Reccon

OCTOBER 2022 - 2023

RECCON SEED FUNDING PROPOSAL

CONSTRUCTSAVE
DEMOSAVE

PREPARED FOR NEW HORIZONS

Prepared by:

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for Assignment for PropTech Course

PROP384/2022
University of Auckland
Business School

EXECUTIVE SUMMARY

RECCON

At Reccon we have a significant focus towards sustainability and reducing our carbon footprint for future generations. Throughout market research, we have identified that construction and demolition waste comprise 50% of all waste going to New Zealand's landfill. Hence, this introduces the issue that construction and demolition derive a high level of waste and negative environmental impacts.

Therefore, we have developed ConstructSave and DemoSave to mitigate construction and demolition waste respectively. ConstructSave utilises Building Information Modelling (BIM) to produce 3D models to capture insights to determine structure feasibility and create resource-efficient structures.

DemoSave is a tablet and iPad-friendly software utilising artificial intelligence and machine learning to recognise demolition waste to solve how and where the materials can be recycled, repurposed or reused.

To explain our service offerings and market feasibility, we have conducted an analysis of our solution's impact, business model, SWOT and business strategy.

After financial projections, to support our future growth, funding of $200,000 would supplement ConstructSave and DemoSave's first launch into the market. The $200,000 would be split 60% to 40% between ConstructSave and DemoSave, which is proportionate to the future projected profits.

OUR TEAM

Caitlyn Khoo
Reccon Co-Founder
Specialisation in Accounting, Finance and Property.

Jessica Huo
Reccon Co-Founder
Specialisation in Accounting, Commercial Law and Property.

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Reccon

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PROBLEM

CONSTRUCTION WASTE

Problem: Construction waste

Half of all waste going to New Zealand landfill is construction and demolition waste. According to Green Gorilla Limited in Auckland, demolition and construction waste account for nearly 570,000 tonnes of wastage a year (Green Gorilla, 2022). Construction waste can be split into two categories, as seen in Appendix 1. This would show physical waste, including different materials being wasted from renovations that are being done. Additionally, non-physical waste includes time and cost overruns from waiting for suppliers to work permit delays. Sometimes this can be referred to as budget overrun, as the project may now require further funding.

Background

There is a misconception where individuals believe that the wastage from our rubbish and recycling bins contributes to the waste. However, this is only one small factor. The biggest threat to the wastage of our landfill is from the construction demolition sector, which is broken down into two classes. Class one is landfill waste which includes chemicals from materials, including greenhouse gases. Class two is household waste. Construction and Demolition account for half of New Zealand's waste (Salmon, 2021). This means that materials such as timber, concrete, gib board and metal are thrown away when they could have been reused.

Due to the nature of populations increasing worldwide. So does construction. This results in building bigger, taller, or longer structures (Khaleel & Zubaidy, 2018). Which leads to the world generating almost 100 million tonnes of waste each year. Construction wastage is categorised into three groups; materials management on site, materials handling, transportation, and storage and site management and practices. There are 15 major causes of construction wastage which have been narrowed down and can be referred to in Appendix 2. These factors are the most common causes of wastage.

Magnitude of the problem

There is now more exposure to construction and demolition waste as people are aware of the negative social, economic and environmental impacts. Greater waste and pollution introduces greater health issues, risk of animal extinction and uncertainty for future generations. With waste and pollution accelerating as the population grows, it presents higher importance to improve the environment while we still can.

PESTLE

P
POLITICAL

- **Lack of government levies** to disincentivize waste going to landfill (Hancock, 2020)
- Future **government action** likely will be taken due to increase in waste from construction and demolition. (Environment, 2020).

E
ECONOMIC

- **Rising construction material prices** to help reduce waste (Bell, 2022).
- **Rising house prices** have caused a demand in building more homes (Martin, 2022).
- High level of investors seeking **new business ventures** and wanting to invest in sustainable practices/companies could benefit both parties.

S
SOCIAL

- Corporates have **increased focus on sustainability** and reducing waste going to landfill (Palmer, 2022).
- **Younger demographic** placing greater focus on sustainability
- Corporates would like **brand image** to show that it is sustainable (Newman, 2020).

