Final Project Report
American Family Insurance Mobile-Only Property Quoting Process

ISYE 450

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Team: Logan Dirkx, Jack Dallimore, QiWen Shu

Introduction

Company Overview:

American Family Insurance (AmFam) is a national leader in property, auto, and life insurance. AmFam was founded in 1927 in Madison, Wisconsin, offering strictly auto insurance to farmers. Over the years, the products and services offered by American Family have evolved to accommodate changing customer needs. American Family operates through a nationwide network of agents that sell insurance to customers and manage claim processing. Today, AmFam generates over $8B in annual revenue through their vast network of agents.

Project Background & Motivation:

American Family Insurance agents operate as independent contractors of the parent company (AmFam). Each independent contractor uses a slightly different procedure to quote properties, but they are all united by a common goal: the fastest and most accurate property quote possible. What's more, agents need to be able to meet their customers wherever they want. So, agents need to be able to have mobile tools for customer management and property quoting. Current tools are distributed across several platforms (PC, Mobile, pen/paper) which slows the process for the both the agent and the customer. To provide a faster quote & meet the customers where they are, AmFam wants to create a mobile-only property quoting experience.

Project Objectives:

Time-to-quote is one of the most important factors for selling insurance to a customer since agents are often competing with other companies to get a quote in front of the customer as soon as possible. So, our goal is to streamline the property quoting process using only mobile devices for insurance agents. We do not want to change the underlying process, rather facilitate the process using mobile technology. We will do this by analyzing the current tools and processes used by agents & identifying mobile functionality to allow agents to meet their customers anywhere, anytime for a quote. Furthermore, the mobile system cannot add any friction to the current workflow of an agent. Once finished, American Family will have a clear transition procedure for agents to convert to a mobile-only quoting process as well as a process mapping of the current flow to highlight obstacles that require additional technology investments.

Project Deliverables:

In order to deliver on our objective, we created a series of deliverables for the client to assess the current state, outline requirements for 100% agent mobility, and plan for a

phased development of mobile-only technology.
These include:

- Document outlining the current process of property quoting mapped to the tools currently used by agents
- Matrix assessing health of current technology used in quoting process
- Outline of how current mobile technology complements property quoting
- Document assessing feasibility of a mobile-only platform
- Document of mobile software changes
- Graphic showing phased mobile-only implementation strategy

Project Framework:

AmFam's primary objective is to achieve 100% agent mobility. Agents must be able to meet their customers anywhere while having full access to customer and insurance data. In order to attain this goal, we recommend a 5 step transition plan to transform from the current state to a 100% mobile agent workforce. These 5 steps include: entering customer data, entering inspection data, completing mobile quotes, managing the quote process, and streamlining the user experience through continuous optimizations. We anticipate that this process will take approximately 2 years to complete.

Current State Analysis:

Our project goal is to develop an implementation strategy for a mobile-only property quoting system. Furthermore, we are tasked with identifying the gaps in the current software solutions that prevent a mobile-only quote. In order to provide this recommendation, it's essential for us to know what activities are required to create a property insurance quote.

Key Activities / Data:

Since our goal per the charter is to outline a complete transition to a mobile-only quoting process, we needed to understand the key activities required to provide a quote, and the current procedure to complete each activity. To do this, we analyzed

the current desktop software to catalog data entry requirements at each stage of the quoting process. We recorded the frequency and type of data entry required to complete the quoting process to inform the requirements for a mobile-only solution.

The process can be broken into 5 steps: Initial walk around, replacement value calculation, initial quote, internal property inspection (optional), and final quote. Only the replacement value calculation and quote process are software intensive. The inspections are largely completed using alternative tools (like cell phone cameras and notebooks) currently, but the workflows can be incorporated into a mobile solution.

We worked closely with our client, Tom Cotter, to learn the property insurance quoting process. We met with Tom and insurance agent Josh to walk through the tools and common workflows that agents use to complete a quote. Our data on the input frequency was derived from analyzing screenshots of the tools used during quoting.

Process:

1. Initial Walk around
2. Replacement Value Calculation
3. Initial Quote
4. Internal Property Inspection (Optional)
5. Final Quote

Step 1: Initial Walk around

The beginning of every property insurance quote begins with an inspection of the property. The agent will either travel to visit the site personally, or use google maps / street view to assess the property if it is too far away. The agent needs to collect numerous data points to inform his or her estimations while creating the quote. Most notably, the agent will attempt to assess the structure, electrical system, heating, roof, and plumbing. On the first visit, the agent will probably only be able to inspect the structure, basic electrical components, and the roof. The heating and plumbing fixtures are largely internal, so these observations frequently occur later in the process after the initial quote has been created.

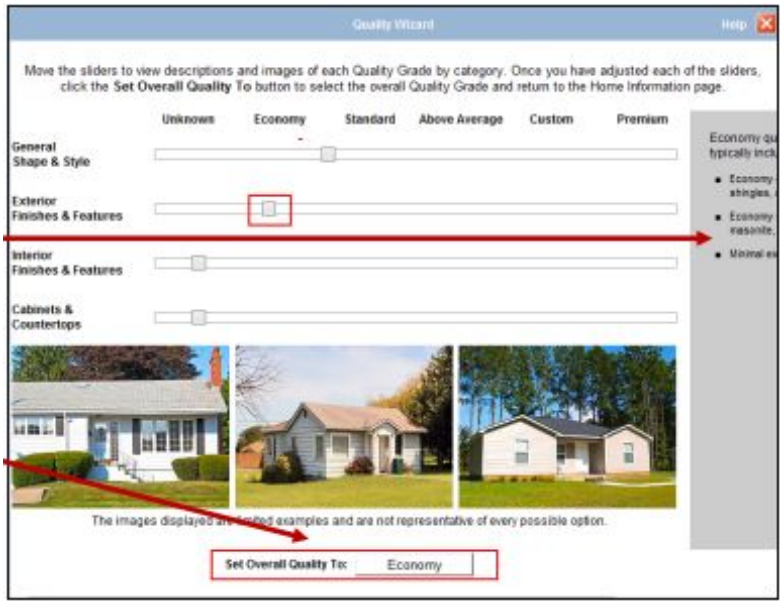
Figure 1: 5 Dimensions of Property Inspection

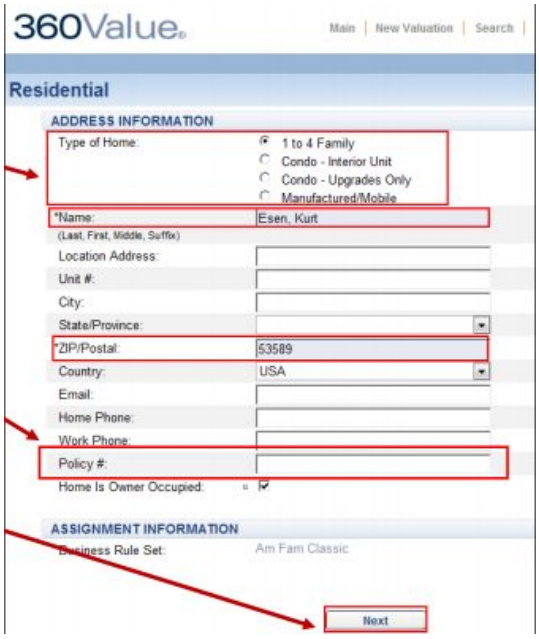
Each agent has his or her own preferences for collecting this data. Some use pen / paper, some use a smartphone with a camera, and others use an AmFam app that allows the agent to directly upload images to the corresponding folder. In total, the agent will collect approximately 25-35 observations to help assess the cost of insuring the home. Overall, the purpose of the initial exterior home inspection is to identify and record any red flags that make the home more expensive to insure.

Step 2: Replacement Value Calculation

The second part of the process is to conduct the replacement value calculation. The process is relatively time-consuming. It involves a number of steps, each of which contain many data entry points (an average of 10 entries per step). Inputting this information can be fairly difficult because the application's interface is not optimized for mobile use, but rather is simply a standard web page being accessed from a mobile browser through Citrix. In addition to the limited size of the mobile screen, the numerous pop-ups along with application functionality through Citrix can ruin the mobile performance and cause the user many troubles.

Also, the agent must conduct extensive research on the property and client to assess their risk. This includes home square footage, neighborhood, age, prior damage, client's credit score, past claims, and criminal history. All of these factors are used to help quote the property. Furthermore, the application is accessed from within the quoting product, therefore it is an indirect process. If the user wants to access some locally stored files as a reference while doing the quoting, the mobile app cannot provide such a function. Lastly, due to the limited size of room and screen size of the mobile, it is almost impossible to launch a long text box.


