

“Neuchi Ideas: A Business Plan”

By

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Finally, thanks to my daughter, Kate. It has been a challenging few years and yet she still continues to shine with creativity and joy.

Thank you,

Jason

ABSTRACT

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By

Jason MacFadyen

April 8, 2015

The purpose of this major research project is to create a business plan for, and determine the feasibility of, a mobile applications development company. An example of the type of application is provided along with the premise behind the organization and its foundation in lean manufacturing. Nine building blocks are described which form the business model to be used. Industry trends are used to project the potential for the company as well as to identify appropriate revenue streams for the business model. A risk and sensitivity analysis was performed and a roadmap outlining the implementation of the project was created. A financial analysis was completed with cash flow estimations. All of these tools were used to determine that the overall risk for the project is low with the potential for high returns on investment. The conclusion, therefore, is to proceed with the implementation of the business plan.

EXECUTIVE SUMMARY

The general concept of Neuchi Ideas is that it will consist of two business units. The first business unit will be a mobile applications development unit. The second business unit will be a consultation company that utilizes the internally developed applications to facilitate the consultation process. This business plan will focus on the mobile applications development unit as it is required before the consultation aspect can be implemented.

The mobile applications development will be the first stage of the company formation. The focus of these applications would be on interactive productivity tools to assist companies in developing and organizing their lean processes. These would be a series of standalone products that work in conjunction with each other to establish an efficient system of handling and improving company processes. The applications would be available individually through the Apple™, Google™, and Microsoft™ markets, however, they would ideally be used together as a complete system for process control.

Once the initial applications are released, the second business unit can then begin operations. The business unit will consist of consultation services that use Neuchi Ideas' applications to analyze business processes, whether transactional or operational, and provide recommendations for improvement along with methods for tracking metrics and ensuring sustainability.

Neuchi (nay-ew-chee) is a translation of the Japanese word for “value”, a nod to the fact that much of current lean manufacturing methodology stems from Japanese culture. The

値打ち

kanji for neuchi is shown to the left. This name was very carefully selected as Neuchi Ideas is meant to provide

forward thinking ideas that deliver value to their customers. To stay relevant in any industry today requires innovative thinking and Neuchi Ideas means to provide technological solutions to facilitate growth and improve company processes, freeing resources so that clients can deliver innovative solutions to their own customers without worrying about their own fundamental processes.

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INTRODUCTION

This document will take the reader through the concept of Neuchi Ideas and all the way to the financial analysis and steps to move forward. Along the way, an example will be provided of what exactly the type of mobile application Neuchi Ideas intends to develop and how it will be useful to consumers. A business model will be established and an analysis of the potential risks will be performed before projecting three performance scenarios in a sensitivity analysis.

All of the above steps are necessary to establish the feasibility of the business concept, ultimately providing all of the information necessary to make a decision on whether or not to proceed with the creation of the business.

APPLICATION EXAMPLE

The following is an example to demonstrate the purpose of the first developed mobile application as it would be applied in a real-world situation. This example will help to explain the value of the applications that Neuchi Ideas intend to develop. For length considerations, the example presented here only describes a simplified process used to perform the final assembly steps of building a cajón drum (a box shaped drum you sit on when playing): installation of the feet, the snare wires, and the front panel.

For manufacturing processes, there usually exists a detailed assembly procedure. This procedure is necessary to capture all of the steps in completing the assembly and provides a basis for making improvements as well as training new staff. This detailed assembly procedure is available for the operator in a manufacturing cell, however experience shows that this document is rarely referred to by an experienced operator. The following is an example of a typical documented procedure for the cajón final assembly process:

Place the cajón on its top so that the bottom surface is facing upwards. Measure in 1" from each side at the corners and mark the location for the four feet. Drill 1/16" pilot holes at the four locations ensuring that the holes do not penetrate into the inside of the instrument. Install the four feet using #8 phillips screws. Hand tighten the screws in place.

Access the inside of the cajón through the back and place the first snare piece approximately 1/2" from the right side and 1" up on the crosspiece. Attach the

snare to the crosspiece using two #4 nickel-plated screws. Place the second snare piece approximately ¼" from the first and attach it using two #4 nickel-plated screws.

Place the front panel on a flat surface. Measure in 3 ¾" from each side and place a mark 3/16" from the top. Measure 4 ¾" from the top and place a mark 3/16" from each side. Continue to mark along the side every 3", 3/16" in. Along the bottom, measure in 1 ⅝" and mark. Place a mark every 3" along the bottom. Drill 1/16" clearance holes at all marked locations.

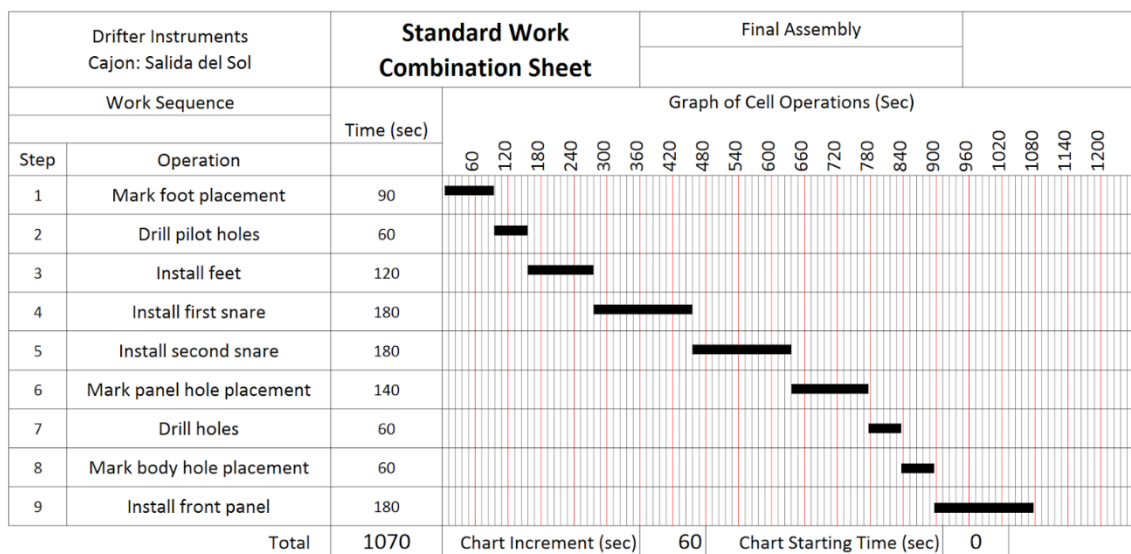
Put the cajón body on its back and place the front panel into the inset, forcing the snare wires down. The panel should fit into the inset. Use a punch and mark all of the holes with the panel in place. Remove the front panel and check to see that none of the marks are on a knot in the wood. If they are on a knot, a hole will need to be drilled and a helicoil insert installed so that there are good threads to screw the front panel into.

Place the front panel back into the inset. Push the panel down so that the snare wires are not lifting it off of the main body. Using #8 black coated, pan-head screws begin fastening the front panel to the body. Install the top four screws first. Once they are in place, test the movement of the upper corners. If they rub against the main body and do not move freely, the front panel will have to be removed and the areas that interfere should be sanded down until they can move

freely when placed into the inset. Once the top corners move freely, the front panel can be completely fastened down.

A Standard Work Combination Sheet (SWCS) is used in lean manufacturing for tracking the assembly steps of a process and keeping a record of the time it takes to perform each step. It documents time spent performing work, time spent waiting for something to finish so that work can continue, and time spent by a machine to complete any automated processes. This information can then be used to track down the source of problems should a process take longer than it should to complete. These sheets are created by observing a process using a stopwatch and recording all of the involved steps. The results are then populated into a digital form, usually an Excel spreadsheet, and then printed and posted at the work location. In order to prove useful in problem solving, a process must be monitored by a second party to gather relevant data. An example of a simplified SWCS for the above process is shown in Figure 1.

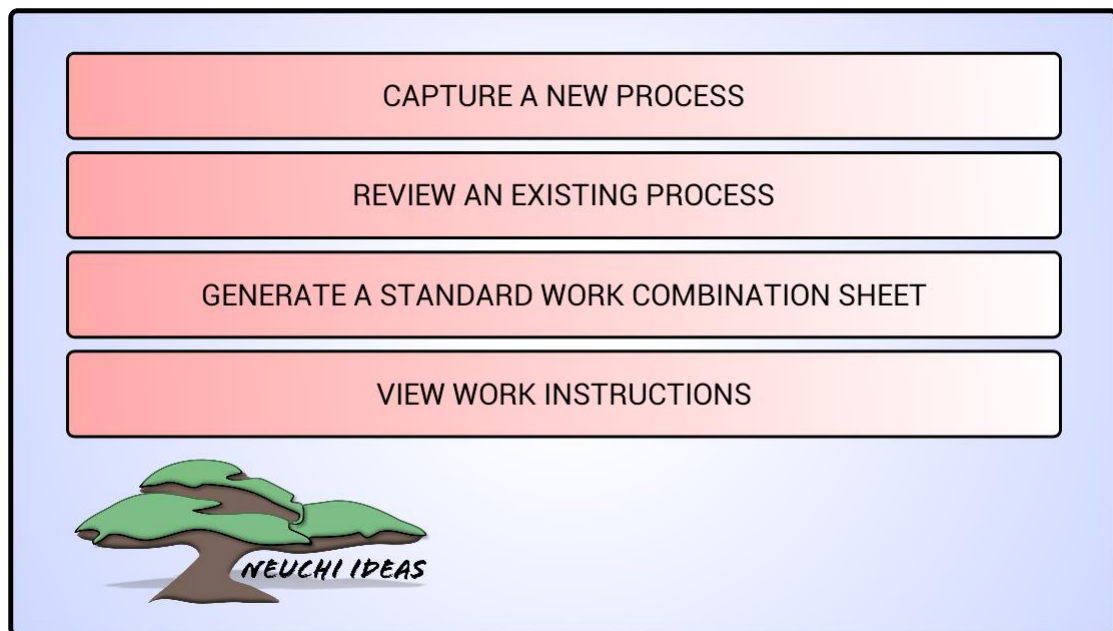
Figure 1: Sample Standard Work Combination Sheet



Both of the above examples are required for establishing fundamental lean processes. There are two major issues associated with them however: first, detailed assembly procedures tend to not be referred to by the operator after an initial familiarization period and second, external monitoring is required to identify and troubleshoot when issues arise. The first mobile application planned for development by Neuchi Ideas is one that will facilitate a speedy capture of a process, automatically format that process into an SWCS, automatically generate step by step work instructions that can be used by the manufacturing cell operator on a mobile device, and provide instant feedback on which steps of a process are causing delays.