T
TECHNOLOGICAL

- **Increased technological advancements** allowing the conversation of construction and demolition waste into repurposed materials/products (Mdpi, 2018).
- **Increased sustainability** research of what to do with wastage.

E
ENVIRONMENT

- Limited landfill for all the construction materials being wasted. Mainly from **toxins, leachate and greenhouse gases** (Unisan, 2021).
- **UN sustainable development** goals with a focus to make materials more eco friendly

L
LEGAL

- **GreenStar and Homestar requirements** - demolition and construction sustainability impacts the rating (NIH, 2022).
- **Lower carbon emissions** to improve quality of life, especially cleaner air and slowing climate change.
- **Lack of incentive for waste management.** It is anticipated that the government would implement future schemes to protect the environment.

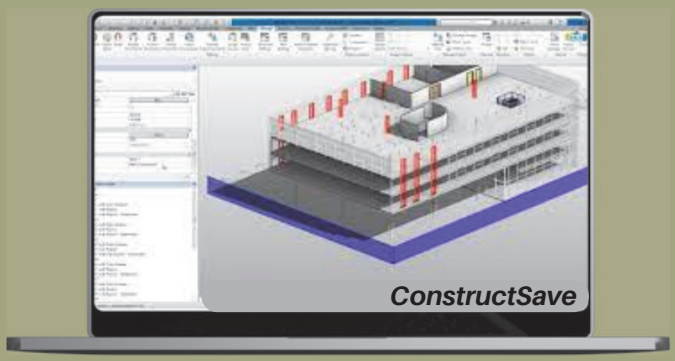
SOLUTION 1

CONSTRUCTSAVE

PHILOSOPHY AROUND THE PROBLEM & PROPOSED SOLUTION

ConstructSave utilises BIM to reduce waste generated during the construction process. BIM is a shared knowledge resource for information about a facility forming a reliable basis for decisions during its life cycle, defined as existing from earliest conception to demolition. It utilises 3D models to capture, explore and maintain consistent and coordinated planning, design, construction and operational data creating a single point of reference for the whole team involved in the project (Paul, 2018). It provides project insights into cost, schedule and constructability while allowing the same consistent data to be shared among the team and quickly responding to project changes. Data is accessible for modelling, analysis, collaboration, and communication throughout the project lifecycle due to the power of connectivity (Lorek, 2022). Thus, an efficient way to determine whether a structure can be built in the real world and to eliminate any uncertainties is to utilise BIM to digitally create it before the building is built (Ahankoob et al., 2012). This makes it possible to create more resource-efficient structures, better built, and support passive design principles.

Most construction waste is generated due to improper design, poor planning, inefficient material handling, residues of raw materials and changes to building design, leading to 30% of construction work being reworked (Miri & Khaksefidi, 2015). Wastage on construction sites accounts for 5-10% of the total material usage (Ahankoob et al., 2012). Eliminating the inefficiencies leading to unnecessary wastage on construction sites will lead to reduced energy consumption and material usage, resulting in sustainably constructed buildings. BIM can eliminate these problems by reducing conflict and collision, improving construction sequencing and planning, reducing rework, synchronising designs and precise material estimations (Ahankoob et al., 2012). Therefore, solution one will be focused on levels 4, 5 and 6 of BIM, where scheduling, estimating and sustainability information will be part of the data set to be used in the building life cycle (Lorek, 2022).



4D BIM is the inclusion of scheduling data which helps to bring the project to life as the sequencing of components takes place along with the time required for each phase of the project (Lorek, 2022). 5D BIM focuses on estimating the built cost into the information model. At this level, the team can monitor and determine costs incurred at each project stage. 6D BIM includes energy consumption information of a building before it is built to ensure the project is energy efficient and sustainable.

Adding these higher-level BIMs provides the benefits of efficient site planning and scheduling, smooth transitions between steps in the construction process, real-time cost visualisation, reduced energy consumption and better building management after completion.

IMPACTS

ConstructSave's implementation provides numerous positive and negative social, economic and environmental impacts.