Quality Wizard
Help
Move the sliders to view descriptions and images of each Quality Grade by category. Once you have adjusted each of the sliders, click the Set Overall Quality To button to select the overall Quality Grade and return to the Home Information page.
Unknown
Economy
Standard
Above Average
Custom
Premium
General Shape & Style
Exterior Finishes & Features
Interior Finishes & Features
Cabinets & Countertops
The images displayed are limited examples and are not representative of every possible option.
Set Overall Quality To:
Economy


360Value
Main | New Valuation | Search
Residential
ADDRESS INFORMATION
Type of Home:
1 to 4 Family
Condo - Interior Unit
Condo - Upgrades Only
Manufactured/Mobile
*Name:
Esen, Kurt
(Last, First, Middle, Suffix)
Location Address:
Unit #:
City:
State/Province:
*ZIP/Postal:
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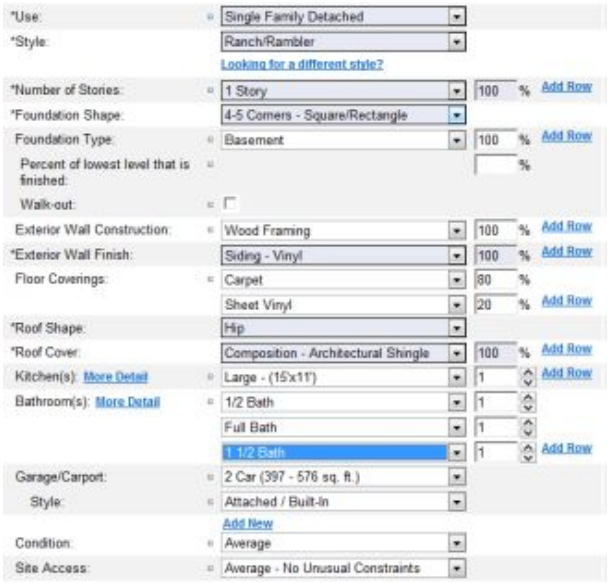
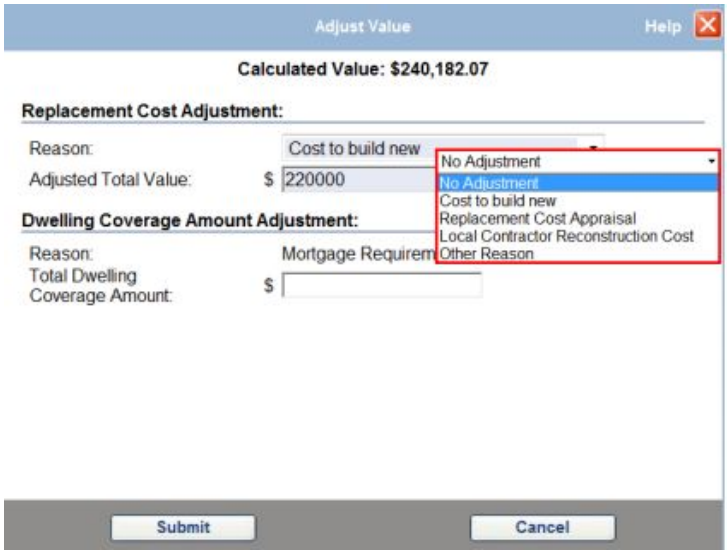
Home Is Owner Occupied:
ASSIGNMENT INFORMATION
Business Rule Set:
Am Fam Classic
Next

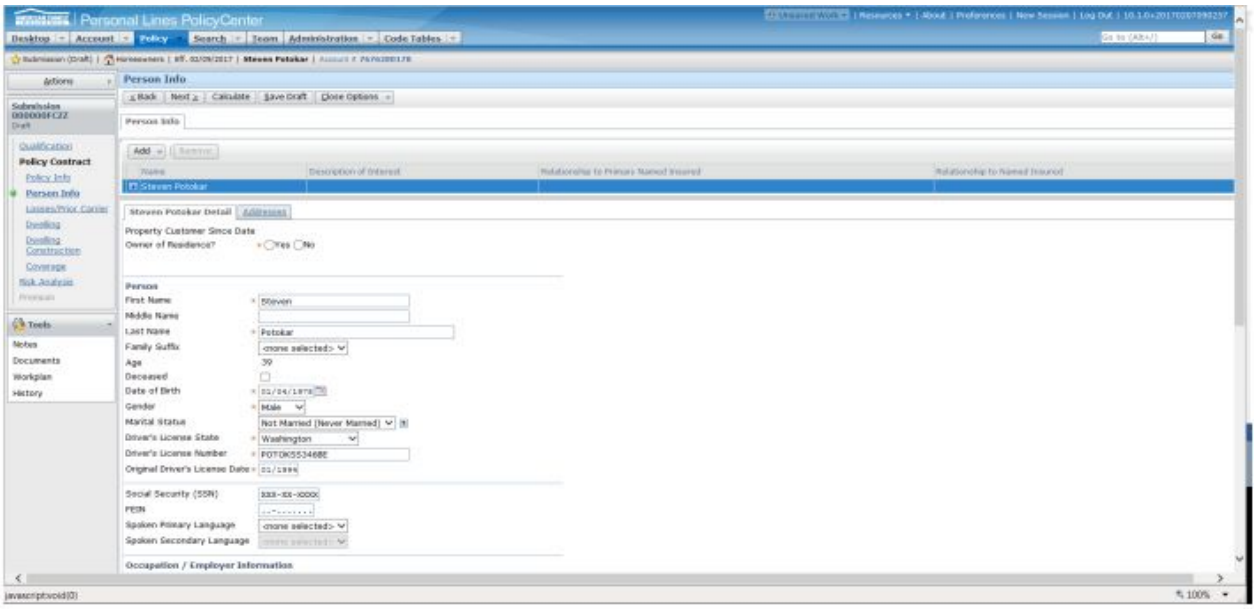


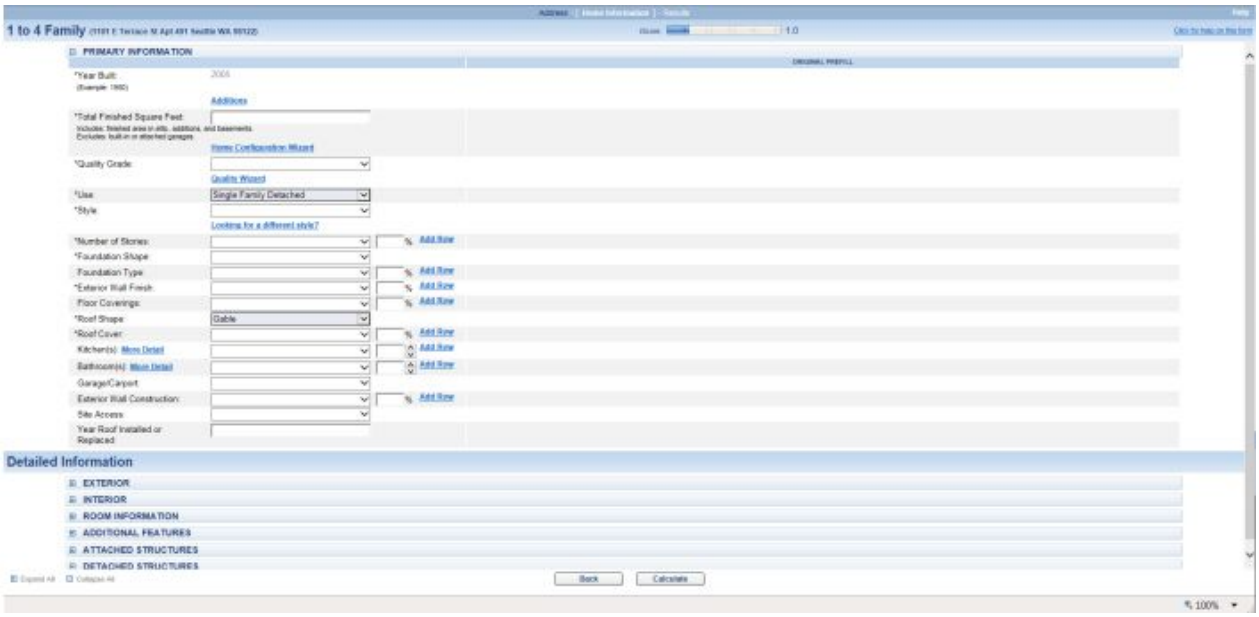


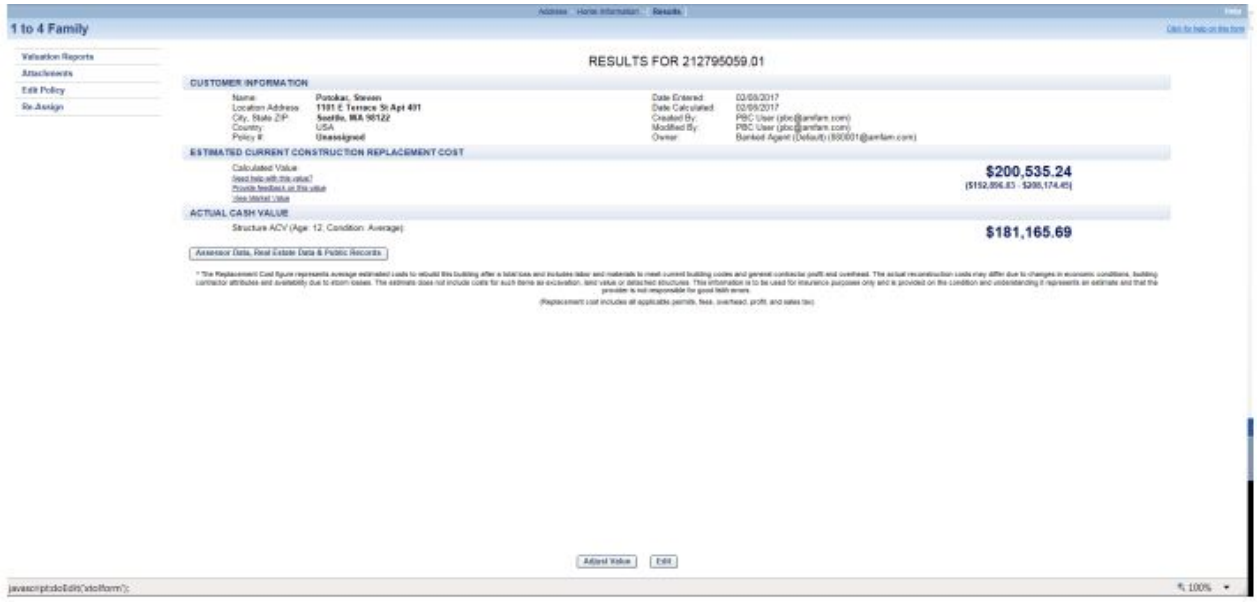
Step 3: Initial Quote

The third part of the process is to provide the customer with the initial quote. This is a long process that is filled with countless data entry points. Similar to the Replacement Value Calculation step, the initial quote process requires the insurance agent to walk through several pages of questions to gather property information for everything ranging from the type of dog the owner has to the height of the fence that surrounds the yard. All of this data entry runs through the same application platform as the Replacement Value Calculation, which doesn't lend itself to mobile functionality.

