2-2016

Library Quest: Using Customer Discovery Process to Determine Product-Market Fit

Todd McGuire

Grand Valley State University

Follow this and additional works at: http://scholarworks.gvsu.edu/honorsprojects

Part of the Business Commons

Recommended Citation

http://scholarworks.gvsu.edu/honorsprojects/549

This Open Access is brought to you for free and open access by the Undergraduate Research and Creative Practice at ScholarWorks@GVSU. It has been accepted for inclusion in Honors Projects by an authorized administrator of ScholarWorks@GVSU. For more information, please contact scholarworks@gvsu.edu.
LIBRARY QUEST

Todd McGuire
Senior Honors Project
Dr. Linda Chamberlin
February 10, 2016

Using Customer Discovery Process to Determine Product-Market Fit
## Index

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Background Essay</td>
<td>2</td>
</tr>
<tr>
<td>October Presentations</td>
<td>7</td>
</tr>
<tr>
<td>Final Business Model Canvas</td>
<td>10</td>
</tr>
<tr>
<td>Synthesis Essay</td>
<td>11</td>
</tr>
<tr>
<td>Resources</td>
<td>19</td>
</tr>
</tbody>
</table>
Background Essay

Grand Valley State University is a comprehensive, public, liberal arts university with an enrollment of more than 25,000 students. It is the fifth largest university in the state of Michigan and offers degree programs in 200 areas of study, including 86 undergraduate and 33 graduate programs. With an array of buildings and activities on campus, a main focal point of the university is their libraries. GVSU libraries are composed of five facilities throughout two main campuses, separated by 15 miles. Three of the libraries are located downtown Grand Rapids, and two are located in Allendale, which includes the new $65 million Mary Idema Pew Library. The Mary Idema Pew Library Learning and information Commons is designed to be the intellectual heart of the Allendale campus. This library exceeds the common thoughts of a library solely being a home for printed books and whispered words. It goes beyond the scope of the original meaning of a library to provide a first-in-kind, innovative experience for students. This library provides students with a range of environments, contemporary and modernistic amenities and study spaces, and specific resource centers to help them succeed. GVSU libraries have several core values. These include providing comfortable, engaging, and secure spaces for study, positioning the library as an extension of the classroom, and providing transparent, responsible stewardship of library resources. Exercising the core values is dependent on students utilizing the libraries to their full potential. In order to cope with this utopian circumstance, LibraryQuest was created. This essay chronicles the history of LibraryQuest, as well as explain, discuss, and apply the meaning of LibraryQuest to student achievement.

The gap between conceptual instruction and skills-based knowledge is an ongoing problem in libraries. Library staff are knowledgeable and willing to grow the knowledge of others through a greater understanding of library services and spaces, but not all students are
engaging in this opportunity. This is most importantly seen in the Mary Idema Pew Library because students are not used to exploring a library that has more than just paper books. With the exceptionally high usage of mobile devices by students, the question that naturally comes up is how can mobile devices be used to help familiarize students with a library? The solution to this question is LibraryQuest. LibraryQuest is a mobile game application that is designed to teach library patrons about library spaces and services. The app offers students “quests,” or small, discrete tasks designed to teach students about library services and spaces, such as printing rooms, locations of study rooms, etc. Patrons are incentivized to complete these tasks because they receive points upon completion of the “quests.” With these points, library patrons are able to purchase tangible items, such as iPads. While benefiting the user, LibraryQuest also benefits library staff. First, the app helps students discover library spaces and resources that are underutilized. In return, student traffic can be increased which helps library staff better manage resources. Library staff also benefit because less of their time is needed for helping students with finding available spaces because the app is ran asynchronously. This means, the app provides the instruction without a human teaching anything which provides staff time to work on other projects.

LibraryQuest goes beyond the scope of just a mobile game application for student engagement with library resources. The use of LibraryQuest creates data that can lead to significant findings and innovations. The data resulting from LibraryQuest can be valuable to libraries in evaluating their facility. It can help support decisions and provide realistic facts about utilization and student engagement. Lastly, LibraryQuest has an effect on students beyond the scope of utilization. LibraryQuest can become a support service that can lead to an increase in student’s sense of self-sufficiency, comfort, and competency using library services. LibraryQuest
will lead to students feeling accomplished and comfortable about the library for more than just paper books.