Social

Positive

- **Shorter project lifecycles** - BIM can speed up the duration of projects as clash detection is detected early, time consuming and costly rework can be avoided (Jowett, 2022)
- **High quality results** - using all the data available in the BIM allows for the team to create more detailed and accurate models which results in high quality structures
- **More projects in the pipeline** - with projects having shorter durations, it allows for more projects to be in the pipeline
- **New job opportunities** - increase job opportunities for freelancers doing BIM, BIM managers and consultants
- **Net zero construction** - Advancing Net Zero project aims to support transformation towards the construction of sustainable and net zero buildings by 2050. Net zero construction starts with pre-construction activities which BIM plays an essential role in
- **Reduced accidents and injuries on NZ construction sites** - the visualisation functionality of BIM and able to see the risks involved can identify health and safety risks.

Negative

- **Greenwashing** - risks being labelled as greenwashing if sustainability and waste reduction claims and promises are not met, impacting the company's brand image and reputation.

Economic

Positive

- **Reduced cost of projects** - factors such as the reduced amount of material waste, streamlining the design process, and reduced unbudgeted project changes will significantly reduce the project's overall cost. By managing data more efficiently, NZ builders expect to save on average 20% on total project spend
- **Greater return on investment** - as the overall project cost is reduced due to less rework and productivity gains, it allows for a greater return on investment.
- **Reduced operational costs of building** - once in the operation phase, building maintenance can utilise the data provided by BIM and plan maintenance based on specific equipment data, specifications and maintenance logs rather than generic schedules, which cost-effective and reduces waste from poor maintenance

Negative

- **Reduce the value of existing properties without BIM model** - as clients and operators realise the benefits of BIM in the operation phase, it could degrade the value of existing properties that was not built with BIM as it would require to be rebuilt or refurbished (Szeląg, 2017)

Environmental

Positive

- **Reduction of waste** generated - by using BIM functionalities, construction professionals in the planning stage can assess the exact amount of materials required for the project. The reduced reworks required will also reduce the waste generated during the construction process.
- **Reduced carbon footprint** - with less construction waste, there will be fewer transportation costs to transfer waste to landfills.
- **Reduced energy consumption** - BIM can help design more energy-efficient buildings, which reduces energy consumption and improves air quality.

Negative

- **Material efficiency** - does not remove the issue of unsustainable materials being used. The project team can still choose to use materials which are less sustainable (Sharman, 2018)

BUSINESS MODELS (Appendix 5)

What is our offering?

ConstructSave offers high-level BIM software where 4D, 5D and 6D data is integrated into the data set to be used in the building life cycle. Our focus on offering the higher level BIM recognises that New Zealand is currently extending to 4D and 5D, and we want to accelerate this progress.

The collaboration and simulation throughout the project result in less waste generated during the construction process resulting in sustainable buildings. As seen in Appendix 5, ConstructSave will be offered through a monthly or annual membership structure that will be cloud hosted to allow the entire team (client, engineers, contractors, suppliers etc) access through a range of operating systems (web, windows, MacOS, iOS).

Who is your target market(s)?

Our target market is those in the Architecture, Engineering and Construction (AEC) industry that is focused on delivering sustainable and low-waste projects. ConstructSave will likely appeal to those in the industry with knowledge about BIM and wanting to enter into the higher levels of BIM to integrate the project's scheduling, cost and sustainability aspects into one location easily accessible by the whole team. In addition to the AEC industry, property owners also demand the use of BIM in their projects, which is a key factor in the adoption of BIM in the industry.

How big is the target market?

The target market is relatively large as BIM is used by the whole team involved in a construction project. Through Procore's survey of construction decision-makers and influencers in the APAC region, New Zealand responded that 43% are currently using traditional BIM and 40% planning to implement. There are only 21% of respondents currently using the next generation BIM and 53% are wanting to take the next generation of BIM. This suggests that there is interest and demand from the construction industry to adopt the next generation and higher levels of BIM.

How do you utilise technology?

Connectivity through cloud platforms allows BIM to create digital representations of an asset throughout its existence, from planning and design through building and operations, based on an intelligent model. Data integration is also required as there is a range of data contained in the BIM software from measurements, facility system data, material specification data or suppliers data. The data must be integrated to support the visualisation aspects generated to allow 2D designs into 3D.

SWOT ANALYSIS (Appendix 3)

What are the strengths and opportunities?

