC) is a non-profit organization that is dedicated to enhancing the lives of seniors aged above 60 by providing individualized support services. Our focus is on Housing Navigation Services, the most utilized service, that aims to assist low-income seniors at risk of becoming homeless to find suitable and affordable housing.

## The Problems Identified

SSSBC is currently only able to serve 4% of the requests it receives regarding housing navigation services. Through interviews with SSSBC, we realized the problems resulting in this under-capacity could be organized into two categories: Technology problems and Process problems.

Technology problems:

SSSBC’s current CHASS Database is more than 20 years old and nearing its end of life in terms of IT support. Housing Navigation Staff have expressed frustration with using this database as it is often unresponsive and loses data as it crashes. Seniors’ information stored within the current database system is only accessible within SSSBC’s office, which means Housing Navigation Staff need to physically copy information onto paper when running errands such as housing or grant applications on behalf of seniors.

Process problems:

Seniors are asked to repeat their story three times, since the Receptionist, Housing Coordinator, and Housing Navigation Staff manage data in different places. Additionally, it takes Housing Navigation Staff around 2 hours after each meeting with a senior to add the senior’s data to the CHASS database. Only one staff member is responsible for manually inputting all the important seniors’ data.

## The Recommendation

Our recommendation for SSSBC to solve both technology and process problems is to move away from CHASS and into 3rd party case management software. Case management software is a cloud-based web application by a third-party software company that offers pre-built capabilities such as storing client profiles, scheduling appointments, and reporting and analytics, which can all be customized to fit SSSBC’s specific needs.

Migrating to Case management software means freeing SSSBC from building and maintaining technology while opening the opportunity to adopt process changes due to this new ease of adding new features. For example, it is now possible for SSSBC to redelegate data entry to multiple roles, addressing the bottleneck with navigation staff serving 4% of demand. More details about this process change are highlighted in the report.

Before settling into this recommendation, we considered two other alternatives: keeping the status quo of using the current CHASS database and Excel as backup, and upgrading to CHASS 2.0 in the cloud. Still, we realized these alternatives were unable to tackle both technology and process problems without opening up SSSBC to increased risks such as going over budget and being vulnerable to cybersecurity data leaks.

## Next steps for SSSB

1. Choosing the right Case Management Software vendor:

SSSBC should primarily consider vendors that meet key factors identified within this report. To kickstart this process, we have identified three potential options (Sage, Apricot Core, and FAMCare) as examples for your further research and investigation.

1. Setting up the Case Management Software to fit SSSBC’s needs:   
   This step includes data migration and building customizations to meet business requirements. Many Case Management Software providers offer services to help with this step.
2. Training SSSBC staff to use the new Case Management Software

Moving to a new software system and new process changes will mean a significant learning curve for SSSBC’s staff and SSSBC needs to ensure adequate training is provided.

1. Deploy, monitor, and evaluate performance

Once the new case management software is deployed, monitor its performance and evaluate its effectiveness in addressing the core issue outlined in this report. Make any necessary adjustments and improvements as needed to optimize the system’s performance.

## Expected Impact

This recommendation is expected to bring benefits in the enhancement of seniors’ experience with SSSBC’s housing navigation process while also opening up capacity for SSSBC’s staff to help more seniors live off the streets.

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# Description of the Business

The Senior Services Society of British Columbia (SSSBC) is a non-profit in British Columbia located in New Westminster. SSSBC operates in two ways: (1) as the centralized hub for the provincial SHINE (Seniors Housing Information and Navigation Ease) network, and (2) providing individualized support services to seniors, including “Housing Navigation Services” which is the most utilized service that helps seniors who are homeless or at risk of becoming homeless find suitable housing/funding, and “Better-at-home Support Services” that help seniors already living under a roof with tasks such as getting groceries, light house-keeping, medical transportation, or morning check-in calls. Additionally, the organization receives over $1,000,000 per year in the operating budget for all services. SSSBC’s mission is “to connect adults 60+ with individual supports and housing navigation services to enhance their lives”. The organization visions “a community where Seniors live with dignity in a safe, comfortable, and healthy home.”

SSSBC’s clients are usually between the ages of 65-95 years old and characterized as “high touch, low tech” individuals. Housing Navigation is the most widely-used SSSBC service, with roughly 200+ seniors each month connecting with Housing Navigator staff through phone calls or in-person meetings lasting anywhere from 30 min to 3 hours. SSSBC employs 15 full-time staff (including 3 in Housing Navigation), 4 contracts part-time staff, and 50+ volunteers. While volunteers at SSSBC are involved only in helping seniors with specific tasks such as groceries or tax filing, SSSBC’s staff support all administrative and coordination services, and work in a “start-up-like culture” where every person may work more than one “defined” role. For example, Noel SSSBC’s volunteer manager is also a Support Services coordinator who gets on the phone with clients to help them register into SSSBC’s Support Services ecosystem and identify an action plan of services they will then access.