The idea for behind LibraryQuest was pioneered, executed, and led by Kyle Felker, GVSU Digital Initiatives Librarian. Kyle’s position fits well with this idea because his primary responsibility within the library is focused on prototyping and testing technology-related projects. Mary O’Kelley, GVSU Head of Instructional Services, supported Kyle’s initial work on the LibraryQuest project. Mary has a background that was necessary for designing this project, along with supporting instructional program development. She has experience with teaching library instruction to students along with consulting work within libraries. Other GVSU Librarians and staff played minor roles in the creation of LibraryQuest. Together, Kyle and the rest of the Grand Valley team developed the content for the LibraryQuest. The actual mobile game application software was created through a partnership with Yeti CGI, a Michigan based development company. Chris Allers, General Manager of Yeti CGI, led the collaboration with Grand Valley on this project.

LibraryQuest has been through one pilot, with plans to begin a second in the 2016. In between the two pilots, there has been constant revision of the app. The first pilot of LibraryQuest took place from August to November of 2013. This pilot took place at the Mary Idema Pew Library in Allendale. Students were asked to complete a quest and provide feedback through a post-game survey. In order to incentivize students to partake in the pilot, they were entered into a raffle to win an iPad if they completed the quest.

Data results played a huge role in the effectiveness of this pilot test. Two hundred twenty four (224) students downloaded the app and logged in at least once, but only one hundred seventy three (173; 77%) of those completed as least one quest. With 30 quests created for the
pilot test, there was a maximum of 625 points to be achieved, which was only obtained by one player. Getting the maximum number of points required a high degree of dedication, which meant engaging very intentionally with the app to complete all the quests. Online-only quests were vastly more popular and completed more often than quests involving physical space. Once the pilot test was over, Kyle and the team did intensive evaluation; using post-quest student survey results, metrics collected from the game itself, and in-person interviews with players about their experiences. Research results varied. On one hand, many students said that they learned something valuable from playing the game. For example, one student mentioned that he learned how to use the inter-library book loan process. On the other hand, students noted a number of shortcomings, both in gameplay and the structure of the app, which prevented them from fully engaging in the quest. This feedback and research was used to define specific content and technological improvements for the second pilot test of LibraryQuest. The re-design will involve new software and content development, addressing the specific feedback from the pilot post-game evaluation.

Looking forward, LibraryQuest has a vision to make a difference in the field of library science. Firstly, it has the potential to solve the problem of the gap between skills and conceptual based instruction. LibraryQuest can help teach students without the need for instruction from library staff. Next, research has shown that student retention is a major problem during the first year of college. LibraryQuest can help first-year students effectively and comfortably adapt to the university and library environment and learn about available resources for helping them reach academic success. This could lead to student retention rate increasing. As LibraryQuest evolves into a highly useful application, it will eventually develop into a set of online tools that libraries can use to cheaply and easily build and deploy their own mobile game experiences.
Libraries would be able to create their own “quests” based on the needs of their library. With all of these possibilities, LibraryQuest has the potential to make a positive impact on the libraries of universities around the country.
I Corps October Presentations

October 2:

Business Thesis
- Hypothesis: LibraryQuest can create engagement and direct foot traffic for public and academic libraries, while allowing consumers to derive more value from the library, in a fun and entertaining way.
- Creates value for library institutions and their users.
- Discovery, engagement, onboarding, and retention.

Interviews
- Jason Vaughan, Library Technologies Director, UNLV
- Brad Eden, Dean of Library Services, Valparaiso University
- Pete Coon, Web Services Librarian, Boston Public Library
- Jon Earley, Interface Developer, University of Michigan
- Cody Hansson, Web Developer, University of Minnesota
- "What do you value in a library? What is meaningful to you and library patrons? Is LibraryQuest attractive to you? How do libraries use consulting services?"

October 8:

Business Model Canvas

Customer Segments
- Academic libraries
- Outreach librarians
- Instruction librarians
- Technology librarians
- Public Libraries
- "Working on revising Library Patrons Final user Cost needs to be supported by value"
October 16:

**What Have We Learned?**
- Previous value propositions
  - Not specific and notable enough
  - Did not show a PAM point
  - Rewecked value propositions
  - More specific and notable
  - Save library instruction staff time
    - Jen Fabb, Jonataise Church, and Amy Harlow
  - Libraries do not have the staffing
- Provide public libraries with a fun and interactive tool
  - Mick Jacobson and Aaron Schmidt
  - Innovative way to obtain resources
  - Public libraries exist in diverse eco-systems
  - Drive awareness and engagement for library Resources
  - Jen Fabb and Amy Harlow
  - Problems connecting specific databases and resources to users