As seen in Appendix 3, the strengths of ConstructSave include reducing the amount of waste generated during the construction process and producing sustainable buildings as the amount of rework and errors are reduced in the construction process through the utilisation of BIM. The main opportunities are that there is demand from the industry as they realise the importance of BIM, and if they do not adopt it they will be left behind as technology is changing the industry.

How can you capitalise on them?

We can capitalise on the opportunities by providing the industry with what they are demanding by offering ConstructSave, which allows them to reduce their carbon footprint when constructing and producing sustainable projects more efficiently.

What are the weaknesses and threats?

Currently, there is strong cultural resistance and a lack of support from senior staff for the use of BIM during the pre-construction stage. The resistance and lack of support threaten the adoption of BIM in those corporations.

Another threat in New Zealand is the slow progress into adopting the higher levels of BIM along with the uptake from across the industry being quite low which puts New Zealand technologically behind other countries.

How can you mitigate them?

We can mitigate the majority of the weaknesses and threats through education. There is always resistance to change. If we educate the clients and professionals on BIM's benefits, they will be more open to adopting this technology for their operations.

BUSINESS STRATEGY

TIMELINE (Appendix 7)

ConstructSave will be developed over six phases starting with source financing, feasibility research, algorithm creation, testing, software development then market entrance (Appendix 7). During source financing, the main task is to estimate the cost of developing the software to obtain appropriate source financing. This will require us to start our feasibility research to make informed decisions.

An essential part of the process is connecting with the industry during our research and development phases. Our development team will create and test our algorithm and develop the software over quarters two and three. Industry feedback will be given in between, and the marketing plan commences in quarter three. ConstructSave is planned to be introduced to the market in October 2023.

SOLUTION 2

DEMOSAVE

PHILOSOPHY AROUND THE PROBLEM

Demolition not only results in excessive noise, dust, smoke and odour for residents (Bose, 2022), but it also creates excessive landfill waste. With construction waste accounting for 50% of waste going to New Zealand landfills (Salmon, 2022) and an expected 2.2 billion tonnes of waste by 2025 from global construction waste (Early Metrics, 2022), it is evident that demolition waste is a growing issue.

Furthermore, over 95% of demolition waste can be recycled (Hughes & Salvidge, 2022), which reflects that this is not an issue of not being able to recycle, rather it is a lack of wanting to. Additionally, the lack of government levies to disincentivise waste going to landfill (Hancock, 2020), presents a large gap in the market. Therefore, there is space for organisations to connect demolition experts and demolition material recyclers to help protect the environment.

PROPOSED SOLUTION

DemoSave is a tablet-friendly software utilising artificial intelligence and machine learning to recognise demolition waste to identify how and where the materials can be recycled, repurposed or reused. Machine learning is an artificial intelligence subfield allowing computers to learn without programming (Brown, 2021). Artificial intelligence is the ability to plan, reason, learn, sense and build knowledge that can be communicated (Deloitte, 2020).

DemoSave offers monthly or annual memberships per user to demolition experts. They obtain the service of material identification and connections with recycling companies. Additionally, demolition experts will be paid for their demolished materials by recycling companies. Furthermore, DemoSave partners with recycling companies that provide a 1% commission to DemoSave for the eventual recycled material sales.

DemoSave's algorithm operates with the following steps:

1. With AI, a camera scans materials and uses augmentation of noise, blur, and saturation
2. Machine learning data from categories, such as concrete, wood, brick, board and mixed, are compared with the scan to determine material type and quality (Na et al., 2022, p. 12)
3. DemoSave identifies where to repurpose or reuse materials
4. DemoSave provides recycler details

DemoSave's service offering differs from ConstructSave's. DemoSave addresses demolition waste, while ConstructSave addresses construction waste. Furthermore, with demolition and construction projects, DemoSave addresses the first component of the project. as opposed to the second part. Additionally, DemoSave uses a more complicated algorithm for material identification, using AI and machine learning compared to BIM.

DemoSave is utilised using the following process:

Project initiated: Demolition experts are hired for a demolition project

Demolition: During demolition DemoSave is utilised to identify materials

Material collation: Identified materials are grouped to reuse, recycle or dispose

Material processing: Sorted materials are transported by demolition experts to be processed for repurposing

Materials sold: Processed materials are sold to material suppliers

Materials used: Materials are used in new construction projects

DemoSave minimises waste, increases recycling and mitigates demolition waste environmental impacts, which addresses sustainable development goals of industry innovation and infrastructure, sustainable cities and communities, climate action, and life on land.