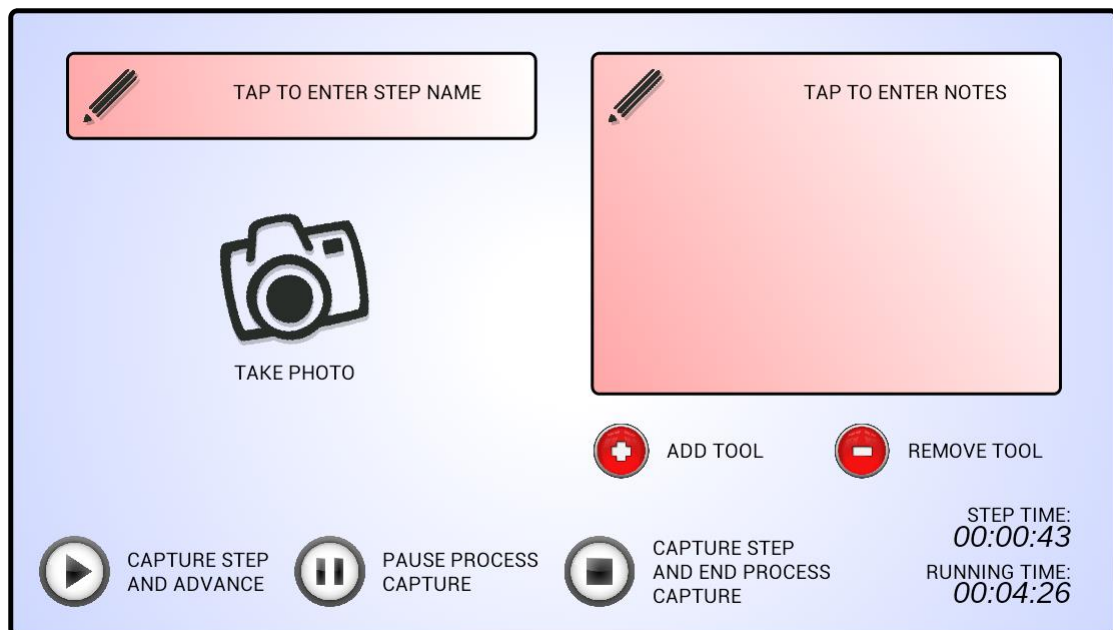
Upon opening the app, the user will be presented with a screen similar to the one shown below in Figure 2. There will be four main options available to the user from this startup screen.

Figure 2: Application Startup Screen



The application will first be used to “CAPTURE A NEW PROCESS” using a mobile device as any of the other options require a process to have been captured previously. For each step in the process, it will have an input screen similar to the one shown below in Figure 4. It will allow the user to enter in the name of the step, add notes to help explain the work, add a list of tools specific to this step, and take a photo if desired. When the user selects the option to “CAPTURE STEP AND ADVANCE”, the time taken for that step of the process will automatically be recorded. This method of entering process steps will continue until the entire process is captured. Once this is done, the user will be presented with an option to finalize or to capture another round of the same process in order to average the times to provide a more realistic measure of the actual time per step.

Figure 3: CAPTURE A NEW PROCESS Screen

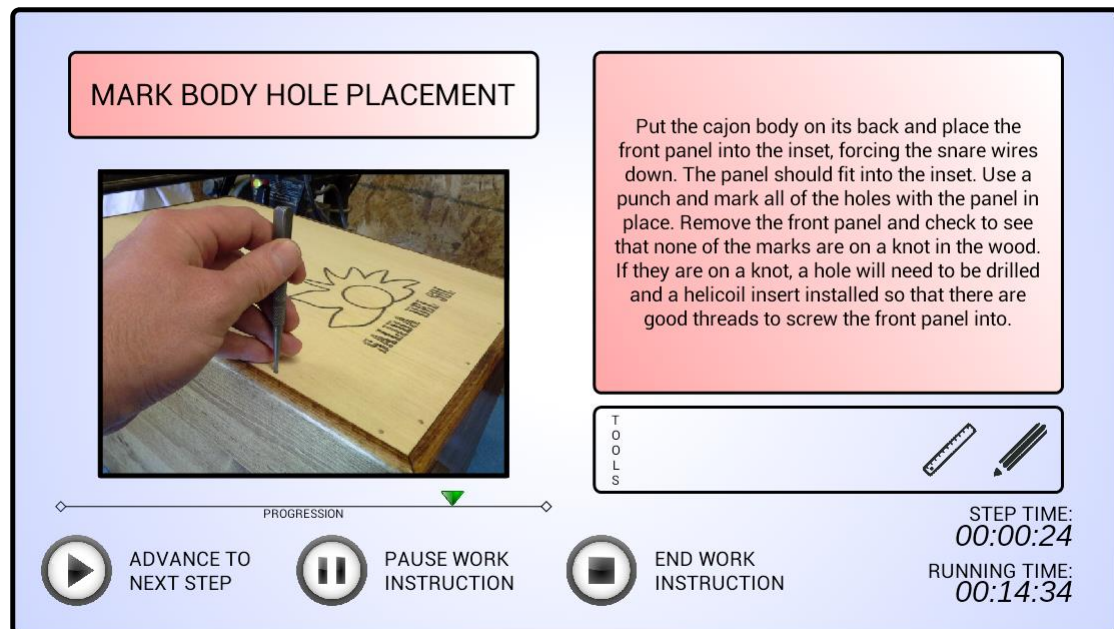


If the user selects “REVIEW AN EXISTING PROCESS”, this will allow them to follow an existing process and make any required changes due to updates or changes in process.

“GENERATE A STANDARD WORK COMBINATION SHEET” will use the data from a previously captured process to output the SWCS in an exportable format such as PDF. This SWCS will appear similar to traditional lean manufacturing documentation such as shown above in Figure 2 and will provide the option to monitor work cell activity in the traditional manner.

“VIEW WORK INSTRUCTIONS” can be used to perform the work required for any process and is the primary benefit of the application. The user will be presented with step by step instructions to complete the desired process, similar to what is shown in Figure 5. The digital format will provide an advantage over hard copies of work instructions as they will allow the operator to zoom in on any pictures to help provide clarity for what needs to be done. When the operator advances to the next step, the time will automatically be recorded and compared to the previously captured time. There will also be a progression bar which will clearly inform the operator of their progress in relation to the standard established when the process was originally created. This will provide the operator with real time feedback on whether they are on track to complete the build on time or if they have an issue that may be preventing them from working efficiently.

Figure 4: VIEW WORK INSTRUCTIONS Screen



Once this basic app is developed and utilized, it will provide a valuable tool for shop floor monitoring in real time. To take full advantage of the tool, the next application in the development cycle would be a controller app that can use the information generated at each of the work stations on a shop floor and generate a real time view of floor productivity so that issues can be seen at a glance. From here there are a multitude of lean manufacturing tools that could be developed and integrated into the controller, providing a complete process resource planning system.

LITERATURE REVIEW

As Neuchi Ideas plans to use modern technology to assist with the implementation of proven methodologies, there is a broad array of subject matter that needs to be reviewed. Starting with information on the methodologies themselves then moving through the available technologies and the emerging Generation Y workforce. Since this will be a new business, information must also be considered regarding what business model should be employed and how the organization must remain adaptable in a fast-paced market. Finally, some thought into future potential development projects and an investigation into newer sources of capital are considered.

The premise behind Neuchi Ideas is to provide tools to facilitate the implementation of lean manufacturing. The Toyota Way (Liker, 2004) is widely accepted as the leading book on the practice of lean manufacturing. The mobile applications that Neuchi Ideas intends to develop are based primarily on lean manufacturing principles. In this book, Liker is focusing on the concept of continuous improvement throughout all organizational levels. One of the key steps in continuous improvement is the establishment of standard procedures so that there is a baseline from which to improve from. Once improvements are made, it is equally important to recapture the improved process so that the improvement is sustainable. Neuchi Ideas' application will make the capturing of a process as simple as possible since it is such a critical tool in the lean manufacturing toolbox.

True lean manufacturing is reliant on manufacturing data to monitor performance. Without sufficient monitoring, organizations cannot effectively implement lean manufacturing (Waurzyniak, Shop-Floor Monitoring Critical to Improving Factory Processes, 2013). Waurzyniak finds that shop-floor data collection and monitoring systems are critical in helping managers make informed decisions to implement improvements and to uncover bottlenecks in the system that are decreasing productivity. This is one of the fundamental tools for implementing process improvements and is the foundation on which Neuchi Ideas will be built; providing tools to facilitate process capture and monitoring to better identify areas for improvement.

There is no doubt that the world is getting smaller with the prevalence of smartphones and other mobile devices such as tablets seeing massive growth and integration into society. Taking advantage of increasingly mobile technologies is one of the key drivers for Neuchi Ideas. Waurzyniak expands upon his previously mentioned article by noting that manufacturers are taking advantage of portable devices, using them to pull information from their Enterprise Resource Planning (ERP) software and putting that information directly in the hands of those who need it (Waurzyniak, Shop-Floor Intelligence at Your Fingertips, 2013). This approach is useful for those organizations that have such in depth ERP software, however, ERP software can be quite expensive and many small to mid-sized businesses don't have this type of software or, even if they do, they may not have the resources to adequately utilize it. This is the target market for Neuchi Ideas.

It is important for Neuchi Ideas to understand industry trends in manufacturing since the main market will be for business looking to implement lean manufacturing. One such trend is the recent flooding of the workplace by “Generation Y”, those born between 1985 and 2004, and the impact this flooding of tech-savvy workers will have (Rubinger, 2012). Rubinger notes that this generation has grown up with collaborative tools and technologies and is more adaptable to emerging technologies and innovations. This generation also has a higher expectation for instant gratification due to the accessibility of information that they have grown up with, having access to the internet in their pockets. Acceptance of methods such as the ones being put forth here will be much higher for this generation, providing an opportunity for Neuchi Ideas to move forward.