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# Work System Overview

The work system under study is the Housing Navigation System which supports the organization in delivering the housing navigation service to low-income seniors above 60.

The root definition for this work system can be stated as follows: The Housing Navigation System helps low-income seniors find homes by connecting them with available housing and benefit options to allow SSSBC to meet its mission and improve housing security for seniors.

As reflected in the Business Process Modeling Notation (BPMN) in Appendix A and to highlight the notable activities within the work system, the process starts with the senior approaching SSSBC in person or via phone call. The Receptionist receives the senior’s request and transfers it to the Housing Coordinator. The Housing Coordinator then determines how at risk a senior is and decides which senior to prioritize for the housing navigation services. The Housing Coordinator then provides a list of the seniors for the Housing Navigation Staff to contact and input the seniors’ information into the database. Afterward, the Housing Navigation Staff tries to apply for eligible housing grants with seniors’ information and find affordable housing for the seniors. The process ends with the senior moving into an affordable home. The organization relies on a third-party technical support service, Quick Tech, for all IT-related support.

Moreover, the housing navigation service can be broken into two sub-services: housing search service and housing grant application service. The housing search service is offered to help seniors find appropriate, affordable housing. In contrast, the housing grant application service is offered to help seniors to apply for an eligible housing grant.

The work system snapshot table can be found in the following:

| **Customers** | | **Services** | |
| --- | --- | --- | --- |
| * Low-income 60+ seniors who seek affordable housing and support * Housing Navigator staff * Housing Coordinator | | * Housing Navigation Services   + Housing Search Service   + Housing Grant Application Service | |
| **Major Activities and Processes** | | | |
| * Senior calls the general Senior Services Society phone number and asks for help with finding available housing through a phone call * Receptionist passes on the information about the senior to the Housing Coordinator to triage urgency and schedule appointment with Housing Navigation department * Housing Navigation staff meets with seniors to understand needs/requests * Housing Navigation staff inputs data regarding a senior into the central database and creates a new profile within the database for the senior if one doesn’t exist yet. * Housing Navigation staff visits seniors to inquire about their situation * Housing Navigation staff fill out forms or make calls on the senior’s behalf to help them secure suitable housing or available funding * Housing is successfully secured, and the senior moves in | | | |
| **Participants** | **Information** | | **Technologies** |
| * Receptionist * Housing coordinator * Housing navigation staff * Technical Support (Quick Tech) | * Senior’s personal information (name, address, phone number, email, etc.) * Senior’s important files (tax files, income statement, etc.) * Housing availability | | * Databases (CHASS and Housing Options in BC) * Microsoft Excel * Computer/mobile devices * Telephone |

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# Problems Identified

Over 200 seniors are asking for help each week, but the housing staff only have the capacity to help eight seniors per week. This suggests that the demand for the housing navigation service is not being met, which slows the organization in achieving its business objective of helping as many seniors as possible to live in safe, comfortable, and healthy homes. The main problem we identified within the housing navigation work system is that the current database technology and management are inefficient in supporting the work system to provide services to enough seniors.

Data is important for the organization in several ways.

Firstly, the database serves as a place to keep track of everything related to the housing and seniors’ data such as name, address, contact information, reasons the senior requires help, income, whether the senior is active, and medical information. The data stored should ideally be accurate and up-to-date for the Housing Navigation Staff to identify and better support those seniors in need.

Next, the Housing Navigation Staff uses the information from the database to help the seniors apply for various housing grants. The better the navigation staff can effectively retrieve and present critical information concerning seniors in a visually appealing and engaging manner, the higher likelihood the senior will secure grants or funding for the housing program.

Finally, accessing the data and information from the database should ideally be quick, seamless, and free of issues, given the limited housing staff and their work capacity. Each month, the organization has to turn down a large percentage of the hundreds of seniors needing support. It can only prioritize those with more critical conditions due to limited capacity. If the work process can be sped up, the staff can help each client at a faster pace. The main problem identified can be broken into process problems and technology problems.

## Process problems

1. During the intake process, the same information is asked three times

As referred to in the Data Flow Diagram (Appendix B), seniors’ information is asked by the Receptionist, Housing Coordinator, and the Housing Navigation Staff. This is because data aren’t centralized, and some staff prefers noting the information in different places, such as Microsoft Excel or on a piece of paper. This is because the staff thinks that Microsoft Excel is much easier, faster, and better to use in comparison to the CHASS database, which is often slow and unresponsive. Because the data are stored in different places, different staff have to repeatedly ask the same questions or reach out to another staff who has access to the desired data, which reduces work efficiency. This practice makes it difficult for an organization to manage all data in a central place and increases the amount of work for each staff.