**Business Model Canvas**

- Value Propositions:
  - Library meetings
  - Library services
  - Library technology

- Customer Relationship:
  - Library community
  - Library stakeholders
  - Library patrons

- Customer Segments:
  - Library patrons
  - Library stakeholders
  - Library community

- Channels:
  - Website
  - Social media

**Eco-System Diagram**

- **Channel Economics**
  - App Store (does not cost)
  - Consulting work
  - Price point discovery is still in progress
October 23:

**What Have We Learned?**
- Reworked value propositions throughout the process
- Lack of utilization
  - Average rating of 7 or 8
- Save library instruction staff time
  - Pain point
  - Libraries do not have the staffing or the money
- Provide public libraries with a free and interactive tool to gain feedback
- Innovation way to obtain month by month
- Public libraries exist in diverse ecosystems
- Not in contact with different markets
- Drive awareness and engagement for Library resources
- Online traffic problems
- Problems connecting specific databases and resources to users

**Business Model Canvas**

**Eco-System Diagram**

**Customer Relationships**
- Deliver quality support
- Increases customer retention
- Customer / Development link
  - Increase link between people using and people developing
- Library Advisory Boards
- Relay info and feedback
- Library Conferences
- Heard this a lot

**Team’s Recommendations**
- Interviews, interviews, interviews
  - Help verify some hypotheses
  - Further develop customer segments
- Pivot towards specific value proposition
- Focus on libraries that lack foot traffic
- Public library research
  - Can this be used as a feedback tool?
  - Can libraries afford LibraryQuest?
- What do we still need to know?
- Cost structure
  - Production/Development Costs
  - Price of product
  - Consulting services
  - Cost of staff time
- Goes along with first value proposition
- Public libraries
  - How do these pain points differ?

**Channels**
- App Store
- Consulting
  - Provide training and support
- Word-of-mouth
  - Free marketing

**Key Learning Points**
- Learning how to accept constructive criticism
  - May seem harsh, but it is for the greater good
- Do not be afraid to change!
  - Success is hard if change does not occur
Synthesis Essay

Grand Valley’s beta version of the National Science Foundation’s Innovation Corps (ICorps), in collaboration with University of Michigan took place during the month of October 2015. This program was being launch through GVSU’s Technology Commercialization Office in order to help determine what projects needed to move forward; in addition to discovering which projects would have interest in going to the national ICorps program and receiving a $50,000 grant for participating. The beta portion of ICorps consisted of eight project teams. Each project was a business concept based on the ideas of GVSU faculty, students, and staff. In conjunction with using this program for my Honors Senior Project, I was the entrepreneurial lead of an app development team called LibraryQuest. This essay will reflect on my experience in the program, from day one to the final day. In addition, I will highlight what I learned from the experience, assigned literature readings, and how it applies to my life moving forward.

In August 2015, I received an email from Dr. Jeff Chamberlain titled, “Great Innovation Opportunities.” With a strong innovative mindset of my own, this subject line and the subsequent information in the email were very intriguing to me. Per instruction, I reached out to Dr. Linda Chamberlain for more specific information on this program including options of GVSU ICorps teams to join. This is when my journey with LibraryQuest began. The first step I took was meeting the members of my newly created team to understand the meaning and process of ICorps, as well as take a deep dive into LibraryQuest. Team faculty member Kyle Felker and I chatted over dinner at Panera Bread in downtown Grand Rapids. Chris Allers, the industry mentor, could not make it to this meeting. He joined us via Skype during our following meeting later in the week. I intentionally point out this meeting because it was transformative for me. It
was the first major step I took in transitioning to an entrepreneurial mindset which was necessary for my role and responsibility on the team to complete the work ahead.

My organizational and project management skills were utilized in our first meeting when we constructed a task schedule to complete the program assignments. The schedule consisted of meetings times and due dates to get the team’s work done for ICorps. After the completion of the schedule, I began to realize the complexity of the work. To be successful in ICorps, there was a lot of hard work ahead. Work that would consist of long meetings, long nights, extensive time spent on customer interviews, and hours working on presentations. Due to this, as it will become evident through this essay, ICorps helped me grow personally and professionally as a business man.