Businesses involved in either lean manufacturing or in application development can take many different approaches. Neuchi Ideas will have to establish a viable business model if it is to succeed. In *Business Model Generation* (Osterwalder, Pigneur, & Clark, 2010), Osterwalder et al. outline nine key building blocks for developing a business model. They describe these business model building blocks as: customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure. This business model was co-created by 470 practitioners worldwide in a collaborative effort to incorporate numerous cultures, insights, and viewpoints to establish a universal roadmap for effective business model generation. The establishment of the business model is one of the first planned activities for this project. This book outlines a process for putting together that business model,

identifying all of the key elements required, which will be critical to the success of Neuchi Ideas.

The establishment of a sound business model is critical but it is also important to have the flexibility and adaptability if the market demands it. While *The Lean Startup* (Ries, 2011) is primarily focused on software startups, Ries does outline methods for developing a minimum viable product on an accelerated timeline to gain customer feedback as quickly as possible and avoiding wasted efforts on products and features that the end user does not find valuable. This methodology allows for rapid reaction to customer requirements and keeps the focus on providing value to the customer. This methodology will be useful during the actual software development stage but also during the development planning stages when the actual decisions are made regarding project scheduling and determining which projects will actually proceed.

Neuchi Ideas will roll out in stages, beginning with the application described in the previous example. After this initial release, the next steps must be carefully planned and tailored to customer expectations. Parry, Mills, and Turner outlined a methodology for lean implementation that mitigates the risks to key resources during the implementation phase (Parry, Mills, & Turner, 2010). Parry et al. found that the developmental methodology they employed provided significant positive effect. They used established practices to safeguard key resources and from loss during the lean implementation process. Keeping this type of risk mitigation in mind when creating the business model will be important to providing additional value to the end users of the mobile

applications. While this strategy is important to the development of Neuchi Ideas itself, it also provides a framework for which future development projects could be based on.

One such development project could be based on the lean manufacturing tool of visual stream mapping. In 2014, a case study was completed detailing an engineer-to-order system that was designed using an adaptation of value stream mapping (Matt, 2014). This case study focuses on an example plant's development of a lean engineer-to-order (ETO) process. The case study is valuable as it outlines the adaptation of a standard lean manufacturing tool (visual stream mapping) to a non-traditional application. This flexibility and innovation will assist in the development of the business model, specifically in identifying possible revenue streams and future development projects.

Naturally, Neuchi Ideas will require some financial assistance to start up. In *The Crowdfunding Bible* (Steinberg, DeMaria, & Kimmich, 2012), Steinberg et al. describe methods for raising business capital for a startup through crowdfunding. Crowdfunding involves directly approaching individual internet users as a source of capital investment versus using traditional methods such as venture capitalism or angel investment. This could potentially be useful for Neuchi Ideas in identifying possible sources of funding to initiate the project.

There is an abundance of theories and opinions available on lean manufacturing and its impact on organizations. This review covers some key points regarding lean manufacturing itself along with some information on potential opportunities for Neuchi Ideas in the future. Caution must be advised as it is difficult to find peer-reviewed articles

that are relevant to what Neuchi Ideas is trying to achieve. Most literature available is in the form of books and journal articles and can be quite subjective as the authors attempt to put context to what can be a very broad subject. The benefits of lean manufacturing can vary greatly depending on the circumstances and how well it is implemented. Adjustments and improvements must be continually applied which is why I believe it is important for Neuchi Ideas to start with a well-defined business model, yet remain flexible enough to implement pivots (as described in *The Lean Startup*) as necessary to stay relevant with its customers.

SOURCES OF DATA

The data required for this project will be focused around the development of a viable business plan. Since this business will be based in Nova Scotia, two of the primary resources will be Nova Scotia Business Inc. along with the government of Nova Scotia. Additionally, every course in my EMBA program provides some relevant material and will be a constant source of information throughout the program.

To analyze the mobile application market, one possible source of data is www.distimo.com. Distimo is a service that provides in-depth app analytics and is continually updated with the latest data, tracking information from all three of the major platforms. This will be a vital resource to determine potential market size as well as to evaluate various business models to establish significant market penetration.

METHODOLOGY

The intent is to develop a business model using the structure outlined in *“Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers”* which states that “a business model can best be described through nine basic building blocks that show the logic of how a company intends to make money.” Each of these nine building blocks will be analyzed and used to form the structure of the company.

Once the business model is established, an analysis will be done on the external environment to determine possible impacts on the business and identify those external factors which may have a limiting impact on the business. This will be followed by an implementation roadmap to clearly define the sequence of events required to launch the business. Once the implementation roadmap is defined, a risk analysis will be completed along with an in-depth financial analysis.

THE BUSINESS MODEL

The business model for Neuchi Ideas is based on the model presented in *“Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers”* and consists of nine primary building blocks: customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure.

CUSTOMER SEGMENTS

“an organization serves one or more customer segments - this building block defines the different groups of people or organizations an enterprise aims to reach and serve”

Neuchi Ideas would aim to serve to very different market segments: mass market and niche. The mass market segment would consist of users who may be interested in using the applications for personal use. The niche market would consist of small to medium sized businesses who may be interested in a complete applications suite to monitor operations and identify problem areas and potential areas for improvement in efficiencies. For the purpose of this report, these two segments will simply be referred to as “personal use” and “business use” throughout. The large business customer segment will not be an area of focus for Neuchi Ideas as larger businesses have more options for process planning due to having more resources available; both financial and human resources, that Neuchi Ideas would not be able to adequately compete with.

VALUE PROPOSITIONS

“an organization seeks to solve customer problems and satisfy customer needs with value propositions - they describe the bundle of products and services that create value for a specific customer segment”

Neuchi Ideas has several value propositions to offer its customers. These are both qualitative and quantitative. The qualitative offerings are convenience and risk reduction. Neuchi Ideas will offer ease of use by capturing lean manufacturing principles and providing an intuitive interface for the consumer. A knowledge of lean methodologies will not be required in order to implement process control by a customer. Risk reduction is offered by the nature of the applications; by capturing processes throughout an organization, the risks associated with employee turnover will be significantly reduced.

The quantitative offerings are often the ones that receive the most attention as these are items that can directly affect an organization's bottom line. Neuchi Ideas quantitative offerings will include: price, cost-reduction, customization, and accessibility. Given that Neuchi Ideas is entering into the mobile application market, the nature of the marketplace means that the price will have to be relatively low to be competitive. In serving the two customer segments described above, Neuchi Ideas will provide two different pricing models. A low-cost or free (ad-supported), personal use application and a business, “premium” version without any ads. Cost reduction for the consumer will be achieved by identifying inefficiencies in current processes that can be reduced or eliminated.

Customization will be achieved by the very nature of the product; each process capture is very specific to every individual organization. As a company grows, the necessity for additional installations of software can be determined by the customer itself. Additionally, the customer can decide if additional modules and applications would be useful for their continued growth, allowing for organic customization for individual organizations. Accessibility is also provided by the nature of the product; the applications will be available on the three major mobile platforms, making the major limitation for accessibility an organization's willingness to purchase mobile devices to use for implementation. As mobile devices become less expensive with each iteration of the products, this limitation is continuously diminishing.

CHANNELS

"Value Propositions are delivered to customers through communications, distribution, and sales Channels"

According to *"Business Model Generation"*, channels have five phases: awareness, evaluation, purchase, delivery, and after sales. It is important to be aware of these phases when choosing which channels to use to reach customers. Channels can either be direct (controlled by the organization) or indirect (controlled by a partner). Organization owned channels offer higher margins however partner owned channels can offer more exposure through established markets or other advantages.

Mobile applications can be delivered to customers through a privately owned website however the Apple™, Google™, and Microsoft™ stores offer much more exposure to a

worldwide consumer market. For this reason alone, it is worth the reduced margin to extend Neuchi's reach into these markets. These online stores will be the main vehicle for awareness, evaluation, purchase, and delivery of Neuchi's applications, offering a simple interface for customer interactions.

The after sale phase will be handled by more direct channels. This can be done through a web site, phone support, or in-application tools that will allow direct communication to the customers. It will be important to offer these methods of direct support to ensure customer satisfaction and to gather feedback for future updates and module development.

CUSTOMER RELATIONSHIPS

"Customer relationships are established and maintained with each Customer Segment"

Initially, Neuchi Ideas will handle customer relationships through a self-service method. As the mobile applications will be available through the major application markets, the customers will be able to locate, try, and purchase the apps through these venues. Once a user has one of Neuchi's apps installed, the opportunity is available for more direct interaction with the customer. This would include targeted marketing of other applications to upsell to existing customers.

In order to drive customer involvement, a community will be created for uploading and sharing user-created content. This would allow customer sharing of recorded processes

and would be useful for such things as sharing of recipes, hobby and craft methods, automotive repair, or any other process that may be of use to the community at large.

While the community aspect will be beneficial for application sales for personal use, a more structured and customized approach can be applied to industrial customers. This will include website interaction and dedicated personal assistance to integrate entire systems. This service would come at an increased cost and would be included with the second business unit of the Neuchi Ideas' organization, the consultation services.

REVENUE STREAMS

“Revenue streams results from value propositions successfully offered to customers”

The two customer segments to be served by Neuchi will have two different revenue streams. The mass market segment will have a revenue stream resulting from transaction revenues from one time payments; when individual consumers buy the application from either the website or one of the main application markets. Alternatively, revenue may be generated from the mass market segment through the use of in-app advertising. The niche segment of “business use” will have the initial transactional revenues but these will be supplemented by recurring revenues associated with customer support and usage fees for a premium section of the website that contains additional support and tools for business integration.

KEY RESOURCES

“Key resources are the assets required to offer and deliver the previously described elements”

Key resources required by Neuchi are mainly human and intellectual. It will not be necessary to have a building or office space. The development of the application itself could either be handled by a hired employee or outsourced to a development company. The intellectual resources will be the manufacturing experience of the employees and theoretical lean methodologies.

KEY ACTIVITIES

“an organization offers and delivers the previously described elements by performing a number of Key Activities”

Neuchi’s key activities at the outset will include production in the form of software development and problem solving to determine the main required features of the programs. Since the goal of Neuchi is to provide mobile solutions to common manufacturing or development issues, these two activities will go hand in hand. Future activities will include network-related activities as a platform is developed over time to capture user-created content.