2. Two hours are spent by a Housing Navigation Staff inputting data after each meeting with a senior

A Housing Navigation Staff spends a significant amount of time inputting seniors’ data such as medical information, income level, housing situation, and current grants received into a system after meeting with a senior. The data inputting process is an essential aspect of their job, as it involves updating records, capturing important information, and tracking progress made during the meeting. This extended period of time is because only Housing Navigation Staff is responsible for inputting all the information, the work is done manually, and a problematic database that will be explored later as a technology problem. The lengthy data-inputting process can negatively impact the staff's productivity and the organization's overall efficiency. It could lead to delays in responding to seniors' needs, lower job satisfaction for the staff, and the possibility of data inaccuracies due to fatigue or errors.

## Technology problems

1. During data input, the program is often stuck, resulting in data loss

The database sometimes crashes when the staff tries to input notes or data, resulting in data being lost and time being wasted. This is a frustrating and time-consuming issue for the staff responsible for entering the data. Furthermore, data loss can result in inaccuracies in records, delays in processing the data, and lost productivity.

2. During data retrieval, the database loading time is long, and filter options are limited

The staff reported that it takes 5 to 15 minutes for the database to finish loading to perform work; additional loading is required if the staff wants to perform search or filter actions. Moreover, the outdated database has limited functionality. For example, the staff can only search a client by name, which is not a unique identifier, instead of by phone number. It is also unable to generate useful visual reports or diagrams to apply for grants or show the board since it’s outdated and contains a lot of poor-quality data, such as duplication or spelling errors. The database cannot support modern advanced functionalities, which adds an extra layer of work for the staff.

3. The data are only accessible locally in the office, which causes inconvenience to the staff

The Housing Navigation Staff are sometimes required to travel and visit seniors in homes. Since the data are only accessible locally in the office, staff members have to copy the data elsewhere when they are visiting seniors outside of the office. This is highly inconvenient for staff members who require access to this data to provide quality care and services to seniors. The lack of remote access could also lead to delays in decision-making, inefficiency in the work performed, and the inability to access critical information in a timely manner since it is possible the staff may require additional information other than the ones they copied.

## Root Cause

The identified problems occurred mainly because the CHASS database is difficult to use and it is currently over 20 years old. The outdated database can result in a lack of support for the system and features. Hence, the staff prefers not to use the database and would rather use a secondary tool like Excel or a piece of paper to note down to keep track of the information. This causes the staff to manage data in different places, resulting in a lack of standardization in data management.

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# Functional requirements

The following requirements are essential for the system upgrade, as they are the primary focus of the improvements:

**1. Senior Profile Management:** The system must facilitate the creation and management of comprehensive profiles for seniors, including their personal information such as age, income, contact details, and associated files like tax returns. This streamlined profile management system enables SSSBC staff to access senior data from the system, eliminating the need to repeatedly ask the same questions during the housing navigation process.

**2. Search and Filtering:** The system must provide efficient search and filtering functionality that allow staff to easily locate seniors' data using criteria such as name, phone number, and other relevant information. This capability facilitates quick updates to seniors' profiles during interviews and the intaking process.

**3. Remote Access:** The system must be easily accessible from outside the office to accommodate the needs of SSSBC staff who often have to run errands such as applying for grants or searching for available housing. Enabling data access outside the office allows staff to retrieve essential information promptly.

The following requirement is desirable but not essential, as it can enhance the system's capabilities and user experience:

**4. Data Analytics:** The database should possess robust data analytics capabilities, allowing for in-depth analysis of seniors' demographics, service usage, and other relevant factors. This valuable data-driven insight can support informed decision-making and enhance service delivery.

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# Non-functional requirements

**User Convenience Requirements**

**1. Reliability:** The system must exhibit high reliability, ensuring it operates consistently with minimum failures or data loss. This reliability is critical to maintaining the integrity and availability of senior data, ensuring smooth operations for SSSBC staff.

**2. Performance:** The system must demonstrate good performance, enabling staff to perform queries and retrieve data quickly. Efficient performance allows for timely access to seniors' information, facilitating informed decision-making and efficient service delivery for seniors.

**3. Ease of use:** The system must be user-friendly, allowing for easy addition of records, intuitive navigation, and seamless usage, even for non-technical staff members. A user-friendly system minimizes the learning curve, making it efficient for SSSBC staff to utilize.

**Duty of Care Requirement**

**4. Security of PII:** The system must prioritize the security of Personal Identifiable Information (PII) to safeguard the confidentiality and privacy of seniors' personal information. Robust security measures such as access control must be in place to protect against data breaches and unauthorized access and comply with regulations such as SOC2, HIPAA, and PIPA.

**System Maintainability Requirement**

**5. Support:** The system must be supported by a reliable vendor or service provider who can provide technical assistance, including data migration and resolution of any issues that may arise. Regular updates, patches, and ongoing support ensure the system remains functional, secure, and up-to-date, minimizing disruptions and maintaining smooth operations for SSSBC staff.