As the ICorps program began, one of the first challenges I faced was understanding the business model canvas and how it can enable starting a business venture. Before ICorps, my understanding of how to start a business was to create a product/service that people want, market it, and sell it to customers to make profits. Little did I know, the business model canvas is one of the keys to success of a start-up. According to the literature, the “business model canvas presents a visual overview of the nine components of a start-up business on one page” (Blank and Dorf, 2012). For the GVSU ICorps program, we focused on four of the nine components; Customer Segments, Customer Relationships, Channels, and Value Proposition. Using the ICorps software Launchpad Central©, our team organized our findings and created entries into the four components. Each week, based on findings from our customer-based research, we would review each of the four components and make adjustments to reflect the learnings. The business model canvas was a great tool that helped me understand the true cognitive measures that need to be assessed when creating a business. This realization was a huge step in thinking in my discipline.
It helped me grow a business mind that thinks about start-ups in a way that other entrepreneurs may not. For example, it is important to think about every single component of your business, rather than just marketing a product/service to make a profit.

To elaborate more on the business model canvas, Customer Segments was one of the first components we focused on. The work to accurately define the Customer Segments is referred to as Customer Discovery. The work I completed through ICorps helped me gain a full understanding of Customer Discovery and its importance. Before the experience in this program, if I was asked what Customer Discovery was, I would simply answer that it means finding customers that will buy your product or service. While that answer is not technically incorrect, there is way more behind the meaning. The ICorps program provided videos and readings to compliment the instruction, helping me to gain an understanding of the true meaning and importance of Customer Discovery.

In particular, there was a video that defined a customer as someone that will benefit from the value proposition of your product/service, not just someone who will buy your product. According to the ICorps textbook, The Start-Up Owners Manual, “Customer discovery translates a founder’s vision for the company into hypotheses about each component of the business model and creates a set of experiments to test each hypothesis. It is about finding customers that relate to the value that your product or service offers” (Blank and Dorf, 2012).

Customer Discovery brings up the question commonly heard throughout the program from the instructors, why should a customer care? Customers do not care about a product unless it positively benefits them. They want something that can give them value and help them solve their pain points. In our Customer Discovery, we started out with very basic Customer Segments; public libraries, academic libraries, and library patrons. With the help of the team,
ICorps mentors, and program instructors, we began to realize that these Customer Segments would not suffice in building a great business model canvas. Customer Segments needed to be very specific people or places that would gain value from our product. We needed to define them as archetypes and really get to know what- and how big- their problems are. After four weeks of primary market research, i.e. Customer Discovery, and subsequent iterations to our ideas, we ended with three Customer Segments that correctly fit into a great business model canvas. The first Customer Segment was instruction libraries at academic libraries that have well-developed foot traffic, but needed support with utilization of spaces and services. This was an iteration of our original Customer Segment which was academic libraries. Next, our Customer Segment was larger public libraries who had valued communities that they are trying to interact with. Before our Customer Discovery, this Customer Segment was just public libraries. Lastly, our Customer Segment was library patrons in an academic or public library that had access to an electronic resource. When first starting out, library patrons were the Customer Segment. These are three examples of how our Customer Segments turned into distinct customers that were very specific and would receive value from our product.

The next component of the business model canvas we focused on was Value Proposition. From the readings and my experiences with ICorps, I have learned that Value Proposition is the reason why your customer should care about your product or service (Blank and Dorf, 2012). It is an articulation of the value that a customer sees in your solution, or how it addresses the pain point. A Value Proposition should align specifically with a Customer Segment and be testable through customer interviews. Starting off the program, my team was criticized because our Value Propositions did not articulate clearly why customers should care about LibraryQuest. Our proposed Value Propositions were too generic, and we were not able to define a testable
hypothesis that aligned with them. Our original Value Propositions consisted of positive effects such as an increase in foot traffic and space utilization in the library. As we learned more, our Value Propositions evolved to be thoughtful statements based on what the customer defined as important to them. By the end of the ICorps Program, our Value Propositions were very specific and testable and fit in line with our Customer Segments. We gained specificity by mentioning that LibraryQuest can save instruction staff time by moving certain aspects of library instruction to an asynchronous platform. This was tested by discovering a pain point was present in library instruction - not having enough staff time. Next, we created a Value Proposition that LibraryQuest can provide public libraries with a fun and interactive tool to help them gather data on community needs. This helped solve the pain point of the difficulty to reach out to valued community members for public libraries. Lastly, LibraryQuest can drive awareness and engagement for library resources that are underutilized by connecting them with specific user groups who are unaware of their existence. This Value Proposition solved the pain point we discovered of well-developed libraries having underutilization problems.