KEY PARTNERSHIPS

“Some activities are outsourced and some resources are acquired outside the enterprise”

Neuchi will require several key partnerships during the development of the applications and continuing on once applications are released. The three main partnerships include the big three distribution networks of Microsoft, Apple, and Google. These are more than just partners for distribution, however, as development kits are also needed from all three of these during the application development phase. If the actual application development is outsourced, the provider then would obviously become a key partner. Another key partnership would be the website provider for the community based aspect of the user-created content.

COST STRUCTURE

“The business model elements result in the cost structure”

Most of Neuchi’s costs will be fixed costs with very limited variable costs. The reason is simple: once an application is developed it can be duplicated at virtually zero cost. For this same reason, there are no economies of scale to be realized for Neuchi. Opportunity may present itself for economies of scope, however. By expanding the product line, resources can be utilized in more areas. For example, once a second application is developed, the costs for maintaining a website would remain the same.

In terms of cost-driven versus value-driven, Neuchi would have two different philosophies depending on the market segment. The mass-market segment would be a cost-driven class; effort would be focused on reducing waste and developing the application at as low a cost as possible. The business-use segment would have more of

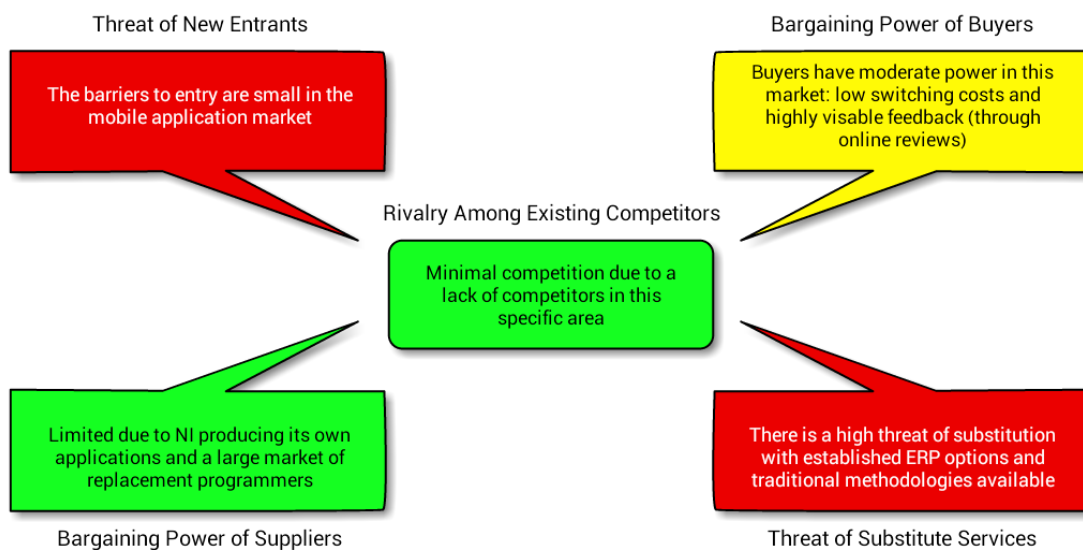
a value-driven focus, where efforts would be expending making the product and associated services as valuable to the customer as possible.

EXTERNAL ENVIRONMENT

PORTER'S FIVE FORCES OF STRATEGY

Figure 5 shows Porter's Five Forces of Strategy as they apply to Neuchi Ideas in its initial state. We will review these five forces and discuss how they impact Neuchi Ideas.

Figure 5: Porter's Five Forces as they apply to Neuchi Ideas



Threat of New Entrants – is high as it does not take a lot of resources to enter into the mobile application market. Any programmer with an idea can easily get something to market in a very short timeframe.

Bargaining Power of Buyers – is moderate as the switching costs between applications are low and users can provide instant, visible feedback through the review sections of the applicable market stores.

Rivalry Among Existing Competitors – is low as there currently are not a large number of application developers providing application suites for productivity improvement.

Bargaining Power of Suppliers – is low as programming resources are readily available regardless of whether the programming is outsourced or a programmer is retained. The suppliers that do have some power are actually the distribution channels – the Apple™, Google™, and Microsoft™ market stores who are able to set their own terms for using those services.

Threat of Substitute Services – is very high as there are many options available. Organizations have the option to use established ERP systems (albeit at a much higher cost), traditional hardcopy methods of productivity monitoring, or perhaps organizations may feel they do not need this type of service at all.

INDUSTRY TRENDS

The following three North American Industry Classification System (NAICS) codes will be used to help determine some industry trends (classification code descriptions taken directly from <http://www23.statcan.gc.ca/>):

- 511211 – *“This industry comprises establishments primarily engaged in publishing computer software, usually for multiple clients and generally referred to as packaged software. These establishments carry out operations necessary for producing and distributing computer software, such as designing, providing documentation, assisting in installation and providing support services to software purchasers. They may design and publish, or publish only”* (Statistics

Canada, 2012). This industry sector is relevant to Neuchi Ideas as it represents the main component of the business, application development.

- 518210 – *“This industry comprises establishments primarily engaged in providing hosting or data processing services. Hosting establishments may provide specialized hosting activities, such as web hosting, video and audio streaming services, application hosting, application service provisioning, or may provide general time-share mainframe facilities to clients. Data processing establishments may provide complete processing and preparation of reports from data supplied by the customer; specialized services, such as automated data entry; or they may make data processing resources available to clients on an hourly or time-sharing basis”* (Statistics Canada, 2012). This industry sector is relevant to Neuchi Ideas as it governs the web site portion of the business and also may have significant impact on future project selection as the business branches out into more systemic areas.
- 541514 – *“This Canadian industry comprises establishments primarily engaged in computer systems design and related services, not including video games, through one or more activities, such as writing, modifying, testing and supporting software to meet the needs of a particular customer, including custom Internet web-page development; planning and designing computer systems that integrate hardware, software and communication technologies; on-site management and operation of clients' computer and data processing facilities; providing advice in the field of information technologies; and other professional and technical*

computer-related services, such as training and support after sales” (Statistics Canada, 2012). As with the previous classification code, this industry sector is relevant to Neuchi Ideas as it will have impact on future project selection.

511211 – A review of the financial performance data shown in Appendix A shows that organizations within this industry sector average ~\$600,000 in total revenues per year, with those in the bottom, lower middle, and upper middle quartiles experiencing a net loss. However, a review of the profitable versus non-profitable numbers shows that over 70% of organizations in this sector are actually profitable. This would suggest that profitable companies are marginally so while those that experience losses are having large losses. The profitable and non-profitable organizations have similar revenue numbers but have a dramatic difference in total expenses. Given the low value of direct expenses, it appears that management of indirect expenses plays a critical role in this industry sector.

518210 – A review of the financial performance data shown in Appendix B shows that this industry sector is a more enticing option from a profit perspective. Revenues are lower than in 511211, however, all quartiles show a net profit and over 90% of the businesses in this sector are profitable overall. This suggests that for risk mitigation, Neuchi Ideas would want to consider expanding into the web-based portion of the business as soon as possible. While the web-based portion is a supporting function for the mobile applications, it does represent a possible supplemental revenue stream.

541514 – A review of the financial performance data shown in Appendix C shows that this industry sector would represent a feasible area for expansion in the future. As with 518210, all quartiles show a net profit and over 80% of the organizations are profitable overall. While more of a long-term objective for Neuchi Ideas, it is an encouraging sign that there is a potential market for customization of programs and technical support.

As for trends within the mobile application market itself, it is apparent that the industry is growing rapidly as shown in Figure 6 and the number of application downloads per year is expected to reach almost 270 billion by the end of 2017 (Statista, 2014). It is important to note that while there are certainly a high volume of mobile applications being downloaded, only 10% of those downloads are paid applications (Statista, 2014). The remaining 90% are free applications that are either ad-supported or feature-locked versions of more comprehensive applications. This is an especially important consideration when determining the pricing model to be used for Neuchi Ideas' project releases. Figure 7 shows that this trend towards no-cost application is continuing as is apparent by the shift in consumer preferences towards the "Freemium" and "In-App Advertising" monetization models.

Figure 6: Project Application Downloads (Statista, 2014)