The web application for the initial quote process consists of 13 pages and about 60 required data entry points and many more optional fields. This process is incredibly time consuming even when performed on a computer, making mobile experience that much more difficult. This process also takes data gathered in the Initial Walk around and Replacement Value Calculation steps and combines it with customer input during the initial quote meeting. If replacement value was previously calculated, then this value is simply plugged into the application. If the replacement value was not previously calculated, however, the initial quote meeting will include that step as well, delaying the time to quote.


Personal Lines PolicyCenter
Person Info
Steven Potokar
Steven
Potokar
Male
Washington
Coverage
Eligibility rules apply to all coverage selected within this quote. This quote only includes coverage selected AND for which the customer is eligible.
Traditional Protection
Coverage A - Dwelling
Coverage B - Other Structures Blanket
Coverage C - Personal Property
Coverage D - Loss Of Use
Section I Deductibles
Coverage E - Personal Liability
Coverage F - Medical Expense
Fire Department Service Charge
Fungi Or Bacteria
Loss Assessments
Account File Summary
Steven Potokar
Personal Lines
Active
Producer Information
Test AgencyMonthly AQP599 Agency, Inc. (10361)
PO BOX 0361
Madison, WI 53703-0361
608-612-0361
206-322-6818
206-553-6354
1101 E Terrace St Apt 401
Seattle WA 98122-5398
Current Activities
Policy Terms
Work Orders In Progress





Step 4: Internal Property Inspection

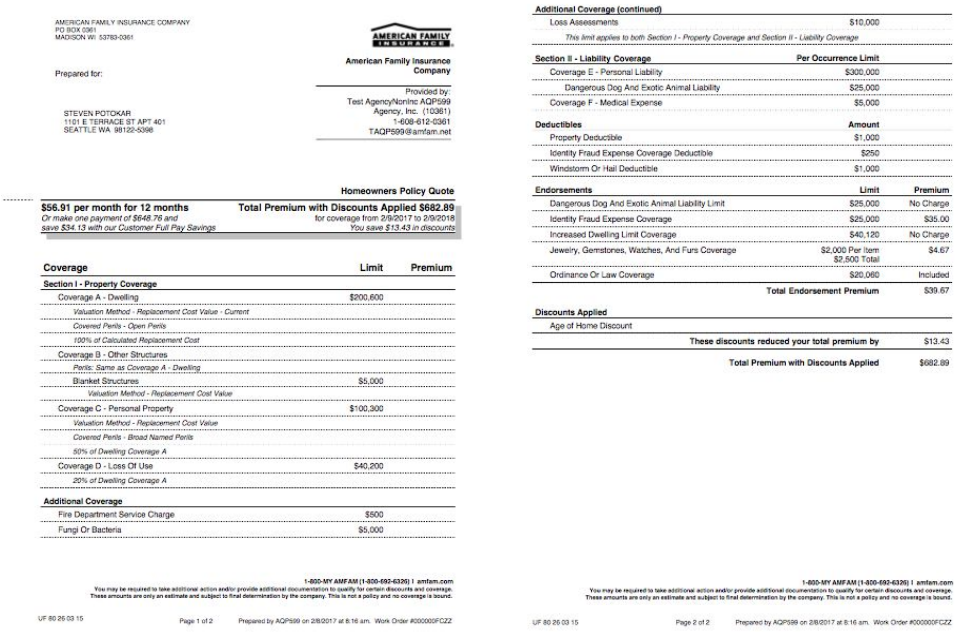
The fourth part in the property quoting process is to physically inspect the inside of the home. This step isn't guaranteed to occur before an insurance sale is made, however, because occasionally, the agent or customer will not have access to the home, so they cannot inspect the interior. The primary goal of an interior walk-through is to assess the HVAC and plumbing system while also identifying intangible expenses like heirlooms, nice trim, expensive countertops, etc. All of these factors will contribute to a higher replacement value for the home. These expenses will be added to the initial estimates

made earlier in the property quoting process, which then helps the insurance agent provide a more precise quote for the customer. Another thing to note during this step is that the agent will be actively looking for features that make the home uninsurable. During the inspection is when the agent can take note of details that were missed during earlier steps. The agent will often take pictures of these details and send them back to the home office to be recorded in the application.

The web application is used again for this step because the agent is simply filling in fields that were missed in previous steps (the optional fields). Oftentimes, the agent will bring the laptop to the owner's home to provide a quote on the spot. This semi-mobility is very advantageous because it allows the agent to demystify the process by showing the customer exactly where data is being entered and how the quote is being calculated. As in the previous steps, mobile access to the application is too cumbersome to be used effectively when providing a quote for the customer, so agents bridge this gap in mobility by carrying around their laptop.

Step 5: Final Quote

The last step of the quoting process is to combine the result of the quoting process and the replacement value calculation. As we can see from the graph, normally the company calculated two versions of replacement values. One with basic attributes and discount and the other with more fully covered aspects. In the meantime, numerous information input is required at this stage and therefore efficiency is highly valued. To offer the client the final number of the calculation and start the business as soon as possible is what insurance companies are striving to achieve now.



AMERICAN FAMILY INSURANCE COMPANY
PO BOX 0361
MADISON WI 53783-0361

Prepared for:

STEVEN POTOKAR
1121 E TERRACE ST APT 401
SEATTLE WA 98122-5398

AMERICAN FAMILY INSURANCE

American Family Insurance Company

Provided by:
Test AgencyNonInc AQP599 Agency, Inc. (10361)
1-608-612-0361
TAQP599@amfam.net

Homeowners Policy Quote

$56.91 per month for 12 months
Or make one payment of $648.76 and save $34.13 with our Customer Full Pay Savings

Total Premium with Discounts Applied $682.89
for coverage from 2/9/2017 to 2/9/2018
You save $13.43 in discounts

Coverage	Limit	Premium
Section I - Property Coverage		
Coverage A - Dwelling	$200,600	
Valuation Method - Replacement Cost Value - Current		
Covered Perils - Open Perils		
100% of Calculated Replacement Cost		
Coverage B - Other Structures		
Perils: Same as Coverage A - Dwelling		
Blanket Structures	$5,000	
Valuation Method - Replacement Cost Value		
Coverage C - Personal Property	$100,300	
Valuation Method - Replacement Cost Value		
Covered Perils - Broad Named Perils		
50% of Dwelling Coverage A		
Coverage D - Loss Of Use	$40,200	
20% of Dwelling Coverage A		
Additional Coverage		
Fire Department Service Charge	$500	
Fungi Or Bacteria	$5,000	

1-800-MY AMFAM (1-800-692-6326) | amfam.com
You may be required to take additional action and/or provide additional documentation to qualify for certain discounts and coverage.
These amounts are only an estimate and subject to final determination by the company. This is not a policy and no coverage is bound.

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Additional Coverage (continued)		
Loss Assessments	$10,000	
This limit applies to both Section I - Property Coverage and Section II - Liability Coverage		
Section II - Liability Coverage	**Per Occurrence Limit**	
Coverage E - Personal Liability	$300,000	
Dangerous Dog And Exotic Animal Liability	$25,000	
Coverage F - Medical Expense	$5,000	
Deductibles	**Amount**	
Property Deductible	$1,000	
Identity Fraud Expense Coverage Deductible	$250	
Windstorm Or Hail Deductible	$1,000	
Endorsements	**Limit**	**Premium**
Dangerous Dog And Exotic Animal Liability Limit	$25,000	No Charge
Identity Fraud Expense Coverage	$25,000	$35.00
Increased Dwelling Limit Coverage	$40,120	No Charge
Jewelry, Gemstones, Watches, And Furs Coverage	$2,000 Per Item $2,500 Total	$4.67
Ordinance Or Law Coverage	$20,060	Included
	Total Endorsement Premium	$39.67
Discounts Applied		
Age of Home Discount		
	These discounts reduced your total premium by	$13.43
	Total Premium with Discounts Applied	$682.89

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You may be required to take additional action and/or provide additional documentation to qualify for certain discounts and coverage.
These amounts are only an estimate and subject to final determination by the company. This is not a policy and no coverage is bound.