Reflection

Choosing to participate in the GVSU ICorps program as an entrepreneurial lead was one of the best decisions I have made while a student at GVSU. The amount of personal and business knowledge I gained during the month of the program surpassed most of my business courses. From Customer Discovery to teamwork required on LibraryQuest to presentation skills, I can confidently say I came out as a stronger person than I entered. Most importantly, these are all attributes that have now become assets as I move forward in my career. There are a few key points that I would like to reflect on.
First, this was a great experience of truly working on a team with rapid fire deadlines to meet. I was thrown into an existing team of two very intelligent, hard working, gentlemen who had been working together on LibraryQuest for over two years. In my role as entrepreneurial lead, I had to step right in, establish team goals and essentially manage what we needed to do to accomplish the tasks of Customer Discovery. I had to learn how to collaborate and use dialogue to understand different ideas and opinions on certain topics. I learned how it is crucial to use team collaboration as a key to success, rather than individual participation. In addition, in Roger Martin’s, *The Opposable Mind*, I learned how effective leaders think effectively, rather than always just doing. Martin’s book taught me how to control my “personal knowledge system” and use that to its full potential (Martin, 2009). Furthermore, reaching an understanding that I am way off sometimes and I need to be coachable — to listen to others — to absorb their advice. This plays perfectly into what I learned from Martin. I gained a consideration of ways to think about how constructive criticism is simply helpful advice. In order to effectively collaborate, my team got to know each other on a personal level so we can understand how we operate and what motivates us. This was important when dealing with crisis management. M. Alpaslan and Ian I. Mitroff write about major crisis management in their book, *Swans, Swine, and Swindlers*. As the LibraryQuest team did not have to deal with any major crisis management issues, such as those mentioned in the book, we still had to deal with problems. As the book explains, human development, philosophy, and psychology are all important in crisis management. The team knowing each other on a personal level was vital to track successfully in these three areas and apply them to solving our problems (Alpaslan and Mitroff, 2011). For example, Chris Allers has a philosophy background and he was able to apply unique input to solve problems. In addition, we stayed organized by keeping up with our tasks and meeting on a regular basis. Before each
meeting, I would recap what we have done up to that point and what our plans and goals were for that particular meeting. Upon the completion of the meeting, I would recap what we went through and assign work for the days ahead. This was a major key to our success because it constantly made sure we were on the right path.

Another major thing I learned was the ability to use constructive criticism to its fullest potential. When starting a business, there are multiple viewpoints and opinions on how things should be done. In particular to ICorps, there were outside opinions from program instructors that affected our performance. This taught me to understand that viewpoints from multiple informed sources are necessary and encouraging for future success. As constructive criticism may come off very harsh and very frustrating at times, it is important stay focused on the fact that it isn’t personal. You have to know that it is being said to help improve the teams work product, i.e. the business model. I struggled with this problem early in the ICorps process. However, I was able to realize the true meaning of feedback and use the criticism for a positive benefit to myself and my team. With the help of the ICorps Program and The Opposable Mind book, I was able to learn how to listen and think as an effective leader; one that thinks in a creative and effective way, while also being open to help from others (Martin, 2009). For example, during the second week of the ICorps program, I took a large amount of constructive criticism from one of the program instructors. At that time, I did not realize how to handle being told I am completely wrong in front of multiple people. In addition, I did not see the positive side of what I was being told. Later on in the program I was able to realize that constructive criticism and use it to deliver a strong and effective final presentation.

The month of ICorps, October 2015, was one of the busiest, but most impactful months of my college life. From the constant planning and completing customer interviews to
preparation and participation in the required Friday afternoon meetings, the ICorps program consumed me! In addition to balancing multiple hours of school and work, I felt like I never could settle down. At some points, I even wondered why I was completing the ICorps program. However, looking back, I am forever grateful that I stuck with it and went through with the experience. Everything I learned will be applied to my future professional life. I am now a more hard-working, dedicated young professional that has even more ability to work in a team. One that can understand and accept constructive criticism, and one that can create and validate a great business model canvas that can lay the groundwork for a successful start-up business.

I would like to thank Dr. Jeff Chamberlain for bringing this great opportunity to my attention as well as allowing my participation to be basis for my Senior Honors Project. In addition, I would like to thank my faculty advisor, Dr. Linda Chamberlain for her much appreciated help along the way and moving forward. Little does she know, she was one of the major reasons why I continued in the ICorps process when I wanted to leave. I thank her for that.
Resources


Chapters 1, 2, 3, 4, 7, 8.


LaunchPad Central Videos (per Customer Discovery Syllabus)