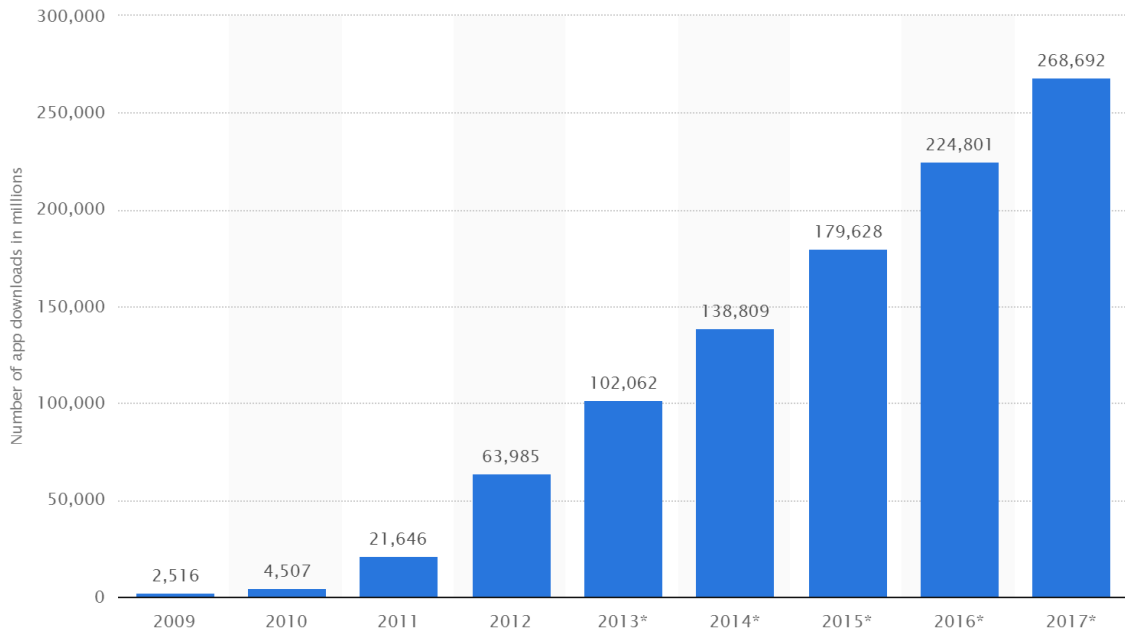
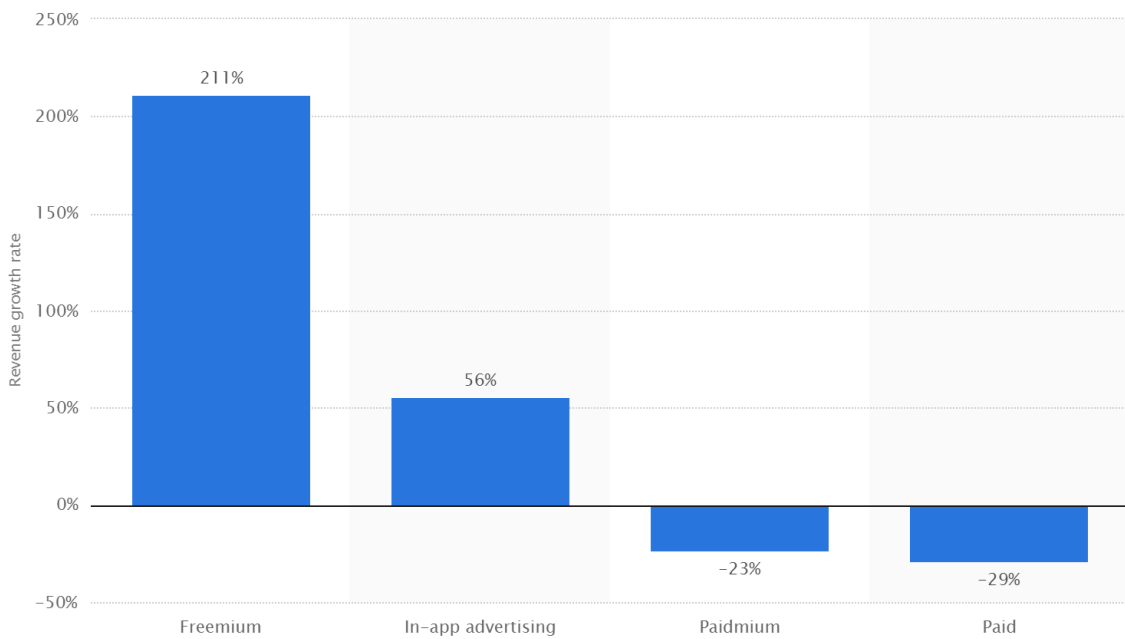


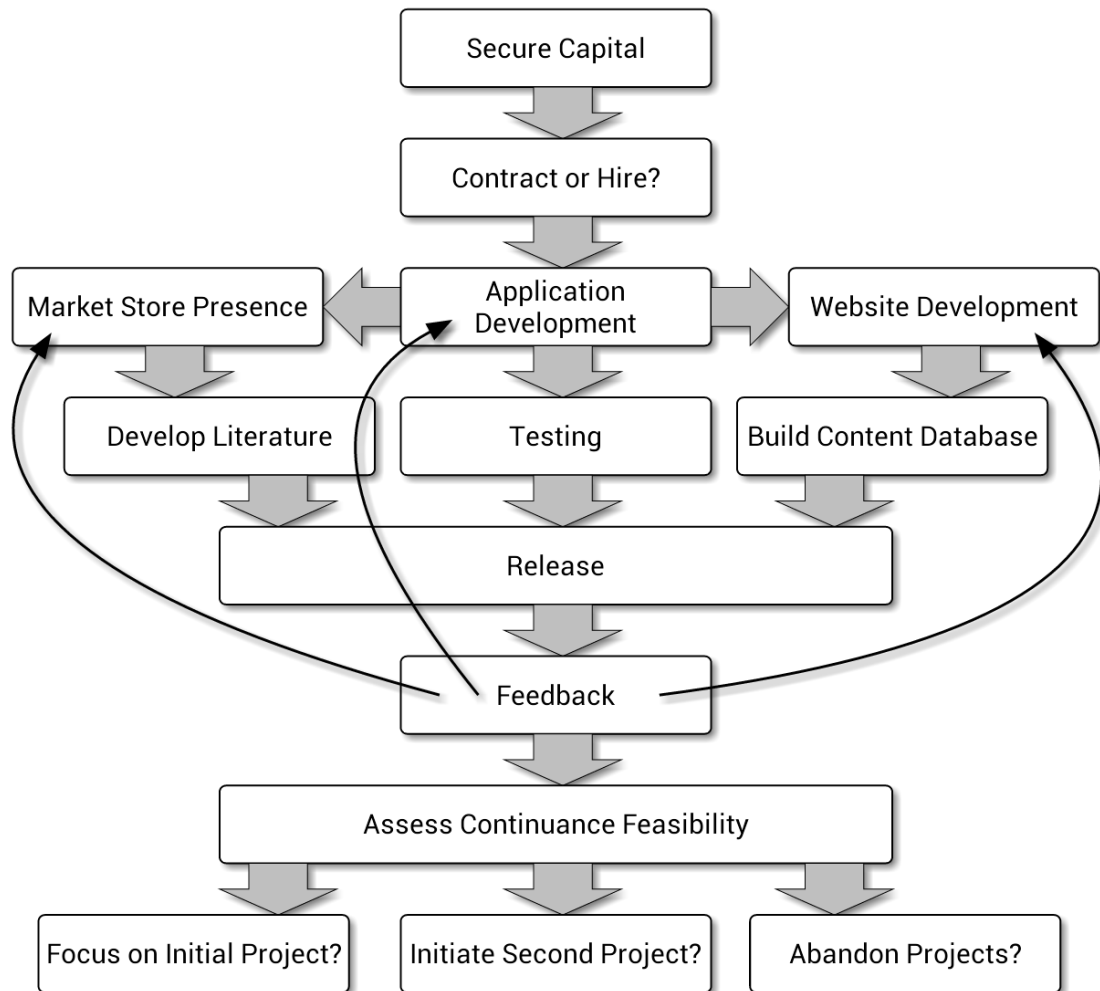
Figure 7: Revenue Development from 2012 to 2013 by Monetization Model (Statista, 2014)



IMPLEMENTATION ROADMAP

Figure 8 shows the planned implementation roadmap for the initial Neuchi Ideas application.

Figure 8: Neuchi Ideas' Implementation Roadmap



The project will begin once capital funding is secured. At that point, a developer will need to either be contracted or hired and then application development can begin. As application development is underway, there are two concurrent activities which will coincide with it: website development and market store presence development. The

main portion of the website development will include the establishment of a content database. This is necessary so that users will have some pre-built content available to browse through once the application is released. For market store presence, literature and supporting documents will have to be developed to ensure that customers can fully utilize the application upon release. Having the documentation available will also serve as marketing for the application and show developer support for the application.

After the initial release of the application, the feedback loop will begin immediately. This feedback will be used for all three of the core project lines: the application itself, the website and its content, and the available materials in the market stores. It is critical for Neuchi Ideas to quickly utilize available feedback and pivot the application and its supporting materials appropriately. This is one of the main concepts of *The Lean Startup* and will help to ensure that any work done remains relevant to customers' current and future expectations.

The feedback loop is also an appropriate time to assess the feasibility of the project. Is it earning revenue as per expectations? Is it breaking even? Is it losing money? These factors play a crucial role in how things move forward from this point. If it is at or near the breakeven point, the focus should continue on the initial project to increase the profitability. If there is a healthy inflow of revenue, the development of the next application should begin to help foster continued growth. If revenues are lower than expected, serious consideration needs to be given to making a pivot in the direction of the company or simply shutting the project down and letting future revenue inflow for the project in its current state mitigate any losses incurred.

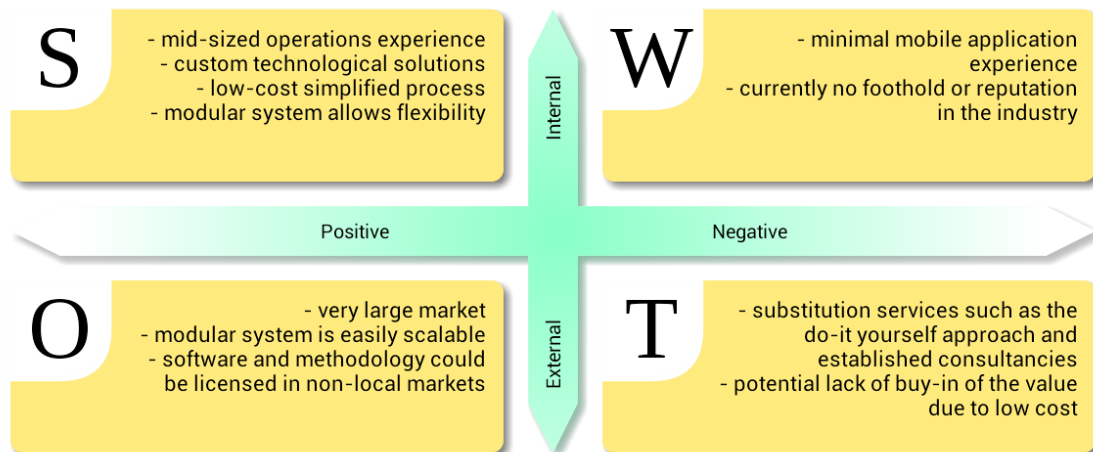
RISK ANALYSIS

To perform a risk analysis for Neuchi Ideas we will perform a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis on the concept followed by a sensitivity analysis of the economic environment.

SWOT ANALYSIS

Figure 9 shows a SWOT analysis of Neuchi Ideas in its current state as a potential business concept.

Figure 9: SWOT Analysis of Neuchi Ideas



Strengths – The main strength of the concept is my personal experience in a mid-sized manufacturing facility, having experienced the issues associated with rapid growth of a small company that has limited resources and budget. Neuchi Ideas will be offering low-cost products with guidance on the theories through the applications. This means that if an organization wishes to begin lean implementation, they would not necessarily need to send a resource for training. The modularity of the applications would also allow

organizations flexibility in their approach to implementation, although there would be suggested approaches.

Weaknesses – At this point, the largest weakness is the lack of mobile application development experience. This would need to be overcome before real progress could be made as it is a critical component to the concept. In addition, there is no pre-existing reputation in the lean manufacturing industry or the mobile application industry that could help from a credibility standpoint.