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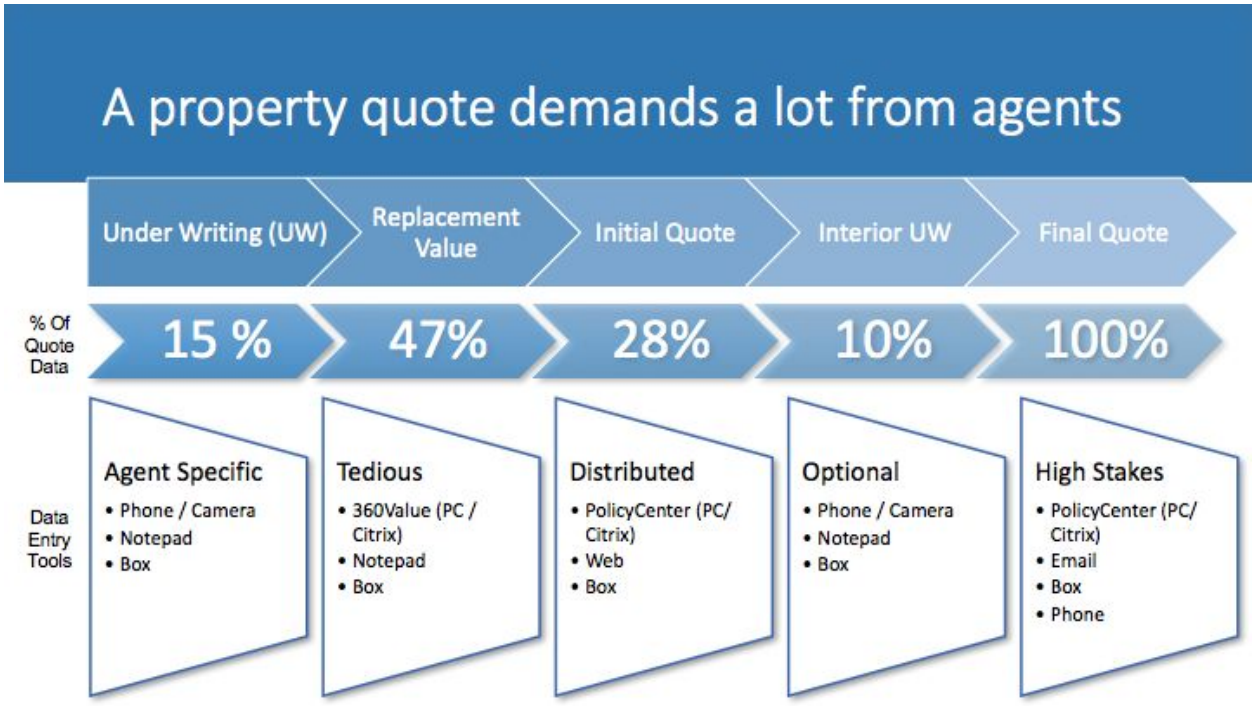
Data Input Analysis:

After conducting a stepwise analysis, we summarized the number of data inputs required to produce a quote in the graph below as a percentage of the total work required. In total, an agent must submit over 200 data points into 3 different platforms with more than 5 different formats- all of which is not optimized for the mobile device. Furthermore, we can see that the replacement value requires the largest portion of the data, 47%. This makes sense considering the replacement value attempts to estimate the cost of replacing the entire home and its possessions given a total property loss. In order to do this, the agent must collect sufficient details about the property.



Requirements:

Our goal is to recommend a mobile only transition plan that will not detriment or impede the workflow of the agents. So, we need to ensure that all of the appropriate tools exist to replace the desktop functionality. We've outlined the workflow above to detail the 5 main steps in the property quoting process. Each step is also associated with an objective. Each objective must be met in a non-intrusive, intuitive mobile application.

Objective 1: Collect Exterior Data

During phase 1, property inspection, the agent collects 25-35 observations about the property. These data points will be used in the replacement value and initial quote calculation. Therefore, it's essential that the mobile application makes recording and organizing these data points as easy as possible.

Through discussions with the client, it became clear that each agent's inspection process is quite variable depending on the property and their preferences. A current mobile app exists to record photographs from the inspection, but slow upload speeds impede its adoption. In order to provide a feasible mobile solution, these performance

impediments will need to be addressed by the technology team.

Objective 2: Replacement Value Calculation

After the inspection is completed, the agent will compile raw data about the customer (credit score, past claims, employment, etc) and the property (neighborhood, weather, nature risk factors) to calculate a replacement value. This value is used to create an insurance quote for the customer.

The current software used by agents is 360 Value. It's goal is use estimators to predict the cost of replacing the home if it's totally destroyed. This software requires approximately 100 data points to be entered into various text boxes, pop ups, and drop downs. The interface is web-optimized to allow PC based agents to quickly enter information. As with the other software, 360 Value is operated on mobile devices by using the Citrix desktop emulator. To create a seamless transition, the mobile software will need to allow agents to enter the same data points in an equally easy experience. Investment in UX engineers will likely be required to mobile optimize the application.

Objective 3: Initial Property Insurance Quote

The most important step of the entire workflow is generating the initial quote. The core objective of this stage is to produce a reasonably accurate quote to present to the client before further refining in later stages. The current desktop software is Policy Center, a web-optimized application that can also be operated on a mobile application using Citrix. This step requires entering approximately 60 data points into policy center over 15 pages. Since the core requirement of this stage is producing a reasonably accurate quote, our objective should be to optimize a mobile-based interface that uses the least amount of feasible data points. Currently, many agents send the data from their inspection to their office where other agents begin creating the quote. A mobile experience would enable the agent to do this from the road.

Objective 4: Interior Inspection (optional)

This stage does not always occur since an agent or customer may not have access to the property they are looking to purchase. But, when it does occur, the requirements are similar to the external inspection- collect relevant data points to estimate replacement cost / cost to insure. Since this is usually the last part of the quote process, agents try to complete this with the customer so they can leave the site with a quote in hand. The additional sub requirement for a mobile system would include a

clean UI and reliable performance to produce a client friendly document and avoid software errors that cause delays.

Objective 5: Final Quote

The final quote is the deliverable that the agent is trying to sell to the customer. It's a culmination of all personal information, property information, and details from the inspections. This document is produced after the final inspection is made and all of the essential information is collected. As mentioned above, this quote can either be produced directly with the client during the interior inspection, or sent to the client after the agent completes the document in his or her office.

In order to transition this phase to a mobile only solution, we must create an equally useful mobile quoting application (as mentioned above). The key activity this software must accomplish is completing the outstanding data entry fields required to produce a final quote.

Shortfalls:

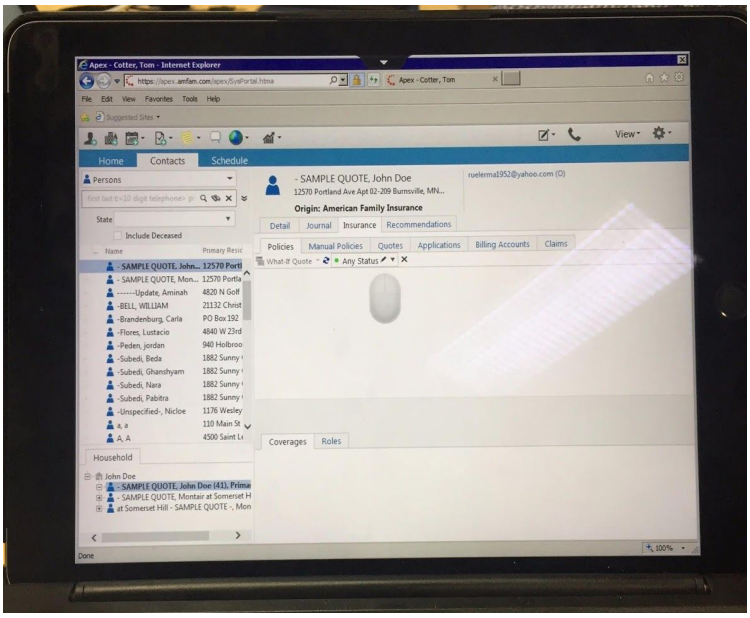
The current user experience on mobile relies on software called Citrix to reproduce the desktop software on a user's phone / tablet. However, due to the nature of the program, the user experience is not optimized for a mobile device. As a result, the workflow will not have the same fluidity as a web experience. Our contact, Tom Cotter, has stated the following:

> *"That is one of the issues that we have with quoting using a mobile device. The quoting system can be displayed on a mobile device, but it looks just like the desktop version. It runs within Citrix and is a virtual desktop version. So, the screens will be the same on mobile to the desktop version and the screens on a mobile device are not mobile optimized."*
>
> *- Tom Cotter*

Furthermore, our agent contact, Josh, has stated that he does not use the mobile software because of poor performance and high data demands. Therefore, the primary blocker to a mobile-only transition plan is reluctant agent demand. The hesitation can be further decomposed into efficiency and reliability.

The currently mobile experience operates on a non-optimized Citrix platform that does not follow mobile app design standards and uses clunky UI elements like dropdowns,

pop ups, and toggle selection. All of these elements make the mobile experience more difficult to use than the desktop platform. Additionally, Josh noted that the mobile inspection app is dreadfully slow and uploads uncompressed image files that eviscerate his data plan. So, any convenience gained through mobile freedom is diminished by a frustrating user experience.