# Constraints

**1. Limited technical expertise:** SSSBC currently relies on limited technical support from QuickTech and does not have dedicated IT staff or technical experts to handle complex software upgrades. This can result in challenges in configuring and implementing the software, migrating data and integrating it into existing systems, and managing the ongoing maintenance and support. Limited technical expertise also impacts the organization's ability to troubleshoot and resolve technical issues that may arise during the upgrade process.

**2. Budget:** SSSBC is non-profit and relies on government funding and grants for annual operating budgets. Costs associated with upgrading the existing system and recurring software licenses fee can add up. SSSBC needs to seek cost-effective solutions or explore funding opportunities to cover the expenses of the upgrade. The organization estimates that it can spend around $100,000 for a one-time fee and $50,000 for annually recurring costs.

**3. Privacy and regulations:** SSSBC deals with sensitive and confidential information related to seniors that are especially vulnerable to scams and other threats. Upgrading the existing system requires careful consideration of privacy and regulatory compliance requirements to protect Personal Identifiable Information (PII). The system must have robust data security features and comply with applicable laws and regulations such as SOC2, HIPAA, and PIPEDA.

# Alternatives

We have considered three options for what SSSBC can do moving forward, keeping in mind the process and technology problems uncovered during interviews with SSSBC staff.

## 1. Status Quo: Continue with the CHASS database and Excel as temporary backup

The first alternative we considered is keeping the Status Quo. This means keeping how work is done and how technology is used exactly the same. In other words, SSSBC’s Housing Navigation Staff will continue to use the original CHASS Database as the central store of data, and also continue with the current practice of utilizing Excel as a temporary backup when CHASS crashes or is unresponsive.

This alternative is cost-effective and does not require any additional training as the staff is well-versed and familiar with both CHASS and Excel. However, this means problems identified will still remain as nothing has changed to address issues identified by SSSBC’s staff relating to the old, slow, data-losing, and unresponsive database technology; and process changes are not being addressed.

## 2. CHASS database 2.0: Upgrade to new database technologies in the Cloud

The second alternative, which we will call CHASS 2.0, is all about keeping the exact same look and functionalities of the current database, but upgrading to newer cloud technologies. This alternative which was brought to us by SSSBC’s management team as the current “plan” under consideration, was originally suggested by SSSBC’s IT contractor QuickTech as a means of addressing the problem of CHASS being at the end of its life in terms of IT support and maintenance.

With the successful implementation of CHASS 2.0 in the cloud, SSSBC will have a central database technology that is maintainable by the current IT contractors QuickTech and may be able to address current some inconveniences and inefficiencies faced by Housing Navigation Staff that result from the unresponsiveness of old technology and data often getting lost.

There are three main expected benefits of a CHASS 2.0 implementation for SSSBC’s Housing Navigation Staff, on top of not having to spend time adopting a new technology interface:

1. Data loss is eliminated as the newer technology is expected not to crash unexpectedly. (Avoiding data loss, however, is not guaranteed, as misconfigurations in building the cloud environment can also lead to regular data loss. SSSBC may need to hire an experienced Security Cloud Architect to mitigate this risk – more mentioned below).
2. Frustration for Housing Navigation Staff when interacting with slow and unresponsive technology is mitigated as the interface will be faster and more responsive when inputting or retrieving information.
3. Data can be made accessible remotely outside of the office when Housing Navigation Staff are running errands, such as applying for housing or grants on behalf of seniors.

This alternative, however, is a purely technological approach to solving SSSBC’s current problems and may not achieve significant benefits that could be possible if considerations were also made to adopting process changes.

For example, Housing Navigation Staff, currently only able to serve eight seniors requested each week, spends 2 hours after each meeting with the senior inputting information about that senior and meeting into the CHASS database. Much of this time is spent creating the senior’s profile, adding fundamental personal information such as name, current housing condition, medical history, etc., which is often asked and understood by the Housing Coordinator in the previous step. Having an upgraded CHASS database may save time from dealing with a crashing system, but time will still need to be spent inputting large amounts of data, as there will not be any changes to how work gets done.

Adding new features to CHASS 2.0 is not advised

While there is always the option of adding new features when building out the new cloud database environment, this will mean expanding the scope to include both defining and implementing new functionalities. The cost associated with technology implementation projects often can grow quickly beyond the allocated budget, especially when there is room for adding new features that are not strictly defined and followed at the beginning of the project.

To mitigate the risk of what is known as “project scope creep,” organizations often need project management expertise within the organization to monitor and provide governance along with oversight throughout the implementation processes. SSSBC has expressed a limitation of staff specialized in technology implementations, which means undertaking a technology implementation with design aspects but a lack of oversight, which will likely increase the risks and costs associated with CHASS 2.0 + new features.