Opportunities – The largest opportunity is simply the sheer size of the mobile application market. As previously stated, the number of downloads is expected to be approximately 270 billion by 2017 (Statista, 2014), and the whole market is accessible, not limited to local markets only. Even a sliver of market share would be a significant opportunity. There is opportunity in the fact that it will be a modular system. This means that there is revenue potential from repeat customers and it also presents a low-risk option for new customers; the whole suite of applications would not need to be purchased in order to access one desired feature. This modularity also leads to scalability with add-ons for additional users being a simple addition of more applications and syncing of data.

Threats – There are some threats to the concept as well. Substitution services represent the largest threat. There are several options out there for services, including existing ERP systems, pencil and paper systems, custom in-house designed systems, and even the option of not doing anything at all. There could also be buy-in issues with diminished

value being associated with low cost coupled with the weakness of lack of an existing reputation in the industry.

SENSITIVITY ANALYSIS

This sensitivity analysis of the economic environment will cover three scenarios: a basic performance, a strong performance, and a weak performance. This will help determine whether the economic environment will support the concept and what expectations should be whether the business struggles, performs as expected, or exceeds initial expectations.

The cost to develop the initial application for Apple and Android, including website integration to allow customer sharing of recorded processes, is estimated to be \$51,500 (CREW, 2015). The full breakdown of the estimate's options is shown in Appendix D. This is the value we will use for the fixed costs in the sensitivity analysis. Both Apple iTunes and the Google Play stores charge a flat rate of 30% of the sale price to sell applications (Kimura, 2014). As the application will have already been developed by this point, this 30% represents the unit variable costs. The price is the only controllable input and for this sensitivity analysis, we will use a price of \$6. A review of the Apple iTunes and Google Play stores shows that this is a reasonable price setting for productivity applications.

Table 1 shows the net cash flow using an arbitrary number of 20,000 units sold.

Table 1: Net Cash Flow

Determination of net cash flow with the unit price set to \$6 and an estimate of 20,000 units sold. Variable costs are 30% of the selling price.

Controllable Inputs	
Price	\$6.00
Uncontrollable Inputs	
Units Sold	20,000
Variable Costs	\$1.80
Fixed Costs	\$51,500.00
Performance Measure	
Net Cash Flow	\$32,500.00

Table 2: Sensitivity Analysis with Various Units Sold

Determination of net cash flow under a range of number of units sold. The breakeven point is 12,262 units.

Units Sold	Net Cash Flow
0	-\$51,500
2,500	-\$41,000
5,000	-\$30,500
7,500	-\$20,000
10,000	-\$9,500
11,000	-\$5,300
11,200	-\$4,460
11,400	-\$3,620
11,600	-\$2,780
11,800	-\$1,940
12,000	-\$1,100
12,100	-\$680
12,200	-\$260
12,300	\$160
12,400	\$580
12,500	\$1,000
12,600	\$1,420
12,700	\$1,840
12,800	\$2,260
13,000	\$3,100
15,000	\$11,500
20,000	\$32,500
30,000	\$74,500
40,000	\$116,500
50,000	\$158,500
60,000	\$200,500
70,000	\$242,500
80,000	\$284,500
90,000	\$326,500
100,000	\$368,500

Table 2 shows the sensitivity analysis with various numbers of units sold. A quick scan of the table shows that the breakeven point is between 12,200 and 12,300 units sold. Populating the sensitivity analysis table with weak, basic, and strong performance numbers reveals the net cash flows shown in Table 3.

Table 3: Weak, Break-Even, Basic, and Strong Performance

Determination of net cash flow under various sales performances.

Units Sold	Net Cash Flow
5,000	-\$30,500
12,262	\$0
40,000	\$116,500
100,000	\$368,500

Here we can see that a weak performance of only 5,000 units sold will result in a net loss of \$30,500. The break-even point for the initial application release would be 12,262 units sold. A basic performance of 40,000 units sold would result in a net cash flow of \$116,500 and a strong sales performance of 100,000 units would see a net cash flow of \$368,500.

FINANCIAL ANALYSIS

Table 4 shows the pro forma for Neuchi Ideas if weak results are seen (5,000 units sold, from the Risk Analysis). This pro forma assumes a debt of \$40,000 in order to finance the development of the first application and a year over year sales growth of 10%. The fixed cost is only accounted for in the first year as this is the cost associated with outsourcing the application development. An assumption is made that additional work will not be required in the second year.

Table 4: Weak Performance Pro Forma

Sales	\$	30,000	Assets	\$	-	Debt	\$	40,000
Fixed Costs	\$	51,500				Equity		(40,000)
Variable Costs	\$	9,000	Total	\$	-	Total	\$	-
Taxable income	\$	(30,500)						
Taxes (34%)		(10,370)						
Net income	\$	(20,130)						

Tax rate		34%
Dividend paid	\$	-
Next year's sales	\$	33,000

Percent increase in sales = 10%

Pro forma income statement	
Sales	\$ 33,000.00
Costs	9,900.00
Taxable income	\$ 23,100.00
Taxes (34%)	7,854.00
Net income	\$ 15,246.00
Dividends	\$ -
Add. To RE	\$ 15,246.00

Pro forma balance sheet					
Assets	\$	-	Debt	\$	40,000.00
			Equity		(24,754.00)
Total	\$	-	Total	\$	15,246.00

External financing **\$ (15,246.00)**

Table 5 and Table 6 show the pro forma resulting from basic performance (40,000 units sold) and strong performance (100,000 units sold), respectively.

Table 5: Basic Performance Pro Forma

Sales	\$ 240,000	Assets	\$ -	Debt	\$ 40,000
Fixed Costs	\$ 51,500			Equity	(40,000)
Variable Costs	\$ 72,000	Total	<u>\$ -</u>	Total	<u>\$ -</u>
Taxable income	\$ 116,500				
Taxes (34%)	39,610				
Net income	<u>\$ 76,890</u>				

Tax rate	34%
Dividend paid	\$ -
Next year's sales	\$ 264,000

Percent increase in sales = 10%

<u>Pro forma income statement</u>	
Sales	\$ 264,000.00
Costs	<u>79,200.00</u>
Taxable income	\$ 184,800.00
Taxes (34%)	62,832.00
Net income	<u>\$ 121,968.00</u>
Dividends	\$ -
Add. To RE	\$ 121,968.00

<u>Pro forma balance sheet</u>			
Assets	\$ -	Debt	\$ 40,000.00
		Equity	<u>81,968.00</u>
Total	<u>\$ -</u>	Total	<u>\$ 121,968.00</u>

External financing **\$ (121,968.00)**

Table 6: Strong Performance Pro Forma

Sales	\$	600,000	Assets	\$	-	Debt	\$	40,000
Fixed Costs	\$	51,500				Equity		(40,000)
Variable Costs	\$	180,000	Total	\$	-	Total	\$	-
Taxable income	\$	368,500						
Taxes (34%)		125,290						
Net income	\$	243,210						

Tax rate		34%
Dividend paid	\$	-
Next year's sales	\$	660,000

Percent increase in sales = 10%

Pro forma income statement

Sales	\$	660,000.00
Costs		198,000.00
Taxable income	\$	462,000.00
Taxes (34%)		157,080.00
Net income	\$	304,920.00
Dividends	\$	-
Add. To RE	\$	304,920.00

Pro forma balance sheet

Assets	\$	-	Debt	\$	40,000.00
			Equity		264,920.00
Total	\$	-	Total	\$	304,920.00

External financing **\$ (304,920.00)**

To further analyze the financial situation, it is also prudent to look at cash flows. As with the pro forma, we will look at cash flows in the three different scenarios. These cash flows assume an initial bank loan of \$40,000 at three years and 8% interest with \$15,000 of owner's contribution, a total of three months to develop the first application, and a marketing budget of \$3500 per year.

Table 7: Weak Performance Cash Flows

Month	One	Two	Three	Four	Five	Six	Seven	Eight	Nine	Ten	Eleven	Twelve
Inflows:												
Owner's Contribution	\$ 15,000											
Capital Loan	\$ 40,000											
Sales Revenue	\$ -	\$ -	\$ -	\$ 3,333	\$ 3,333	\$ 3,333	\$ 3,333	\$ 3,333	\$ 3,333	\$ 3,333	\$ 3,333	\$ 3,333
Total Inflows	\$ 55,000	\$ -	\$ -	\$ 3,333	\$ 3,333	\$ 3,333	\$ 3,333	\$ 3,333	\$ 3,333	\$ 3,333	\$ 3,333	\$ 3,333
Outflows:												
Development Costs	\$ 17,167	\$ 17,167	\$ 17,167									
Sales Commission				\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000
Loan Repayment (3 year, 8%)		\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275
Marketing	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292
Total Outflows	\$ 17,458	\$ 18,733	\$ 18,733	\$ 2,567	\$ 2,567	\$ 2,567	\$ 2,567	\$ 2,567	\$ 2,567	\$ 2,567	\$ 2,567	\$ 2,567
Monthly Surplus/Deficit	\$ 37,542	\$ (18,733)	\$ (18,733)	\$ 767	\$ 767	\$ 767	\$ 767	\$ 767	\$ 767	\$ 767	\$ 767	\$ 767
Cumulative Surplus/Deficit	\$ 37,542	\$ 18,808	\$ 75	\$ 842	\$ 1,608	\$ 2,375	\$ 3,142	\$ 3,908	\$ 4,675	\$ 5,442	\$ 6,208	\$ 6,975

As shown in Table 7, even with a weak sales performance, the concept can realize a modest monthly surplus. The challenge under this situation is that the sales level will have to sustain for at least three years to cover off the capital loan payments.