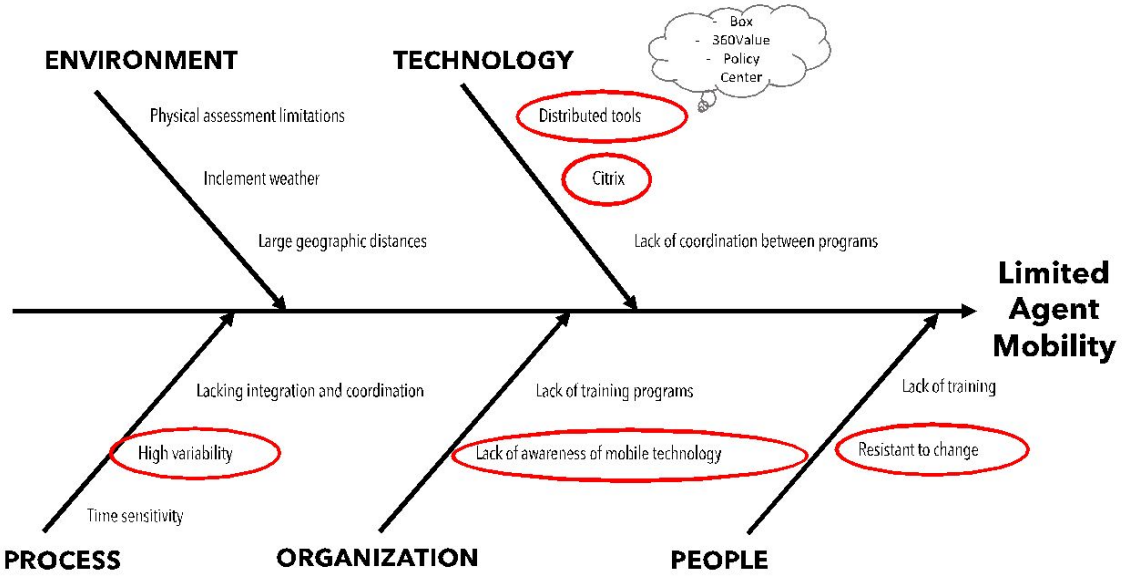
Citrix Mobile App

Insurance agents are frequently traveling to serve their clients. In order to provide the best customer service in the shortest amount of time, agents also require a reliable quoting tool that will not fail in front of a client or cause the client delays. The agent we've consulted, Josh, has expressed hesitation in transitioning to a mobile platform citing the risk of errors (among other things). This is a perfectly natural concern since his current workflow meets his needs. A mobile-only quoting process will only *enhance* his ability to serve clients. Therefore, it's essential to demonstrate the reliability of the mobile platform to win the trust of agents during the transition.

The current non mobile optimized Citrix experience is prone to erroneous entries since the design (pop ups, unformatted text descriptions, navigation controls) makes it easier to make errors and harder to correct mistakes. Both factors will reduce the perceived reliability of the application.

To derive the root cause preventing a mobile only quoting experience, we created a fishbone diagram outlining potential factors grouped into the following categories: Environment, Technology, People, Organization, and Process.

Most notably, we learned during our conversations and observations that the current mobile technologies were inefficient and cumbersome. The Citrix mobile app was in hard to use because of action/response delay and the quoting tools like 360Value and PropertyCenter were too hard to load and use on a mobile device. Furthermore, we found more systemic issues with the agents' culture. Since each agent runs his or her own business, they are very reluctant to change their behavior and adopt a new quoting process. This also leads to high process variability between agencies as each agent self-optimizes their workflow to match their own needs. Lastly, the technology development group needs to focus on outreach & marketing campaigns to get their tools in the hands of agents. From our conversations it was clear that previous product launches did not receive a lot of support.



Ultimately, we determined that using Citrix is the root cause of American Family's impediment for a mobile only platform. This conclusion was reached by completing a 5-whys analysis with both Josh and Tom. Also, we confirmed our suspicion that the Citrix platform was inadequate by personally testing the software in software and seeing the problems first hand.

Improvement Opportunities:

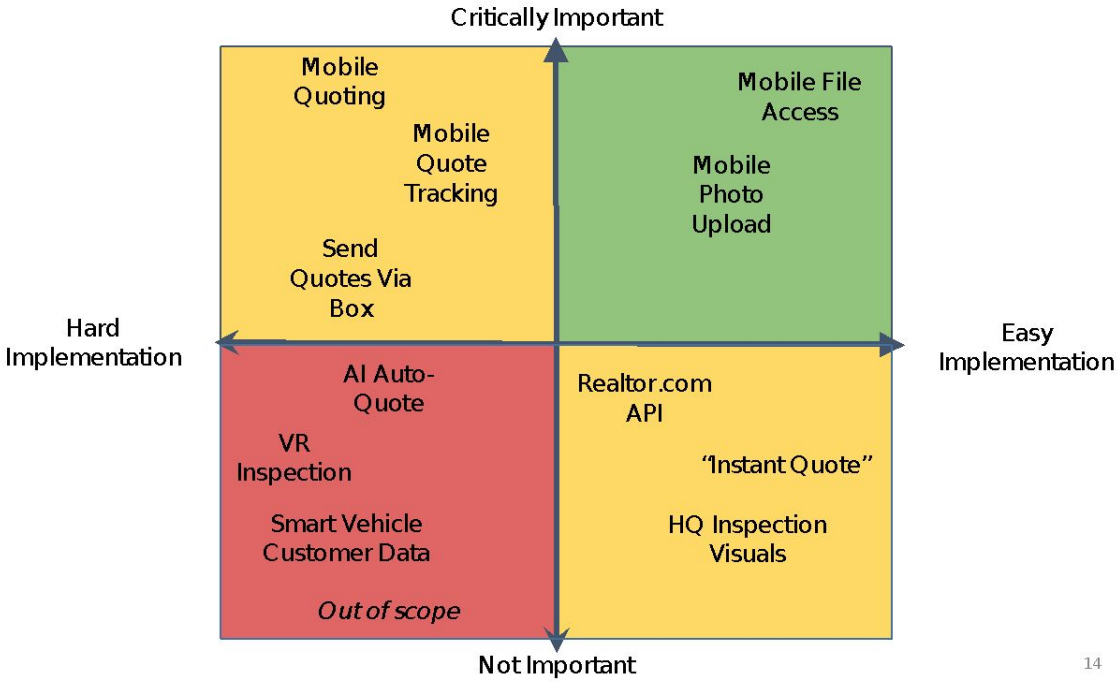
As we've alluded to above, a successful implementation strategy is dependent on proving to agents that the new mobile solution is more efficient and reliable. If these qualities are not met, agents will stick to their current desktop workflow that they've optimized to fit their needs.

What this means:

1) Ditch the Citrix: No mobile solution will reach mass adoption living in a desktop virtualization due to performance issues
2) Limit data entry: share data between initial inspection, property 360 quote, and policy center
3) Mobile friendly interface: enter the most important information sequentially in an indexed application that aligns with agent workflow
4) Customer Friendly Reporting: Easily view and share a property quote from mobile once finished

Solution:

Before brainstorming ideas and plotting our transition strategy, we wanted to gain a deeper understanding of the needs of property agents and the current capability of AmFam to meet those needs. So, we completed a prioritization exercise with our client in order to gauge the importance of features vs the effort required to produce them. We plotted each feature on a 2x2 matrix with the x-axis representing effort and y-axis representing importance.



In the green box, we identified the quick wins that will serve as the foundation for future implementation. Next, in yellow, are equally valuable features that will require additional resources in order to execute. Also, in the greyed yellow, are 'nice to have' features whose value to the product isn't essential. Finally, in red, are advanced technologies that could optimize agent workflows but require significant investment. Once we plotted these features, we outlined an implementation strategy to incrementally attack the root cause. Each phase includes a meter representing the percentage of root cause, or how much of the agent's workflow is now consolidated into a mobile experience, solved for during this period.

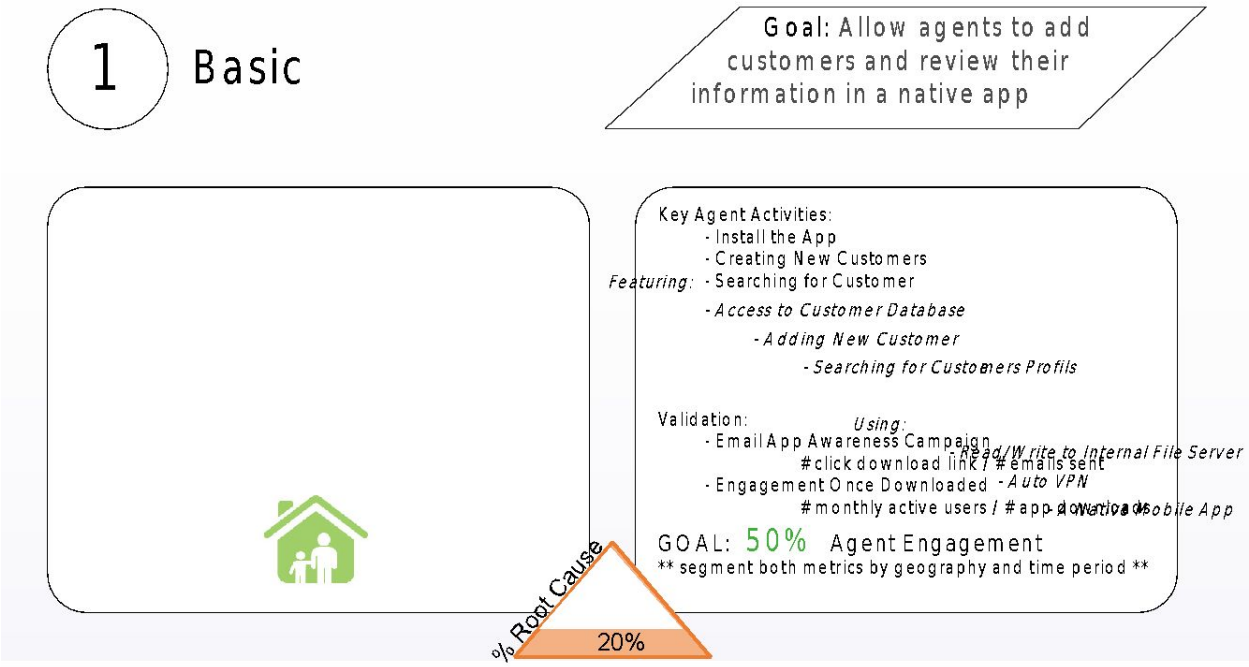
Phase 1: Customer Data Entry

During this stage, our goal is to allow agents to add customers and review their information in a native app. Certain features like access to customer database, customer search, and creating customer are included in such step.