IMPACTS

DemoSave's implementation provides numerous positive and negative social, economic and environmental impacts.

Social

Positive

- **Greater local construction** - increased material access from material recycling
- **Greater jobs** - DemoSave provides jobs
- **Climate action** - lower demolition waste reduces carbon emissions
- **Greater collaboration** - demolition and recycling companies work together on sustainability initiatives

Negative

- **Greenwashing** - using DemoSave can appear to be greenwashing, which lowers company trust
- **Increasing house prices** - higher demolition duration causes higher costs of construction
- **Reduce property value** - reused material reduces material shortage which increases houses built but decreases property value (Boyce, 2022)
- **Increased noise pollution** - increased processing of demolition material creates machinery noise
- **Longer demolition lead time** - longer lead time due to adding waste material processing

Economic

Positive

- **Reduced cost of demolition** - demolition material sales can offset demolition costs
- **New revenue stream for demolition companies** - selling materials to waste recyclers provides an income source
- **Cheaper alternatives** - recycled materials provide cheaper options
- **Increased technology innovation** - DemoSave's technology creates innovation momentum

Negative

- **Increased demolition costs** - more costly to utilise the software
- **Higher costs to recycle materials** - can be time-consuming finding and transporting to the supplier
- **Increased material error costs** - algorithm inaccuracy can incur costs of replacing faulty materials
- **Increased contingency costs** - greater risk of recycling as the price received depends on material and recycling supplier

Environmental

Positive

- **Less land damage** - more gentle demolition to retain material quality for repurposing
- **Increased material recycling** - the increased use of recycling suppliers increases the recycled materials

- **Reduced landfill waste** - more materials are being reused than disposed
- **Reduced pollution** - increased material recycling reduces littering
- **Lower carbon emissions** - material recycling reduces emissions

Negative

- **Harmful materials are still used** - DemoSave encourages all material reuse, including harmful materials
- **Pollution impacts biodiversity** - demolition material processing creates further emissions that impact local biodiversity
- **Potentially dangerous waste** - reprocessing unknowingly harmful materials are dangerous to environment

BUSINESS MODELS

What is our offering?

As seen in Appendix 6, DemoSave offers a well-integrated, portable and efficient system to allow demolition experts to recycle, reuse or repurpose materials for additional revenue. Through a monthly or annual membership structure, demolition experts can utilise DemoSave through their iPad, Tablet or other portable devices with a high-quality camera.

Who is the target market?

Our target market is demolition experts focused on sustainable practices who do not have their own recycling and material processing processes. Furthermore, DemoSave appeals to developers desiring high Green Star and Homestar ratings.

How big is the target market?

DemoSave's target market is large as they appeal to all property sectors such as residential, commercial, and industrial. New Zealand has approximately two million dwellings (Page & Fung, 2008) and 1,250 large office buildings (EECA, 2020). Specifically, it is estimated that around 4,000 out of two million New Zealand dwellings are demolished annually in the residential market alone (Page & Fung, 2008). Hence, with high demolishment within New Zealand, it derives high demand. There are around 17 Auckland-based demolition experts, which presents excellent partnering opportunities. Furthermore, with the increased corporate sustainability practices through Green Star and Homestar, every commercial building and home can be enticed to utilise DemoSave to improve their ratings.

How do you utilise technology?

DemoSave utilises technology through AI, which identifies demolition waste even with material off-cuts. Demolition waste material identification is tedious and non-value-adding but utilising technology replaces it with a simple material scan. Additionally, DemoSave utilises machine learning through material and quality identification. DemoSave's machine learning algorithm decides whether the material can be recycled, reused, repurposed or disposed of. For human labour, material quality identification is tedious and non-value-adding, hence, a scan of materials saves time and money.

SWOT ANALYSIS

What are the strengths and opportunities?

As seen in Appendix 4, the main strength is how accessible and easy DemoSave is to use, as it is an application that can be downloaded onto any tablet to be used anywhere and at any time. The main opportunity is the growing focus on sustainability and reducing construction waste due to greater corporate sustainability and consumer awareness.

How can you capitalise on them?