Table 8: Basic Performance Cash Flows

Month	One	Two	Three	Four	Five	Six	Seven	Eight	Nine	Ten	Eleven	Twelve
Inflows:												
Owner's Contribution	\$ 15,000											
Capital Loan	\$ 40,000											
Sales Revenue	\$ -	\$ -	\$ -	\$ 26,667	\$ 26,667	\$ 26,667	\$ 26,667	\$ 26,667	\$ 26,667	\$ 26,667	\$ 26,667	\$ 26,667
Total Inflows	\$ 55,000	\$ -	\$ -	\$ 26,667	\$ 26,667	\$ 26,667	\$ 26,667	\$ 26,667	\$ 26,667	\$ 26,667	\$ 26,667	\$ 26,667
Outflows:												
Development Costs	\$ 17,167	\$ 17,167	\$ 17,167									
Sales Commission				\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000
Loan Repayment (3 year, 8%)		\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275
Marketing	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292
Total Outflows	\$ 17,458	\$ 18,733	\$ 18,733	\$ 9,567	\$ 9,567	\$ 9,567	\$ 9,567	\$ 9,567	\$ 9,567	\$ 9,567	\$ 9,567	\$ 9,567
Monthly Surplus/Deficit	\$ 37,542	\$ (18,733)	\$ (18,733)	\$ 17,100	\$ 17,100	\$ 17,100	\$ 17,100	\$ 17,100	\$ 17,100	\$ 17,100	\$ 17,100	\$ 17,100
Cumulative Surplus/Deficit	\$ 37,542	\$ 18,808	\$ 75	\$ 17,175	\$ 34,275	\$ 51,375	\$ 68,475	\$ 85,575	\$ 102,675	\$ 119,775	\$ 136,875	\$ 153,975

As shown in Table 8, with a standard sales performance the concept can realize a significant monthly surplus. The surplus would be sufficient enough to completely pay off the capital loan in the first year or provide capital for reinvestment into further projects.

Table 9: Strong Performance Cash Flows

Month	One	Two	Three	Four	Five	Six	Seven	Eight	Nine	Ten	Eleven	Twelve
Inflows:												
Owner's Contribution	\$ 15,000											
Capital Loan	\$ 40,000											
Sales Revenue	\$ -	\$ -	\$ -	\$ 66,667	\$ 66,667	\$ 66,667	\$ 66,667	\$ 66,667	\$ 66,667	\$ 66,667	\$ 66,667	\$ 66,667
Total Inflows	\$ 55,000	\$ -	\$ -	\$ 66,667	\$ 66,667	\$ 66,667	\$ 66,667	\$ 66,667	\$ 66,667	\$ 66,667	\$ 66,667	\$ 66,667
Outflows:												
Development Costs	\$ 17,167	\$ 17,167	\$ 17,167									
Sales Commission				\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
Loan Repayment (3 year, 8%)		\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275	\$ 1,275
Marketing	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292	\$ 292
Total Outflows	\$ 17,458	\$ 18,733	\$ 18,733	\$ 21,567	\$ 21,567	\$ 21,567	\$ 21,567	\$ 21,567	\$ 21,567	\$ 21,567	\$ 21,567	\$ 21,567
Monthly Surplus/Deficit	\$ 37,542	\$ (18,733)	\$ (18,733)	\$ 45,100	\$ 45,100	\$ 45,100	\$ 45,100	\$ 45,100	\$ 45,100	\$ 45,100	\$ 45,100	\$ 45,100
Cumulative Surplus/Deficit	\$ 37,542	\$ 18,808	\$ 75	\$ 45,175	\$ 90,275	\$ 135,375	\$ 180,475	\$ 225,575	\$ 270,675	\$ 315,775	\$ 360,875	\$ 405,975

Table 9 shows the cash flows if the first product has a very strong sales performance. This table shows the potential for large gains in the mobile application market. With the right product and proper marketing, there is room for substantial return on investment.

CONCLUSION

The goal of this project is to decide whether or not to proceed with forming Neuchi Ideas and beginning mobile application development. By following the plan outlined here, Neuchi Ideas will be a viable opportunity regardless of the market performance and has the potential for high return on investment. The initial investment required is a relatively modest amount and there is opportunity for continued development beyond the initial application, providing a means to sustain growth beyond the first few years. The combination of low-cost efficiency tools with an ever-expanding small to medium sized business market positions Neuchi Ideas as a first mover into a currently unserved market. Neuchi Ideas represents an exciting opportunity with minimal risk to get into the mobile application market in an area that has very high growth potential.

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APPENDIX A – NAICS 511211 FINANCIAL PERFORMANCE DATA

Source: Statistics Canada-Small Business Profiles, 2012

	Whole Industry (Reliability)	Bottom Quartile (25%)	Lower Middle (25%)	Upper Middle (25%)	Top Quartile (25%)	Percentage of Businesses Reporting
Number of Businesses	1634					
Revenue Range:						
Low Value (\$000)	30		30	92	204	774
High Value (\$000)	5000		92	204	774	5000
REVENUES AND EXPENSES	(thousands of dollars)					
Total revenue	638.00	60.50	134.90	407.60	1949.10	100.00
Sales of goods and services	N/A	N/A	N/A	N/A	N/A	N/A
All other revenues	N/A	N/A	N/A	N/A	N/A	N/A
Cost of sales (direct expenses)	97.20	5.80	11.80	54.90	316.30	36.90
Wages and benefits	26.50	0.90	2.30	18.10	84.40	11.00
Purchases, materials and sub-contracts	72.70	4.90	9.60	38.60	237.90	35.90
Opening Inventory	6.60	0.60	0.40	3.50	22.10	13.30
Closing inventory	8.70	0.60	0.50	5.30	28.10	14.60
Operating expenses (indirect expenses)	549.80	78.30	125.80	376.10	1619.00	99.60
Labour and commissions	297.80	31.30	67.50	186.40	906.20	75.90
Amortization and depletion	19.90	3.30	5.90	9.80	60.60	80.10
Repairs and maintenance	2.00	0.60	0.40	1.20	5.80	25.90
Utilities and telephone/telecommunication	12.30	2.40	4.10	9.40	33.20	82.90
Rent	23.10	3.20	5.70	16.40	67.00	69.30
Interest and bank charges	8.50	2.20	1.30	6.50	24.00	50.60
Professional and business fees	42.40	9.80	12.90	38.10	108.90	88.40
Advertising and promotion	21.10	4.70	4.40	17.20	58.20	81.30
Delivery, shipping and warehouse expenses	0.60	0.10	0.10	0.50	1.70	14.10
Insurance	3.50	0.40	0.80	3.10	10.00	44.40
Other expenses	118.60	20.30	22.90	87.60	343.60	96.50
Total expenses	647.00	84.10	137.60	431.00	1935.30	99.60
Net profit/loss	-9.00	-23.60	-2.70	-23.40	13.80	99.50
BALANCE SHEET	(thousands of dollars)					
Total assets	N/A	N/A	N/A	N/A	N/A	N/A
Total current assets	N/A	N/A	N/A	N/A	N/A	N/A
Accounts receivable	N/A	N/A	N/A	N/A	N/A	N/A
Closing inventory	N/A	N/A	N/A	N/A	N/A	N/A
Other current assets	N/A	N/A	N/A	N/A	N/A	N/A
Net fixed assets	N/A	N/A	N/A	N/A	N/A	N/A
Other assets and adjustments	N/A	N/A	N/A	N/A	N/A	N/A
Total liabilities	N/A	N/A	N/A	N/A	N/A	N/A
Total current liabilities	N/A	N/A	N/A	N/A	N/A	N/A
Current bank loans	N/A	N/A	N/A	N/A	N/A	N/A
Other current liabilities	N/A	N/A	N/A	N/A	N/A	N/A
Long term liabilities	N/A	N/A	N/A	N/A	N/A	N/A
Total equity	N/A	N/A	N/A	N/A	N/A	N/A
FINANCIAL RATIOS						
Current ratio	N/A	N/A	N/A	N/A	N/A	N/A
Debt to equity ratio	N/A	N/A	N/A	N/A	N/A	N/A
Interest coverage ratio	-0.10	-9.80	-1.00	-2.60	1.60	
Debt ratio	N/A	N/A	N/A	N/A	N/A	N/A
Revenue to equity ratio	N/A	N/A	N/A	N/A	N/A	N/A
Revenue to closing inventory ratio	N/A	N/A	N/A	N/A	N/A	N/A
Current debt to equity (%)	N/A	N/A	N/A	N/A	N/A	N/A
Net profit to equity (%)	N/A	N/A	N/A	N/A	N/A	N/A
Net fixed assets to equity (%)	N/A	N/A	N/A	N/A	N/A	N/A
Gross margin (%)	84.80	90.40	91.30	86.50	83.80	
Return on total assets (%)	N/A	N/A	N/A	N/A	N/A	N/A
Collection period for accounts receivable (days)	N/A	N/A	N/A	N/A	N/A	N/A
PROFITABLE vs NON-PROFITABLE	(thousands of dollars)					
Profitable						
Percentage of businesses (%)	70.30	N/A	N/A	N/A	N/A	N/A
Total revenue	646.10	60.90	136.00	415.20	1968.20	
Total expenses	519.90	33.20	77.90	315.70	1650.10	
Net profit	126.20	27.70	58.10	99.50	318.10	
Non-Profitable						
Percentage of businesses (%)	29.70	N/A	N/A	N/A	N/A	N/A
Total revenue	619.10	59.70	131.20	393.10	1902.40	
Total expenses	947.20	188.30	340.00	650.80	2633.40	
Net loss	-328.20	-128.60	-208.70	-257.70	-731.00	
Profile						
Provinces/Canada	Canada					
Incorporation Status	All Businesses					
Distribution by Value in Industry	Thousands of dollars					
Comparison Groups	NAICS 511211 - Software publishers (except video game publishers)					
Size of Firms	Upper Middle; Top Quartile					
	Annual Revenues \$30,000 - \$5,000,000					