To achieve these goals, one alternative that we can use is the internal file server with RW access where the agent can access the relevant files efficiently. In addition, we need to include auto VPN to ensure that agents can easily and more quickly access confidential information. Moreover, this integration of mobile app and internal server will allow for improved data integrity throughout the property quoting process.

On the agent side, agents should be required to install and use the app for customer profile creation and searching. The performance improvement can be examined through sending an email with download link; measuring click vs bounce rate, tracking app opens vs installed, tracking engagements per month. On the other side, whether the agents will be willing to download a mobile app to access their customer data should be investigated carefully before implementation.

During the quoting process, about 20% of the work is tracking and monitoring your outstanding leads. So, providing a mobile experience for agents to search for customers and view their data will shift that 20% onto mobile. Also, the vast majority of an agent's customers have already purchased their insurance. So, being able to see their information on the go as well is a huge added benefit. Lastly, searching and viewing customers is a foundational requirement for all other features, so we determined that it much be completed first. The graphic below outlines our plan:



Phase 2: Inspection Data Entry

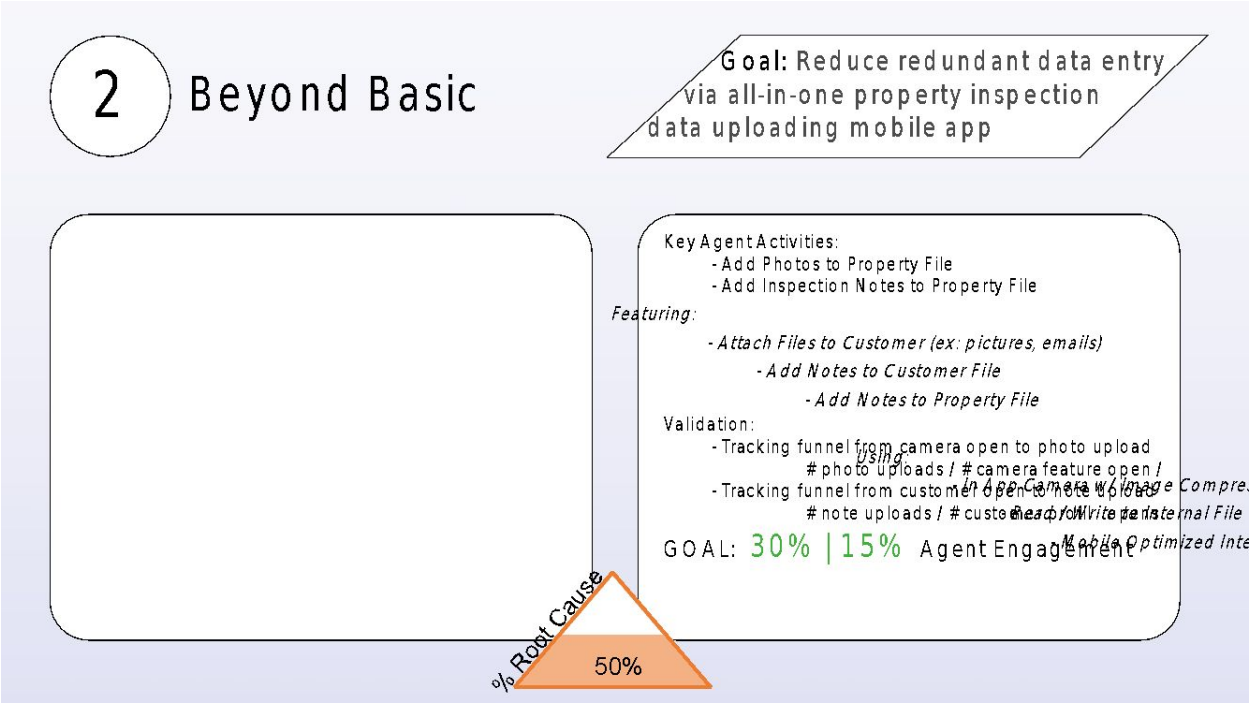
During this stage, our goal is to reduce redundant data entry by creating an all-in-one uploading app for agents while they inspect a property. The main features we will be focusing on include attaching documents and pictures to customer files, adding notes into the customer file, and adding notes to property file. This way AmFam has consistent records throughout their data network on both the customer and the property itself.

To achieve these goals, one method that we can use is the in-app camera, where the agent can take pictures for quoting instantaneously. In addition, mobile-friendly text boxes can also be adopted for faster communication.

On the agent side, agents are determined to attach photos to a property and add inspection notes to a property. Validation process can be done through the following process: tracking funnel from customer creation > property creation > property inspection notes / photo upload. Moreover, one thing that we ought to make sure is the agent's willing to upload the photos and enter notes via this app.

A large portion of the work required to produce a quote is collecting the data required on the property and the customer. We estimated this as approximately 30% of the

total agent workflow. Therefore, transitioning to a mobile device at this phase (customer search + data entry) will consolidate about 50% of the agents workflow into a singular experience.



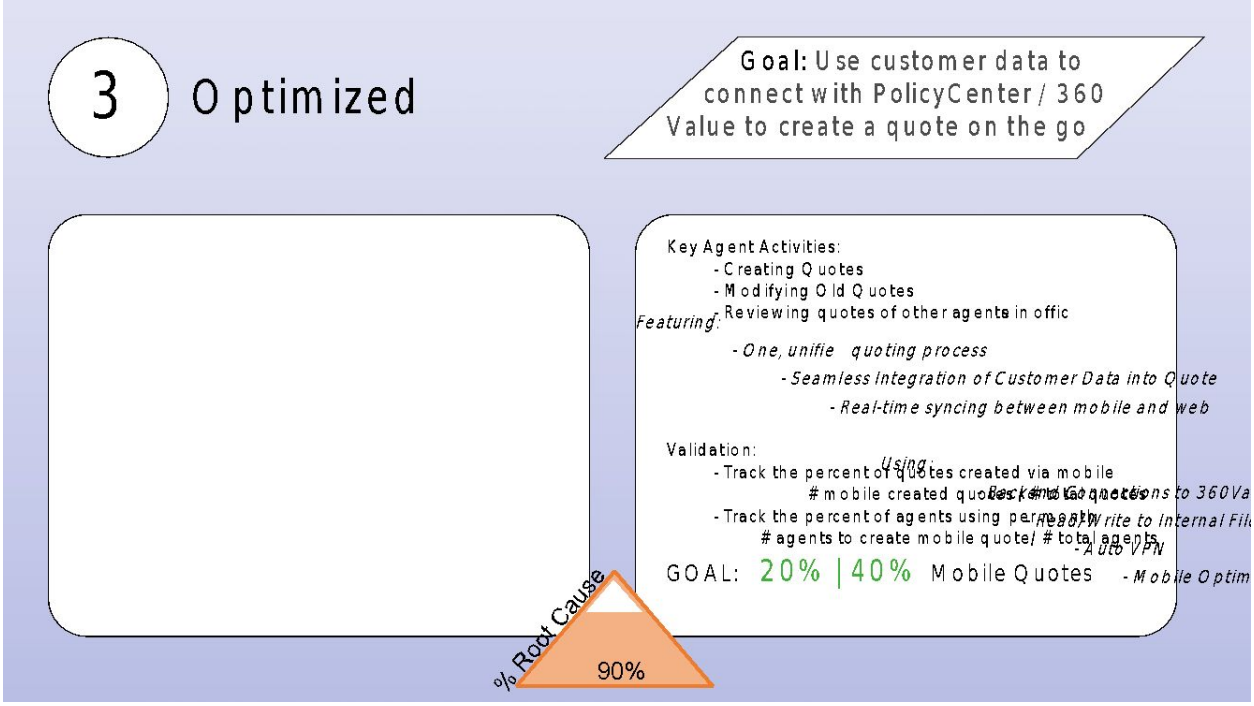
Phase 3: Data Application

During this stage, our goal is to use the data entered into the customer file during phases 1 & 2 to connect with PolicyCenter and 360Value to create a quote for a customer. This quote process should be unified so that data can be shared across multiple steps without reentry. It also needs a mobile friendly user interface.