Concerns regarding data security and privacy

The final concern with this alternative of building CHASS 2.0 in the cloud regards security and data privacy. As SSSBC holds significant amounts of personal and sensitive information about seniors, it has a duty of care and a legal obligation to comply with regulatory standards regarding how data is managed and stored.

Building a secure cloud environment requires specific expertise, and professional cloud security architects may be harder to find and expensive to hire. Without building in security best practices in the configuration and design of a cloud environment, SSSBC is significantly increasing its risk exposure as a database in the cloud is not only vulnerable now to attacks from anywhere connected to the internet but also at risk of data loss due to misconfigurations.

## 3. 3rd party software: Migrate to case management software

The third alternative of migrating to a third party case management software is about freeing SSSBC from building and maintaining technology, while opening the opportunity to adopt new capabilities enabled by technology.

Case management software is a pre-built platform, often in the form of a cloud-based web application provided by a third-party software company, which SSSBC can then customize with pre-built functions.

An analogy to understand Case Management Software is “Lego.”

A Case Management Software company provides SSSBC with “lego pieces” along with “builders” who work with SSSBC to customize “SSSBC’s lego masterpiece” (known in this case as SSSBC’s Case Management Software Instance”). This Case Management Software Instance is accessible by logging in to a private website, and all technologies powering this service (including hardware such as servers or software such as databases) are maintained and owned by the software company, to which SSSBC pays a subscription each month to use and store information within.

The “lego pieces” offered by case management software providers may include current capabilities taken care of by CHASS, such as storing “client profiles” (which in SSSBC’s case would be senior profiles), or even new capabilities such as managing scheduling and the intake process. All of these capabilities will be customized to fit the specific needs of SSSBC. For example, for senior profiles, SSSBC could choose to include information such as name, date of birth, and contact information, along with personalized fields such as uploads of tax files or even the senior’s “risk of homelessness.”

Choosing a reputable case management software provider whose “Lego pieces” have the potential to work with SSSBC’s current practices and needs is essential. There are many Case Management Software providers that work with smaller organizations, and in some cases, specifically with non-profits, which means it is likely for SSSBC to find a suitable solution.

Cybersecurity and data privacy best practices are often built into these Case Management Software, and many are compliant with regulations such as PIPA (Personal Information Protection Act) and have reports from audits such as SOC 2. SSSBC’s role in ensuring data privacy compliance and security would be to understand the efforts and certifications of the Case Management Software provider chosen.

One main concern regarding moving away from a CHASS database into Case Management Software is the learning curve for staff to adopt the new interface and use cases. SSSBC’s staff, however, have expressed an interest in spending the time and effort needed to learn new technologies, so this concern may be overcome by making use of the provider’s training and consulting sessions.

# Decision Matrix

Referring to Appendix 1a, we assessed each alternative based on the requirements that SSSBC desires, using a scale of 0 to 3, assigning greater weight to higher-priority criteria. Currently, three alternatives (Status Quo, CHASS Database 2.0, and 3rd-Party Software) can support the management of senior profiles. Regarding search and filtering capabilities, the existing system allows only basic searches by senior names, while new case management software offers advanced searching by phone number, name, and other factors, earning it a higher score in this regard. Remote access is not currently supported; however, migrating to the cloud with CHASS Database 2.0 or utilizing third-party web-based software will enable staff to manage senior profiles remotely. The current system lacks data analytics functions, but third-party software does support this feature. In terms of security, third-party software ranks the highest due to enforced privacy and regulations (SOC2, HIPAA, and PIPA) by the vendor. The current system suffers from data loss and slow performance, which we anticipate will significantly improve when transitioning to a new system. Adopting new third-party software may present a learning curve for staff, as they will need to familiarize themselves with a new interface. However, vendor support will be available, which is not the case for the existing database and CHASS Database 2.0. Regarding costs, adopting new third-party software will entail some expenses, but these are expected to be lower than the costs associated with implementing CHASS Database 2.0, which requires a cloud database.

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# Recommendations

Based on the decision matrix, we decided to base our final recommendation on alternative 3, which is to adopt a third-party case management software as the organization grows and faces challenges related to poor data management.

## Why Case Management Software?

This recommendation was chosen because it is time-efficient and comes with adequate vendor support, making it a preferable choice over the second recommendation that requires the organization to own DB and other tech stacks, which is challenging for an organization that uses traditional operational methods and faces limitations in terms of adequate tech support.

Moreover, the additional cost of building new software poses a high risk of going significantly over the allotted budget and time capacity for a non-profit organization, and it does not directly address process problems which can only be solved by introducing new advanced features.