APPENDIX B – NAICS 518210 FINANCIAL PERFORMANCE DATA

Source: Statistics Canada-Small Business Profiles, 2012

	Whole Industry (Reliability)	Bottom Quartile (25%)	Lower Middle (25%)	Upper Middle (25%)	Top Quartile (25%)	Percentage of Businesses Reporting
Number of Businesses	2677					
Revenue Range:						
Low Value (\$000)	30		30	45	73	160
High Value (\$000)	5000		45	73	160	5000
REVENUES AND EXPENSES	(thousands of dollars)					
Total revenue	244.50	37.10	57.60	106.90	776.70	100.00
Sales of goods and services	N/A	N/A	N/A	N/A	N/A	N/A
All other revenues	N/A	N/A	N/A	N/A	N/A	N/A
Cost of sales (direct expenses)	47.10	3.10	5.40	15.10	164.70	39.60
Wages and benefits	12.00	0.40	0.40	1.00	46.10	6.70
Purchases, materials and sub-contracts	35.40	2.70	5.10	14.10	119.80	39.50
Opening Inventory	2.00	0.20	0.10	0.80	7.10	7.60
Closing inventory	2.30	0.20	0.10	0.80	8.30	7.80
Operating expenses (indirect expenses)	144.70	11.80	18.00	43.30	505.70	95.30
Labour and commissions	66.90	1.10	2.60	13.80	250.40	32.30
Amortization and depletion	6.80	0.90	1.50	2.60	22.20	71.10
Repairs and maintenance	1.30	0.10	0.30	0.40	4.40	24.10
Utilities and telephone/telecommunication	6.80	1.20	1.60	2.80	21.50	80.20
Rent	9.10	0.70	1.30	2.20	32.10	33.50
Interest and bank charges	2.20	0.20	0.40	0.70	7.40	39.00
Professional and business fees	10.90	0.80	1.20	3.20	38.30	70.80
Advertising and promotion	4.80	0.30	0.70	1.70	16.60	48.90
Delivery, shipping and warehouse expenses	0.30	0.00	0.10	0.10	1.10	18.60
Insurance	1.40	0.10	0.20	0.50	4.60	30.20
Other expenses	34.20	6.20	8.20	15.40	107.10	94.00
Total expenses	191.80	14.90	23.30	58.40	670.40	95.40
Net profit/loss	52.80	22.20	34.20	48.50	106.30	99.90
BALANCE SHEET	(thousands of dollars)					
Total assets	N/A	N/A	N/A	N/A	N/A	N/A
Total current assets	N/A	N/A	N/A	N/A	N/A	N/A
Accounts receivable	N/A	N/A	N/A	N/A	N/A	N/A
Closing inventory	N/A	N/A	N/A	N/A	N/A	N/A
Other current assets	N/A	N/A	N/A	N/A	N/A	N/A
Net fixed assets	N/A	N/A	N/A	N/A	N/A	N/A
Other assets and adjustments	N/A	N/A	N/A	N/A	N/A	N/A
Total liabilities	N/A	N/A	N/A	N/A	N/A	N/A
Total current liabilities	N/A	N/A	N/A	N/A	N/A	N/A
Current bank loans	N/A	N/A	N/A	N/A	N/A	N/A
Other current liabilities	N/A	N/A	N/A	N/A	N/A	N/A
Long term liabilities	N/A	N/A	N/A	N/A	N/A	N/A
Total equity	N/A	N/A	N/A	N/A	N/A	N/A
FINANCIAL RATIOS						
Current ratio	N/A	N/A	N/A	N/A	N/A	N/A
Debt to equity ratio	N/A	N/A	N/A	N/A	N/A	N/A
Interest coverage ratio	25.40	112.10	97.30	75.40	15.30	
Debt ratio	N/A	N/A	N/A	N/A	N/A	N/A
Revenue to equity ratio	N/A	N/A	N/A	N/A	N/A	N/A
Revenue to closing inventory ratio	N/A	N/A	N/A	N/A	N/A	N/A
Current debt to equity (%)	N/A	N/A	N/A	N/A	N/A	N/A
Net profit to equity (%)	N/A	N/A	N/A	N/A	N/A	N/A
Net fixed assets to equity (%)	N/A	N/A	N/A	N/A	N/A	N/A
Gross margin (%)	80.70	91.60	90.70	85.90	78.80	
Return on total assets (%)	N/A	N/A	N/A	N/A	N/A	N/A
Collection period for accounts receivable (days)	N/A	N/A	N/A	N/A	N/A	N/A
PROFITABLE vs NON-PROFITABLE	(thousands of dollars)					
Profitable						
Percentage of businesses (%)	90.40	N/A	N/A	N/A	N/A	N/A
Total revenue	224.80	37.10	57.50	106.50	759.50	
Total expenses	154.30	11.90	19.80	47.00	588.50	
Net profit	70.50	25.20	37.80	59.60	171.00	
Non-Profitable						
Percentage of businesses (%)	9.60	N/A	N/A	N/A	N/A	N/A
Total revenue	429.70	37.20	58.20	111.70	857.00	
Total expenses	543.00	53.10	77.10	203.70	1053.20	
Net loss	-113.30	-15.90	-18.90	-92.00	-196.20	
Profile						
Provinces/Canada	Canada					
Incorporation Status	All Businesses					
Distribution by Value in Industry	Thousands of dollars					
Comparison Groups	NAICS 518210 - Data Processing, Hosting, and Related Services					
Size of Firms	Upper Middle; Top Quartile					
	Annual Revenues \$30,000 - \$5,000,000					

APPENDIX C – NAICS 541514 FINANCIAL PERFORMANCE DATA

Source: Statistics Canada-Small Business Profiles, 2012

	Whole Industry (Reliability)	Bottom Quartile (25%)	Lower Middle (25%)	Upper Middle (25%)	Top Quartile (25%)	Percentage of Businesses Reporting
Number of Businesses	38678					
Revenue Range:						
Low Value (\$000)	30		30	75	126	205
High Value (\$000)	5000		75	126	205	5000
REVENUES AND EXPENSES						
(thousands of dollars)						
Total revenue	270.00	50.90	100.20	158.90	770.00	100.00
Sales of goods and services	N/A	N/A	N/A	N/A	N/A	N/A
All other revenues	N/A	N/A	N/A	N/A	N/A	N/A
Cost of sales (direct expenses)	50.20	3.40	5.60	8.40	183.50	24.60
Wages and benefits	12.30	0.50	1.40	2.00	45.10	6.50
Purchases, materials and sub-contracts	38.50	3.10	4.30	6.40	139.90	24.20
Opening Inventory	2.70	0.70	0.70	0.70	9.00	7.10
Closing inventory	3.20	0.90	0.80	0.80	10.40	8.00
Operating expenses (indirect expenses)	163.70	30.00	61.80	96.40	466.60	98.50
Labour and commissions	92.00	12.10	34.40	60.60	261.00	67.70
Amortization and depletion	4.80	1.40	1.70	2.10	13.80	77.20
Repairs and maintenance	0.80	0.30	0.40	0.50	2.10	20.20
Utilities and telephone/telecommunication	4.70	1.70	2.20	2.80	12.10	84.50
Rent	7.40	1.90	2.90	3.70	21.30	60.90
Interest and bank charges	1.70	0.30	0.40	0.40	5.70	33.30
Professional and business fees	13.80	2.90	4.50	6.00	41.90	85.90
Advertising and promotion	5.60	1.10	2.10	3.20	15.80	74.20
Delivery, shipping and warehouse expenses	0.20	0.00	0.10	0.10	0.50	8.50
Insurance	1.50	0.30	0.50	0.90	4.10	35.40
Other expenses	31.30	8.00	12.60	16.20	88.30	97.20
Total expenses	213.90	33.40	67.40	104.80	650.20	98.60
Net profit/loss	56.10	17.50	32.90	54.20	119.80	99.60
BALANCE SHEET						
(thousands of dollars)						
Total assets	N/A	N/A	N/A	N/A	N/A	N/A
Total current assets	N/A	N/A	N/A	N/A	N/A	N/A
Accounts receivable	N/A	N/A	N/A	N/A	N/A	N/A
Closing inventory	N/A	N/A	N/A	N/A	N/A	N/A
Other current assets	N/A	N/A	N/A	N/A	N/A	N/A
Net fixed assets	N/A	N/A	N/A	N/A	N/A	N/A
Other assets and adjustments	N/A	N/A	N/A	N/A	N/A	N/A
Total liabilities	N/A	N/A	N/A	N/A	N/A	N/A
Total current liabilities	N/A	N/A	N/A	N/A	N/A	N/A
Current bank loans	N/A	N/A	N/A	N/A	N/A	N/A
Other current liabilities	N/A	N/A	N/A	N/A	N/A	N/A
Long term liabilities	N/A	N/A	N/A	N/A	N/A	N/A
Total equity	N/A	N/A	N/A	N/A	N/A	N/A
FINANCIAL RATIOS						
Current ratio	N/A	N/A	N/A	N/A	N/A	N/A
Debt to equity ratio	N/A	N/A	N/A	N/A	N/A	N/A
Interest coverage ratio	34.30	57.00	93.30	151.90	22.00	
Debt ratio	N/A	N/A	N/A	N/A	N/A	N/A
Revenue to equity ratio	N/A	N/A	N/A	N/A	N/A	N/A
Revenue to closing inventory ratio	N/A	N/A	N/A	N/A	N/A	N/A
Current debt to equity (%)	N/A	N/A	N/A	N/A	N/A	N/A
Net profit to equity (%)	N/A	N/A	N/A	N/A	N/A	N/A
Net fixed assets to equity (%)	N/A	N/A	N/A	N/A	N/A	N/A
Gross margin (%)	81.40	93.30	94.50	94.70	76.20	
Return on total assets (%)	N/A	N/A	N/A	N/A	N/A	N/A
Collection period for accounts receivable (days)	N/A	N/A	N/A	N/A	N/A	N/A
PROFITABLE vs NON-PROFITABLE						
(thousands of dollars)						
Profitable						
Percentage of businesses (%)	82.40	N/A	N/A	N/A	N/A	N/A
Total revenue	263.10	51.00	100.30	159.10	746.10	
Total expenses	179.00	24.10	55.40	91.90	548.20	
Net profit	84.10	26.90	44.90	67.20	197.90	
Non-Profitable						
Percentage of businesses (%)	17.60	N/A	N/A	N/A	N/A	N/A
Total revenue	302.40	50.50	99.90	157.80	874.70	
Total expenses	377.40	70.80	123.50	181.80	1096.00	
Net loss	-74.90	-20.30	-23.60	-23.90	-221.30	

Profile

Provinces/Canada	Canada
Incorporation Status	All Businesses
Distribution by Value in Industry	Thousands of dollars
Comparison Groups	NAICS 541514 - Computer systems design and related services (exc)
Size of Firms	Upper Middle; Top Quartile Annual Revenues \$30,000 - \$5,000,000

Your app estimate

\$51,500

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What type of app are you building?
Apple iOS and Android [\(Change\)](#)



Do people have to login?
Email [\(Change\)](#)



Do people create personal profiles?
No [\(Change\)](#)



How will you make money from your app?
Upfront Cost [\(Change\)](#)



Do people rate or review things?
No [\(Change\)](#)



Does your app need to connect with your website?
Yes [\(Change\)](#)



How nice should your app look?
Stock [\(Change\)](#)



Do you need an app icon?
Yes, I need an app icon [\(Change\)](#)

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