To achieve these goals, one method we can use is an auto VPN that has connection to PolicyCenter where it updates and extracts the information from the PolicyCenter. In addition, internal file server RW access for quotes is also required for this process.

On the agent side, agents need to create connection to PolicyCenter before creating a quote. They also need to review past quotes to verify accuracy and eventually attach data to new quotes. Validation process can be done through the following process: (1) Tracking funnel from beginning to end of quote flow (2) Monitoring user behavior from beginning of pipeline (customer creation) through to quote download. Moreover, the willingness of the agent to create a quote from a mobile interface should be checked prior to this stage.

Since our foundation has been laid, creating customers and adding their data, we can finally produce a quote – the most important part of the property quoting experience. Most agents have to edit and revise a quote several times by adjusting numbers to accurately reflect the property, so this phase requires about 40% of the agent's time. While we chose to build out 'less important' features first, we feel like they are foundational to allowing mobile property quoting to be a seamless experience. For instance, if an agent wants to change the roof type while he or she is creating the quote, the agent will need to switch to the desktop version to make that change. This is a common behavior, so failing to deliver the previous 2 features will diminish the value created by mobile quoting.



Phase 4: Complete Quote / Customer Engagement

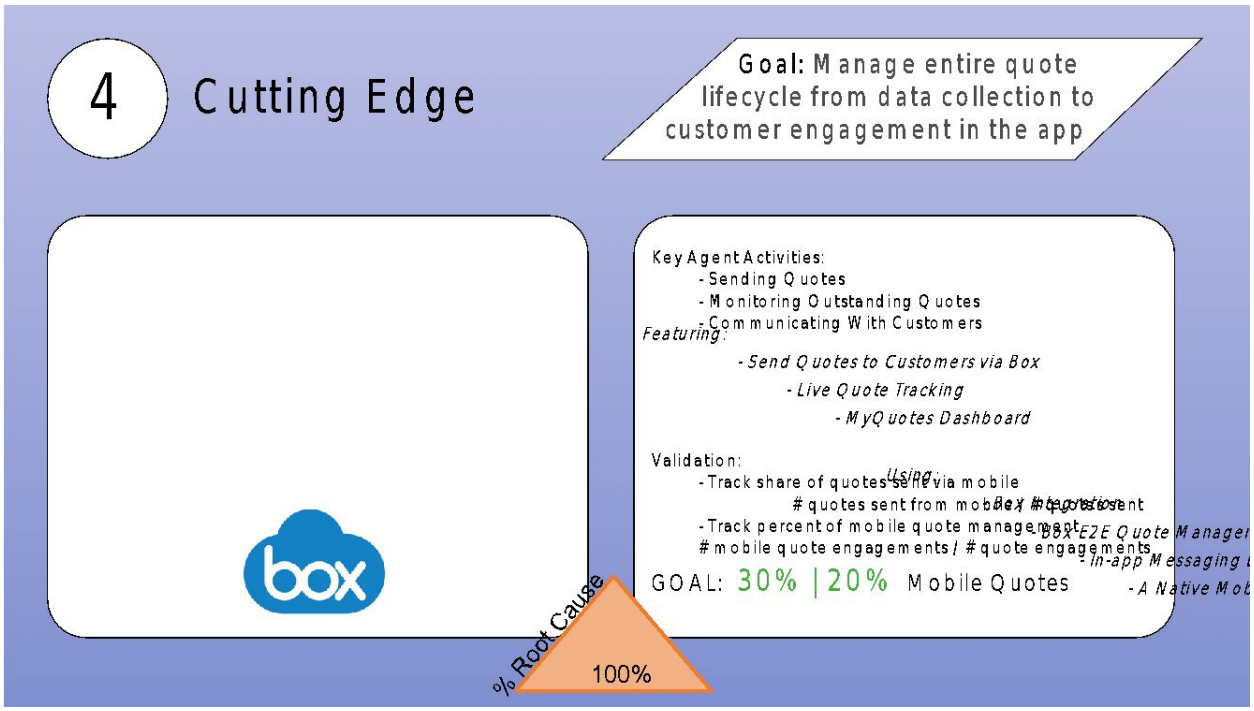
During this stage, our goal is to make sure the agent is able to manage the entire quote life-cycle including sending it to the customer and tracking contact with the customer once the quote has been added to the system. This step uses box to deliver quotes, customer quote view tracking and a quote dashboard that records the status of each quote.

To achieve these goals, we will integrate the mobile app with AmFam's box account to access past quotes. Additionally, we need to build out the box capability for

customers to view, comment, and edit the quote while also being able to communicate with the agent. Box has shown these capabilities before, our team simply needs to implements it. Successfully integrating quote management with Box will allow agents to have an all-in-one view of their outstanding sales while also creating a more seamless user experience for the customer.

The performance validation process can be done through checking the following: (1) number of responses the customer, (2) Number of sent quotes (3) Number of acceptance quotes from the customer (4) % of quotes managed on mobile. Still, the agent's willingness and attitude toward the app and tracking outstanding quotes should be examined.

Finally, the agent spends about 10% or more of his or her time delivering and managing quotes. This phase is where agents make their money. So, it's imperative that agents are able to track their 'outstanding orders' from a mobile experience so they can follow up on leads and close more deals.



Phase 5: Streamline UX

Finally, our goal is to continuously enhance the mobile quoting experience to allow agents to complete the entire workflow without leaving the app. This means pulling in more outside knowledge into the application. We envision this taking the form of zillow.com / realtor.com API integrations to pull in information about the property, machine learning to autofill parts of the quote based on similar properties, and

embedded images to visually remind agents of the differences between obscure roof types.

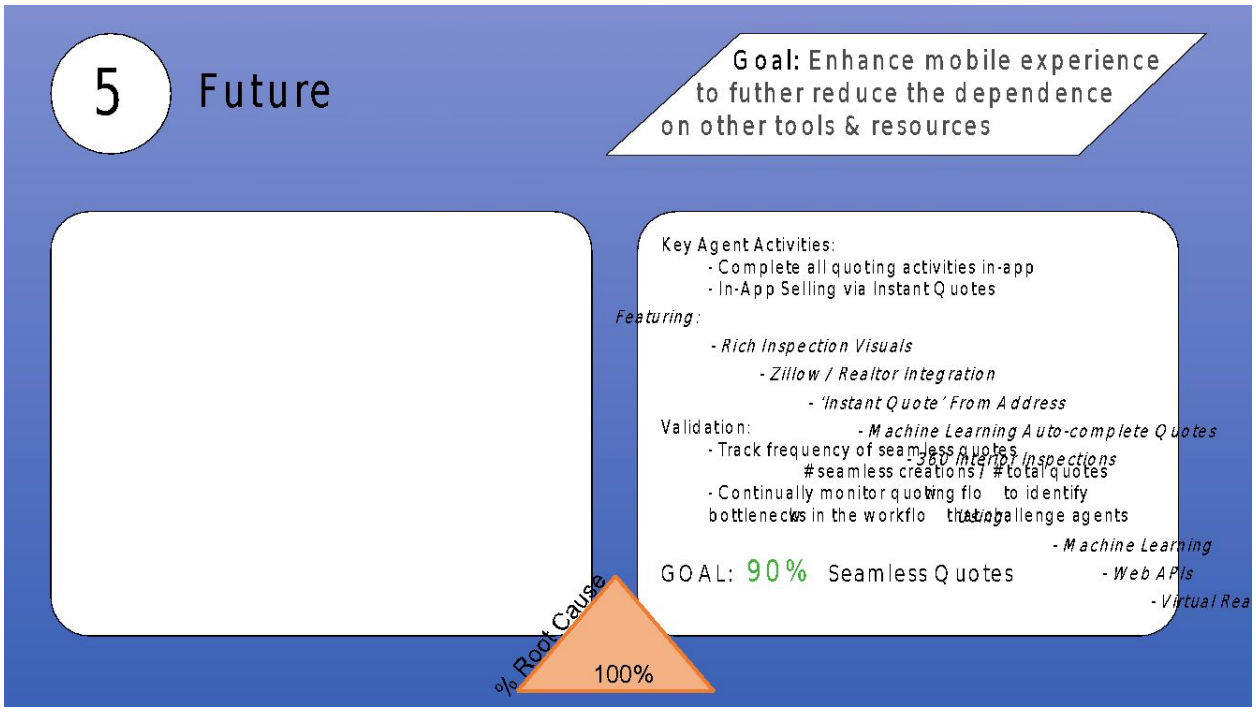
Thinking long term, we have dreamed up more ambitious technological investments for American Family insurance to help them remain on the cutting edge of innovation in a competitive insurance landscape. Many of our recommendations revolve around using automation to enhance the customer experience and simplify the agent business. We've learned throughout our time with American Family that insurance is a very relationship driven business. So, we want agents to be freed from the mundane simple tasks to allow them to focus more intently on the customer relationship.

Our innovations can be divided into 3 categories: enhanced inspection, automated customer service, streamlined agent workflow. First, we envision AmFam using drones to complete property inspections in the near future. This will provide a more detailed assessment and also serve as a digital record. Similarly, we think AmFam can use 360 cameras to capture even the smallest details of a home to create an extremely accurate replacement value calculation. Furthermore, in the event of a disaster, the customer can use virtual reality to walk through their old home to make sure they don't forget any major keepsakes.