As the SSSBC receives more daily requests, advanced functionalities, and data analytics provided by the case management software can significantly enhance productivity and work quality, and this is one area the alternative one couldn’t compete with. Maintaining the status quo (alternative one) does not incur any extra costs, but it does not address the root issues associated with our work system in question, which are the current problems of data loss, duplication, and unresponsiveness we are trying to tackle. Additionally, the CHASS database currently in use is a 20-year-old legacy software nearing its end of life without proper support for advanced features to meet seniors' growing demands. Thus, the need for change is imperative.

This recommendation can help address SSSBC’s struggles with poor data management in multiple ways. Firstly, by centralizing data from multiple sources, it provides a one-stop platform for better data management, reporting, and insights. Secondly, streamlining operations and improving the user experience can optimize client intake and scheduling workflows, ultimately resulting in enhanced efficiency and productivity. This can lead to achieving operational excellence and improving overall performance.

Through our interviews with the organization, we realized that a cloud-based web platform can benefit the organization in terms of reliability, performance and accessibility per the requirements and constraints. Given the non-profit nature of our client, we identified that our top priorities should be addressing budget constraints and data security concerns. Therefore, we focused our search on vendors that cater to non-profit organizations with customizations.

## Vendor Selection Considerations

Based on the considerations mentioned above, we recommend considering vendors that offer cloud-based web platforms with the following characteristics:

* A wide range of customizations for non-profit organizations: The vendor should have a track record of catering to non-profit organizations and providing customizations that align with the specific workflows and needs of non-profits. In the case of SSSBC, the vendor should have support for client intake form and scheduling workflow customizations.
* Affordability and budget-friendliness: As a non-profit organization, cost-effectiveness and budget-friendly pricing should be a priority. Compared to traditional B2B case management software offerings such as those from Salesforce, SAP, and Oracle, the potential vendor should offer pricing structures that align with the budget constraints of non-profit organizations.
* Sufficient vendor support: Since SSSBC doesn’t have a dedicated IT team and all the IT related work is outsourced to QuickTech, it is important that the software is easy to implement and comes with sufficient vendor support. Additionally, SSSBC has 20 years of records stored in the current database; thus, data migration is essential. It’d be an additional perk if the vendor can help with the data migration process.
* Data security compliance: The vendor should have certifications and compliance with relevant data security standards, such as SOC2, HIPAA, or PIPA, to ensure that personally identifiable information (PII) and other sensitive data are adequately secured and protected.
* Essential features and advanced functionalities: The vendor should provide essential features and advanced functionalities that meet the organization's requirements, such as multi-field duplication check, advanced search and filtering, file uploads, intake and scheduling forms, workflow customization, and data analytics.
* Reliability, performance, and accessibility: The vendor should offer a cloud-based web platform that is reliable, performs well and is accessible to users across different devices and locations to ensure smooth and efficient operations for the organization.
* Non-profit focus: The vendor should have a clear focus on serving the non-profit sector rather than offering generic B2B CRM software. This ensures that the vendor understands the unique needs and challenges of non-profit organizations and can provide tailored solutions.

## Potential Vendors to Consider

To help SSSBC kickstart the vendor selection process, we have done preliminary research into potential vendors. After meeting with multiple of these vendors, we have identified three that may be a good starting point for SSSBC to further investigate.

Apricot Core, FAMCare, and Sage CRM are cloud-based case management web platforms. Based on our research, Sage CRM mainly focuses on medium and small businesses to support their daily operations. Although their product is customizable, it does not really have a strong emphasis on non-profit organizations, and the workflows are too generic to be useful for SSSBC. As for Apricot Core and FAMCare, both vendors specifically cater to non-profit organizations’ special needs. However, there are a few differences between these two systems. For the following section, we have chosen to highlight these two systems as illustrative examples to facilitate further investigation and exploration of potential vendor options. We would like to emphasize that the final vendor decision is within your purview and discretion. While we have provided examples for next-step research purposes, we do not endorse any specific option. These examples are intended to assist you in evaluating potential vendor options based on our evaluation process and criteria. It is important for you to conduct further research and investigation before making a final decision.

* Cost structure:
  + Apricot Core: In order to migrate to Apricot Core, the cost will comprise a 12-week implementation and training expense of $10,500, in addition to a variable subscription cost of $600 per user per year. With a total of 20 employees in need of this subscription, the annual variable cost is approximately $13,200. This brings us to a first-year cost of $23,700, excluding additional consulting hours fees.
  + FAMCare: the cost includes a one-time $6,500 implementation fee and an annual subscription cost of $13,495 for the entire organization, which accounts for a total of $19,995 for the first year.
* Implementation time frame and vendor support
  + Apricot Core: the implementation and training process is 12 weeks. After this process the organization needs to buy additional consulting hours with the Apricot team for further improvements and customizations.
  + FAMCare: the system implementation process is between 30 - 60 days (4 - 8 weeks). Hands-on training via virtual meetings are provided. After the system is up and running, the 24/7 help desk will still support the client and help answer questions with no extra costs.
* Data security
  + Apricot Core: the system is HIPAA, PIPA, and SOC2 certified, with all the data stored in Canada.
  + FAMCare Base Platform: the system has 1-year HIPAA-compliant certification and highly secure hosting. It has 10 free licenses and the data backs up every hour. It also provides multi-dimensional security access that determines what data can be seen and modified by what roles.