The high accessibility, ease of use and growing sustainability focus are capitalised on through the membership structure, as users pay individual subscriptions to use DemoSave. Additionally, we capitalise by meeting greater demand for sustainability

practices through DemoSave, which reduces demolition waste.

What are the weaknesses and threats?

The main weakness is that sustainable practices such as using DemoSave add time to the demolition process. Demolition can cost around $8,000 to $32,000 for a home (Tobin, 2022) and increasing the duration can increase the demolition costs and noise pollution. The main threat is smaller buildings with similar materials, which makes DemoSave less efficient as it could be replaced with labour instead.

How can you mitigate them?

The main weakness and threat can be mitigated by focusing membership sales on demolition companies specialising in the demolition of commercial properties as opposed to residential ones. This would help make DemoSave more worthwhile due to the higher scale and already time extensive demolition process.

BUSINESS STRATEGY

TIMELINE

DemoSave's timeline, see in Appendix 8, ranges from Quarter 1 to Quarter 4 and is divided into different segments, including feasibility, testing, development, marketing and financing. The main milestones start with sourcing financing, researching market feasibility, developing algorithms and software and marketing DemoSave to the market after launching.

CONSTRUCTSAVE & DEMOSAVE ANALYSIS

FINANCIAL PROJECTIONS AND FUNDING

Financial projections are prepared for two years Q1 2023 - Q4 2024. ConstructSave and DemoSave generate income from two revenue streams; membership sales and partnership commission. Admin, operations, website and advertising expenses are estimated as a percentage of revenue. Please refer to Appendix 9 for a detailed breakdown.

Investor funds are requested to be $100,000, equal to the owner funds provided. This provides a 50% split of funds and ownership, which allows Reccon to retain majority ownership. The funds cover upfront costs and product research and development for DemoSave's software.

The bank loans, with an interest rate of 11.12% (ASB, 2022) requested, covers the upfront and contingency costs.

The total amount we request for New Horizons would be an investment to our company Reccon of:

$200,000.00

Two hundred thousand only

The funding would support greater product research and development to ensure a high-quality product. This funding would be split 60% to ConstructSave and 40% to DemoSave, which is proportionate to the projected revenue and costs.

CONCLUSION

Our solutions ConstructSave and DemoSave are created to solve the construction and demolition waste problem.

ConstructSave will reduce waste during the construction process by implementing higher levels of BIM. DemoSave is created to tackle demolition waste. DemoSave utilises AI and ML to identify materials that can be recycled, repurposed or reused, reducing the amount of demolition waste going to landfills.

We request $200,000 to support further research and development to ensure high-quality products are brought to the market.

Our preferred idea would be DemoSave. Strategically, DemoSave is the better choice to launch first to capitalise on first mover advantage as it is a unique offering that currently does not exist in the Auckland market. ConstructSave would be an option better suited for the future when the industry is better educated with BIM.

APPENDIX

APPENDIX 1: Construction Waste

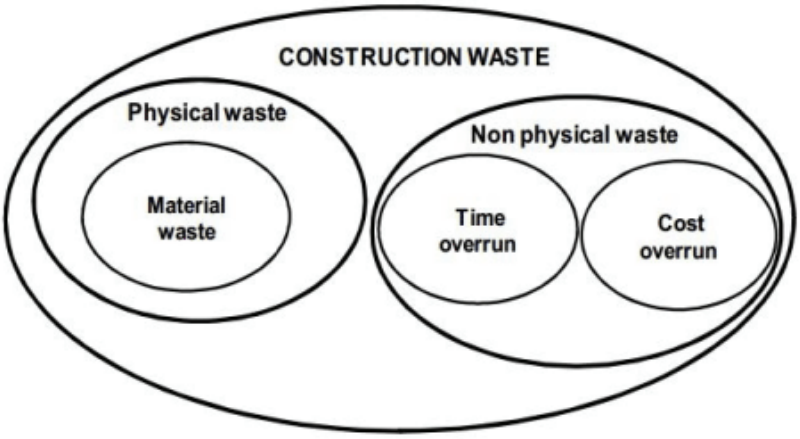


Fig.1. Construction waste classification [11]