With the proliferation of natural language processing and artificial intelligence has come new customer service experiences that were not possible before. These could be valuable to AmFam in the form of a chatbot quoting agent, virtual agent in google home / Alexa, and policy self-correct. First, a chatbot could ask a customer on their mobile device a few basic questions about their home in order to provide a quote. This conversational interface could increase the number of customers at the top of the conversion funnel. Next, once a customer, the user could install the AmFam app on a smart home device. This AI will be capable of answering coverage questions, or even making a claim should something break. Lastly, customers could easily take pictures of new expensive items or their new roof and self-submit it to the app or Alexa to add it to the policy. In this way, customers can have total ownership over their insurance experience.

Lastly, advanced technologies can be used to help agents as well. 360 scans, chatbot quoting and drones will all help streamline the agent's' workflow, but it's equally important to help them build relationships with customers. Agents work with a lot of clients, so receiving just in time information will help them make a personal connection. This could take the form of a smart-car app that briefs the agent once they arrive at a customer's home. Similarly, an AI can monitor customer activity with their smart-home

devices to recommend engagement times to be of the most use to the customer. The goal is to use technology to reduce the barriers between a customer's problem and the agent's solution.



Conclusion:

Recommendations:

After working through the current state of American Family's property quoting process and assessing the technology in use today, we've concluded that the distributed set of tools and Citrix software is inadequate for meeting the needs of property insurance agents. The current software is error prone, slow, and hard to use. Therefore, we are recommending that American Family Insurance develop a stand-alone mobile application that provides an all-in-one property quoting experience.

Business case:

Insurance policies are sold through a combination of firm reputation, fast time to quote, and strong agent relationships. Currently, policy sales are lost because agents must complete more work on distributed tools in order to create a quote for a customer. Also, since access to a customer's' data and quote is locked behind a firewall, it's challenging for agents to provide a world-class customer service experience. So, creating an integrated mobile application will allow agents to generate more quotes in less time while simultaneously providing a better customer

experience. Furthermore, a modest 5% boost in productivity has been shown to generate $500 per month by freeing up more time for agents to sell policies and serve customers. What's more, a UK study showed that internal mobile apps can boost employee productivity on key activities by 34% (https://www.salesforce.com/blog/2014/08/mobile-crm-sales.html).

Plan for implementation:

Our implementation plan consists of a 5 phase incremental roll out of value added features. Each phase incorporates a phase goal and the technologies required for implementation. Also, we created a list of expected agent behaviors, major assumption, and the key-performance-indicators (KPIs) needed to validate that our implementation satisfied our original goal.

In order for this development to proceed unimpeded, we will need buy-in from management, sufficient funding, and a change agent to own the transition. As previously noted, a mobile only solution faces headwinds from agents who are already successful with their current tools. So, the benefits of each phase of the rollout must be articulated by the change agent. Furthermore, the change agent will work closely with the software development team to ensure that the minimum performance metrics are met before moving to subsequent stages. If the metrics are not met, it is up to the change agent to either redesign the product or adjust the acceptance bar to fit with current environment.

The five phase implementation is dependent on a smooth development process as well. To mitigate problems before they begin, we suggest that AmFam use an Agile development process. By operating in 2 week sprints, the development team can push beta versions of the software to agents more frequently. Frequent releases allow the team to gather regular feedback from the agents so they can make appropriate changes to the product as necessary.

Similarly, the AmFam development team must maintain a core customer group of agents to test product ideas and designs. This small team will be instrumental in the successful implementation of the 5 phase rollout by offering frequent feedback and education for the engineering team about what is most valuable to an insurance agent.

Sustainability:

In order to sustain the solution that we have proposed, there are multiple risks that need to be addressed with mitigation plans. The core risks can be grouped into three main categories: people, process, and technology.

From the people standpoint, there needs to be some level of oversight to make sure agents are using the technology as it is developed. The best way to ensure adoption across all levels of the business is to implement training programs and provide as many resources as possible for the agents. The main reason people fight the adoption of new technology is due to a lack of training and understanding of the tools being given to them. The agents need to understand that all technological changes are meant to improve their ability to build and maintain strong customer relationships. Strong training programs can help mitigate a lot of the risk involved with adoption and, thereafter, consistent use of the new technologies.

Managing a long, resource intensive project is challenging for most organizations. To mitigate the risk of project abandonment, we suggest that AmFam designate a change agent to manage the entire development cycle. This person's sole responsibility will be to manage the project from beginning to end and keep the key stakeholders informed. Furthermore, it's essential for the project to be funded at the start to reduce process risk. Many of the benefits occur downstream once widely adopted by agents, so the first year of the project will require numerous prototypes and experiments before the development team successfully meets agent needs. Therefore, the funding must be pre-allocated to remove the possibility of the project being scrapped halfway.

The final risk that needs to be addressed is from the perspective of technology. Throughout the course of the transition plan, new technologies are introduced at each phase. With the introduction of each technology and feature, there is a desired agent behavior that needs to be observed before moving on to the next phase. We made the assumption that technology implementation would follow a smooth course and . However, we believe that performance may be a limiting factor for a mobile solution. Due to confidentiality, the app will need to use a VPN to read and write to the internal files behind AmFam's firewall. Also, internal software (like 360Value) has not been optimized for performance, so speeds may be frustratingly slow for some users. This is not a guaranteed problem, nor is it unfixable, but it is something for the engineering team to consider during development.

With mitigation plans in place to deal with these three main categories of risk, agents can spend more time focusing on building customer relationships instead of worrying about whether the process or technology will hold them back. Strong customer relationships are a pivotal part of AmFam's business and this technology will give agents an invaluable asset to build upon those relationships. Technology, when done right, integrates seamlessly into any business process. When technology is as natural as the process itself, the agents will be able to focus wholly on the thing that matters

most: people.

Feedback from our Client:

Upon completion of our project, our client, Tom Cotter, gave us some valuable feedback about where our project fits in the bigger picture at AmFam and what the future of technology at the company looks like.

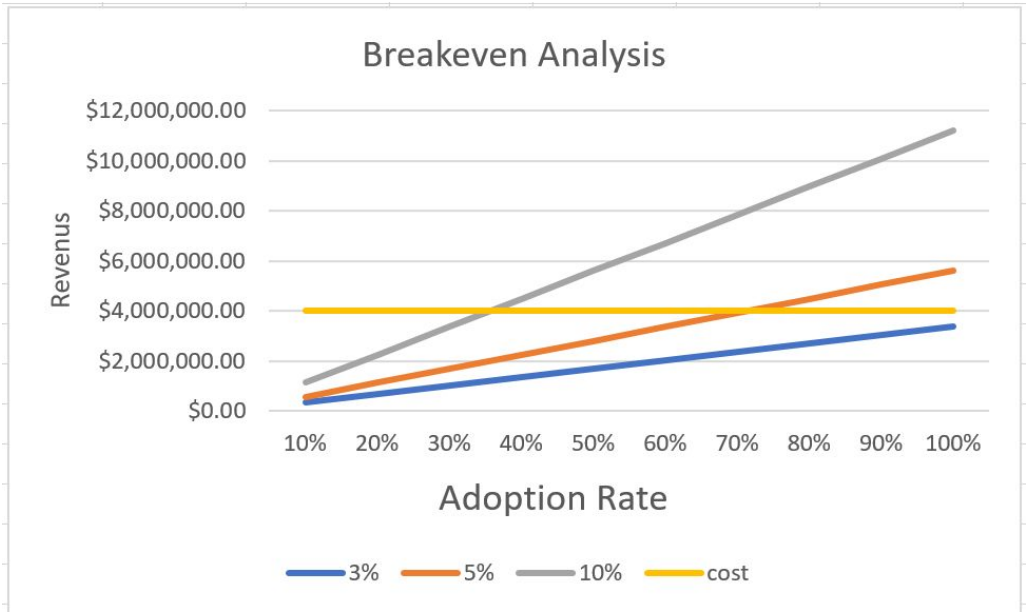
Until this point, AmFam's mobile technology solutions have been heavily focused on customers. In the last 5 years, they have developed a full-scale customer mobile application and redesigned their entire customer experience on the website. These enhancements allow the customer to login to their account and monitor their policies, as well as giving them the ability to submit a claim online. These features are in addition to dozens of others that have significantly improved the customer experience over the past several years.

Going forward, AmFam wants to improve the agent's experience with enhanced technology as well. This is where our project comes in. With our five-phased approach over the next few years, the agents will be able to more seamlessly deliver property quotes for their customers. When both agents and customers have technology working for them, they will be able to focus more of their time on relationships. This is AmFam's goal and our project fits in nicely with their future plans.

Breakeven analysis:

One key character that determines if a project will be implemented or not is its rate of return. Based on the conversation with our clients, we can proceed our project under the assumption of a total 2800 agents. Each agent generates an average of 40000$ per annually. On the other side, the cost of an engineer working on this project is around $200000/yr and it is estimated that 10 engineers will be needed for this project in a two year frame. Therefore, we get our total cost of $4000000 for the project.

We conducted a breakeven analysis under the assumption of 3%, 5%, and 10% growth. It turned out that the breakeven point for 10% growth is about 30.56%; for 5% is about 70.14%; for 3% is about 110.9%. Although the graph shows that the project will not profit us if we only made 3% growth, a modest 5% boost in agent productivity is projected. Therefore, we are confident that this project can turn out to be a beneficial one in the two year frame.


Breakeven Analysis
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