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## Next Steps

Moving forward, we will now present a detailed cost analysis and outline the necessary steps for implementing this recommendation, highlighting the long-term benefits of this recommendation. As previously mentioned, our budget includes a one-time fee of $100,000 and an annual expenditure of approximately $50,000. For both platforms, the costs incurred are well within our budget.

If we decide to move forward with this recommendation, the first step would be the implementation phase, where the project team will utilize their cloud expertise and customer implementation experience to facilitate a smooth transition. This involves transferring data from the current database to the cloud and tailoring workflows, intake, and scheduling forms according to the organization’s requirements. This is estimated to take around 1-3 months depending on the vendor. This will help to minimize the frustrations associated with adopting a new platform.

In parallel with the implementation process, the next step is the training program (1-3 months), which will be customized to cater to the key personnel closely involved in the day-to-day utilization of the system. This step is vital to ensure that the use of the system is successful, as it will help to ease and dissolve cognitive dissonance associated with learning and using a new system, while also aiding in change management to ensure a smooth transition.

After the ramp-up and onboarding period, we will move on to the system testing and deployment stage. However, this is not the end of the process. Both vendors have assured us of their ongoing support and maintenance services for their clients. Since this recommendation remains well within our budget, with a savings of $80,000 plus an annual amount of around $40,000, if we decide to go with Apricot Core, SSSBC can also consider purchasing consulting hours with Apricot for further improvements and customizations on an ad hoc basis. Else if we go with FAMCare, SSSBC can reach out to their 24/7 help desk for further support and questions at no extra cost.

## Proposed Process Changes

In addition to just migrating to Case Management Software, which is expected to solve current “technology problems” associated with an old and unreliable database, we are also proposing a few adaptations to how SSSBC’s staff interact with this new technology.

1. Storing *all* data related to the senior’s experience with housing navigation into the SSSBC’s Case Management Software Instance.

The current CHASS database only houses seniors’ profiles including their personal information and files. Scheduling, requests, appointments, and any information learned in the intake process currently are gathered and stored in a variety of ways including with paper and pen, on emails, or by word-of-mouth.

This proposed process change means making use of and customizing the Case Management Software built-in intake forms and scheduling capabilities (including appointment times and requests for appointments), and ensuring all data gathered from the senior’s experience in housing navigation is documented and consolidated into this one platform.

1. Adding information into SSSBC’s Case Management Software Instance *as soon as* it becomes known to SSSBC.

Currently, only Housing Navigation Staff are creating and adding to seniors’ profiles within the CHASS database, and this is creating a “bottleneck” as 2 hours are currently needed to create/locate profiles and add all information to this profile. Although having newer technology likely can eliminate time wasted from data loss and unresponsiveness, the bulk of the time is due to a large amount of data that needs to be entered into the system. SSSBC’s Housing Navigation Staff have described frustration along with being constantly overwhelmed with “a never-ending list of tasks to do”.

This proposed process of adding information as soon as it becomes known means involving staff such as the Receptionist and Housing Coordinator to also create/locate senior profiles and add information they have learned in their steps of the process into the system. Figure x in the Appendices provides a more detailed representation of what this proposed change entails.

# Risk and Mitigation

One significant risk associated with the adoption of third-party case management software is data security. Since the software will centralize all client data, it is critical to ensure that the vendor has the necessary certifications and compliance with relevant data security standards, such as SOC2, HIPAA, or PIPA. It is also crucial to ensure that the vendor has robust data backup and recovery protocols to prevent data loss in case of any disaster. To mitigate this risk, SSSBC must conduct a thorough vendor assessment and require the vendor to sign a data security and privacy agreement that outlines their data protection measures and liabilities.

Additionally, there may be challenges in implementing the final recommendation, especially if it involves changes to existing processes or systems. These challenges could include resistance from stakeholders, lack of resources or expertise to make the necessary changes, or difficulties in integrating new processes or systems with existing ones. These challenges could delay the implementation of the recommendation or result in incomplete or ineffective implementation, which could undermine the intended benefits of the recommendation. To mitigate this risk, it's important to have a clear plan for implementation, including identifying and involving key stakeholders, providing adequate resources and training, and addressing any potential barriers to implementation. Regular communication and progress updates can also help to build buy-in and support for the changes. Additionally, it may be helpful to pilot the recommendation on a smaller scale before rolling it out more broadly, to identify and address any challenges early on. Finally, it's important to be flexible and willing to adjust the implementation plan as needed, based on feedback and experience.