APPENDIX 2: 15 Factors of construction waste

Category		Factor
Materials Management on-Site	1.1	Damage of materials on site
	1.2	Manufacturing defects
	1.3	Packaging defects
	1.4	Theft and vandalism
	1.5	Inadequate control on construction materials in site
	1.6	Oversized of building elements during execution due to non-straightness of construction works
Materials Handling, Transportation and Storage	2.1	Wrong handling of materials
	2.2	Materials storage away from the work site and wastage during transportation
	2.3	Poor and wrong storage of materials
	2.4	Double handling of materials
	2.5	Accidents during handling and transportation
Site Management and Practices	3.1	Lack of responsibility of waste management by the resident engineer
	3.2	Absence or weakness of waste management plan
	3.3	Incompetent contractor's technical staff
	3.4	Lack of positive incentive that aims to waste reduction

APPENDIX 3: SWOT Solution 1 - ConstructSave

Strengths • Reduction of construction material waste • Produce sustainable buildings • Productivity gains - better coordination, communication, minimising errors, • Better quality results • Reduction of construction project costs	**Weaknesses** • Requires the whole team involved in the project to be using ConstructSave to get the benefits out of it • Labour intensive to develop the correct BIM model • Benefits of ConstructSave requires the accurate data entry which needs to be up to date
Opportunities • Pressure from the government and internationally to meet climate goals • High demand from the industry • Industry understands the importance of BIM and if they do not get on board they will be left behind	**Threats** • Unskilled or inexperienced design team • Cultural resistance to change from traditional approaches • BIM process not managed effectively • Legal, liability and intellectual property issues

APPENDIX 4: SWOT Solution 2 - DemoSave

Strengths • Accessible and easy to use • Reduces construction waste • Potential income stream • Low capital expenditure costs • Low barrier to entry for consumers due to the membership structure • Can gain government support due to the environmental focus	**Weaknesses** • Sustainable practices can add time to the demolition process • Being a new innovation, DemoSave doesn't have a current established reputation and brand • May require training for older employees • Requires a high level of software expertise to develop
Opportunities • Growing focus for sustainability and reducing construction waste which can bring higher demand • First mover advantage • High degree of demolition which likely derives higher demand for DemoSave • Environmental focus can bring higher investors and funding support	**Threats** • Less efficient with smaller buildings with similar materials • DemoSave can be replaced by human labour • Demolition experts might be hesitant to use new software • Requires regular updates to integrate new materials utilised

APPENDIX 5: Business Model - ConstructSave

Business Model Canvas – ConstructSave

Reccon

Key Partners

- Software developers
- Architecture, Engineering and Construction sector

Key Activities

- Single point of reference for whole project team for planning, design, construction and operational data

Key Resources

- BIM software
- Reputation
- Consultants

Value Proposition

- Reduced waste in construction process
- Efficiency and productivity gains
- Cost savings
- Sustainable developments

Customer Relationship

- Company networks and connection
- Industry links

Channels

- Cloud based platform
- App

Customer Segments

Construction industry

- Contractors
- Developers
- Architects
- Engineers
- Owners

Cost Structure

- Research and software development
- Financing
- Marketing
- Website/app operations
- IP rights
- HR

Revenue Streams

- Annual or monthly memberships
- Partnership commission

APPENDIX 6: Business Model - DemoSave

Business Model Canva – DemoSave

Reccon

Key Partners

Demolition companies

Material recyclers

Key Activities

AI and machine learning to identify materials

Connections with demolition and material recycling companies

Key Resources

Software utilising Artificial Intelligence and Machine Learning

Network of demolition and recycling materials

Brand

Value Proposition

Additional income for demolition companies

Reduce and recycle demolition waste

Promote sustainable operations

Customer Relationship

Company connections and networks

Review system

Channels

Tablet application

Customer Segments

Material recyclers

Developers and demolition companies with a sustainability focus

Cost Structure

Feasibility Research

Software Testing

Software Development

Marketing

Financing

Revenue Streams

Monthly or annual memberships

Partnership commission

APPENDIX 7: Projected Timeline - ConstructSave

ConstructSave Projected Timeline

		Quarter 1 October 2022 - December 2022	Quarter 2 January 2023 - March 2023	Quarter 3 April 2023 - June 2023	Quarter 4 July 2023 - September 2023
Milestones	Key Dates	Source financing; Research Feasibility within the market	Create ConstructSave algorithm; Testing ConstructSave algorithm	Develop ConstructSave software	Market ConstructSave to the market
Feasibility	Research	Research software requirements and capabilities; Research industry needs + get industry input	Industry Feedback		
	Development	Assemble development team	Generate BIM algorithm + integration		
Testing	Stream		ConstructSave testing		
	Integration		Test integration between different BIM components		
Development	Training			ConstructSave Training	
	Deployment			Software deployment	
Marketing	Strategy		Develop marketing plan for market segments		
	Growth			Connect with partners and marketing agencies	Release marketing to the public
Financing	Strategy	Calculate cost of developing software			Utilise industry seminars to grow presence
	Growth	Source financing		Source additional financing	

APPENDIX 8: Projected Timeline - DemoSave

DemoSave Projected Timeline

		Quarter 1 October 2022 - December 2022	Quarter 2 January 2023 - March 2023	Quarter 3 April 2023 - June 2023	Quarter 4 July 2023 - September 2023
Milestones	Key Dates	Source financing; Research DemoSave Feasibility within the market	Create DemoSave algorithm; Testing DemoSave algorithm	Develop DemoSave software	Market DemoSave to the market
Feasibility	Research	Research AI capabilities; Research Machine Learning capabilities			
	Development	Generate AI algorithm; Generate Machine Learning algorithm			
Testing	Stream		AI and Machine Learning algorithm tests		
	Integration		DemoSave Alpha Testing	DemoSave Beta Testing	
Development	Training			DemoSave algorithm training	
	Deployment			Software deployment	
Marketing	Strategy	Develop marketing plan for market segments			
	Growth		Connect with partners and marketing agencies		Release marketing to the public
Financing	Strategy	Calculate cost of developing software			Utilise social media to grow presence
	Growth	Source financing		Source additional financing	

APPENDIX 9: Financial Projections - ConstructSave & DemoSave

Financial Projections

2 Year Projections: Q1 2023 - Q4 2024	Business Model 1 ConstructSave	Business Model 2 DemoSave
Assumptions		
Membership Sales		
Membership Price (per unit)	$ 500.00	$ 240.00
Memberships Sold	486	720
Partnership Commission		
Commission (%)	1%	1%
Partnership Sales (per unit)	$ 350.00	$ 120.00
Number of Partnership Sales	900	4,800
Costs as a Percent of Revenue		
General Admin (%)	18%	15%
Operations (%)	35%	35%
Website/apps (%)	9%	9%
Advertising/promotion (%)	5%	8%
Other	$ 1,000.00	$ 1,000.00
Investment/Funding		
Bank Loan Received	$ 150,000.00	$ 100,000.00
Investor Funds	$ 50,000.00	$ 50,000.00
Owners' Funds	$ 50,000.00	$ 50,000.00
Loans Repaid	$ 16,680.00	$ 11,120.00
Operational		
Cash from sales	**$**	**$**
Membership Sales	$ 243,000.00	$ 172,800.00
Partnership Commission	$ 3,150.00	$ 5,760.00
Sub-total	**$ 246,150.00**	**$ 178,560.00**
Payments	**$**	**$**
General/admin	$ 44,307.00	$ 26,784.00
Operations (rent, utilities, travel, insurance et	$ 86,152.50	$ 62,496.00
Website/apps	$ 22,153.50	$ 16,070.40
Advertising/promotion	$ 12,307.50	$ 14,284.80
Other	$ 1,000.00	$ 1,000.00
Sub-total	**$ 165,920.50**	**$ 120,635.20**
Net cash from operational	$ 80,229.50	$ 57,924.80
Opening Balance	$ -	$ -
Closing Balance	$ 80,229.50	$ 57,924.80
Investment/Funding		
Input		
Bank loans received	$ 150,000.00	$ 100,000.00
Investor funds	$ 50,000.00	$ 50,000.00
Owners' funds	$ 50,000.00	$ 50,000.00
Total inputs	$ 250,000.00	$ 200,000.00
Outputs		
Loans repaid	$ 16,680.00	$ 11,120.00
Net funds from investors	$ 233,320.00	$ 188,880.00
Total Closing Balance	$ 313,549.50	$ 246,804.80

APPENDIX 10: References

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