Finally, there is a risk of staff resistance to change, which could lead to slow adoption and low utilization of the new system. To mitigate this risk, SSSBC must invest in proper training and change management strategies to prepare staff for the transition. This includes conducting user acceptance testing to ensure that the new system meets the organization's needs and conducting training sessions to familiarize staff with the system's functionalities. SSSBC must also ensure that the new system's user interface is user-friendly and intuitive, making it easier for staff to adapt to the new system. By addressing this risk, SSSBC can maximize the potential benefits of the new system and improve the organization's overall efficiency and productivity.

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# Impact Analysis

Our proposed recommendations around how SSSBC can make both technology and process changes considers the entire system in which SSSBC’s staff perform work using information, technology, and other resources, with the end goal of helping Seniors find and secure suitable housing. Through interviews with SSSBC staff, problems were identified regarding frustrations and inconveniences with the current database technology and the potential for process improvements to address the current concern of only 4% of requests for housing navigation services being served each week. In this section, we will highlight the benefits and impacts we expect our recommendations will bring to SSSBC.

**1. Working Towards SSSBC’s Value of Improvements in Senior’s Experience**

Seniors who reach out to SSSBC for housing navigation services are often in an emotional breakdown. As described by SSSBC’s Housing Navigation Staff, seniors are in a vulnerable and difficult situation, often already homeless or on the verge of becoming homeless. A value of SSSBC as communicated to us during the interviews conducted was a desire to improve the senior’s experience by making it easier and less emotionally draining for them.

Currently, because the staff is fully engaged in conversations with seniors, only taking notes by paper and pen (to later input into the database), seniors are able to feel heard and respected during the conversations. However, staff has expressed how seniors face frustration having to repeat their story multiple times, especially one that is difficult and at a time when they are crying and near an emotional break-down.

With new case management software that is able to stand-up new functionalities such as intake forms and scheduling management, SSSBC is able to make process changes such as the ones proposed above where the Receptionist and Housing Coordinator also add information to the senior’s profile. This means seniors no longer need to repeat their story multiple times and can feel like they have been heard as soon as they reach out to SSSBC, as staff can be prepared for conversations with information from previous steps being accessible.

**2. Meet SSSBC’s Mission of More Capacity to Help More Seniors Live Off the Streets**

Each of the two Housing Navigation Staff currently only has the capacity to help 4 seniors a week, and this is much less than the 200 requests that come in each week. A major bottleneck right now for Housing Navigation Staff is the 2 hours it takes to input information into the database following each meeting with a senior. By having new technologies that will likely solve the time-wasting from malfunctioning technology along with process changes that re-delegates the inputting of information into the system, we expect to save Housing Navigation Staff more time which gives them more capacity to help seniors live off the streets.

**3. Higher Morale and Less Burnout Amongst SSSBC Staff**

SSSBC’s staff are passionate and dedicated to the mission of helping more seniors live off the streets. However, staff has also described frustration with how inefficient the current technologies are, given how often it crashes and loses information. The recommendations we have provided address both the frustration from technology and the issue of low capacity, which means an expectation also of increasing staff morale as they feel more empowered to reach their goal of helping more seniors each day.

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# Reflection

As a team of student consultants, we have spent the past months studying and analyzing SSSBC's current work system and we developed recommendations to improve their current processes and systems. Throughout this process, we have learned to apply class concepts to identify a work system and solve existing issues within an organization.

One of the key things we have learned is the importance of taking a holistic approach to work system analysis and not being afraid of making changes when necessary. We went through several interviews with the SSSBC staff. By examining all aspects of the organization we were able to identify opportunities for improvements within the system. However, as we interviewed more staff and started to understand the work system more deeply, we realized we needed to modify our initial scope and modify the work system snapshot. We understood that modifying the work system snapshot was a result of us knowing more about the organization and the processes.

Another important lesson we learned was the critical role of data analysis in identifying areas for improvement and evaluating the effectiveness of potential solutions. Through our analysis of SSSBC's current database system and their processes, we were able to identify key pain points and opportunities for optimization, as well as track progress and measure the impact of our recommendations. We also learned to apply the different analytical tools and techniques that can be used to evaluate a work system such as the Role and Request Model, Data Flow Diagram, and Use Case Diagram.

We gained a deeper appreciation for the importance of change management in implementing any new processes or systems. As we developed our recommendations and in order to avoid the seven temptations, we considered not only the technical aspects of the changes but also the cultural and organizational factors that could impact adoption and utilization. By investing in proper training and change management strategies, we can help ensure a smooth transition and successful implementation.

This experience has been a valuable learning opportunity for our team. We are proud of the recommendations we have developed and are confident that they will help SSSBC improve their Housing Navigation work processes and better serve their clients.

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# Appendices