

Karel Raska, Oliver Watts, Damien Robbins, Gabin Pelle

Full Circle Integration

Introduction

Adoption rates of smart home technologies are soaring as home-owners are starting to see such products as utilitarian household items rather than hedonic luxuries (Boston Consulting Group). The growth of the smart home market is driven by the adoption of virtual assistants channeled through smart speakers, including Amazon Alexa and Google Assistant, which also serve as controls for an ever-increasing number of smart home accessories. Although the US smart home market has seen substantial growth in the number of connected homes in recent years (17 million in 2015 to 29 million in 2017), consumers are frustrated “around a fragmented technology that fails to meet a full value proposition” (McKinsey).

A friend was having a party after high school graduation. **His family had a Sonos system which served as a central music hub, but the friend could not integrate the Sonos system with the Wiz smart light system installed the week before.** Although this frustration may seem minor, integrating smart home devices maximizes each device’s value. Besides Full Circle Integration, there is no company to date with the ability to link all individual systems within the home, as players within the market are building their own ecosystems instead of pursuing a universal standards. Our personalized software package that connects smart home devices across all platforms to create a fully-integrated smart home network targets tech-savvy American homeowners who are frustrated around this ‘fragmented’ smart home experience.

Road Map

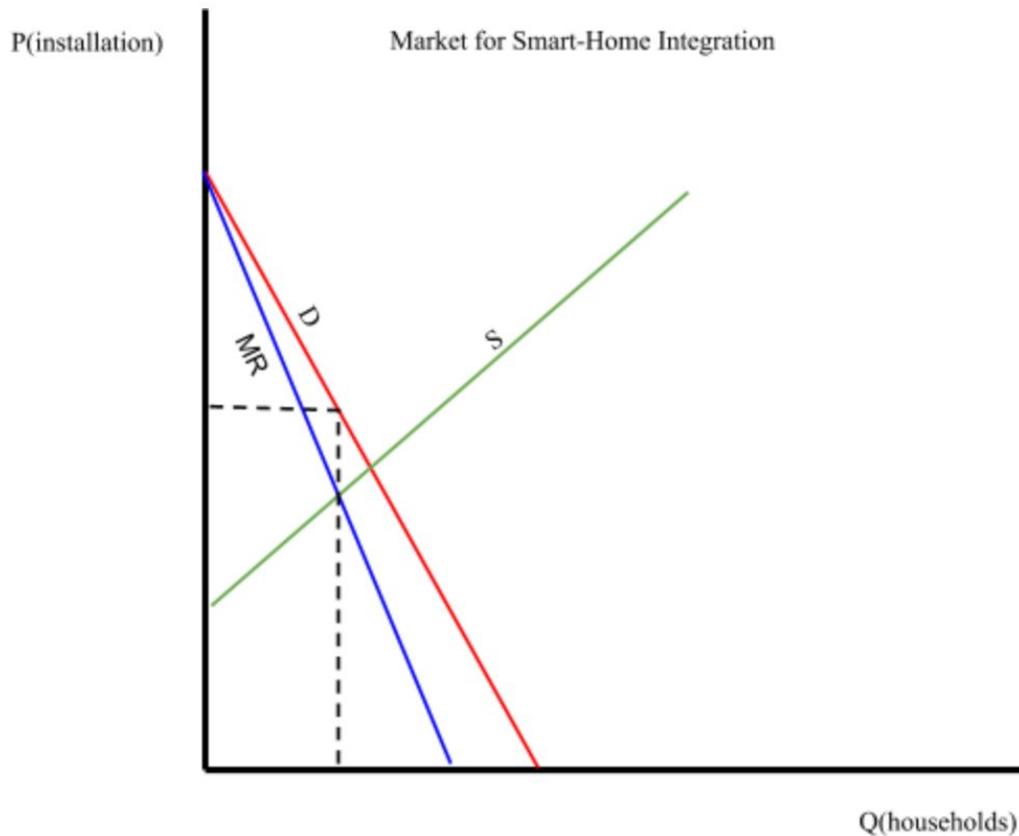
We begin our analysis of Full Circle Integration (FCI) with examples of tech-savvy homeowners, our target audience. Next, we discuss the nature of our **high margin, low volume** business in the context of our current short-term monopoly in the smart home integration market. After our market analysis we introduce our organizational architecture (composed of three teams and business to business consultants) and our mission critical business process (the four step customer journey). Key business problems during the customer journey include the transfer of **specific information** between FCI employees regarding the unique needs of customers and the **common pool resource** of our technician's time. We then move onto our leadership and management philosophy, through which we establish a common purpose, promote trust and transparency, foster a culture of accountability, and build strong lateral bonds between teams. Lastly, we dive deeper into the decision rights, monitoring and measuring, and incentives for our business to business (B2B) consultants and three teams during the customer journey. This final section also includes a discussion of our two factions: our technician teams and customers concerned with data privacy and security.

Target Audience

Our target audience includes tech-savvy homeowners across the US at any stage of the home-buying process and at any level of smart home device adoption. Although these homeowners are familiar with and users of smart home technology, their expertise is not so advanced that they could integrate their smart home devices themselves. Examples of our target audience include a young couple working with a realtor to finance their first house, a

middle-class family of four remodeling their ten year old home, or a wealthy, retired tech executive building a mansion from the ground up. The young couple relies on Google's Assistant to fulfill daily tasks, the middle-class family purchased Amazon Echo's for their two children and are concerned about home security, and the wealthy tech executive is looking to future-proof his home with a full array of smart home devices.

Market Analysis



Because FCI develops personalized software packages to meet customers' unique smart home needs, we are a high margin, low volume business. Although we currently have a

short-term monopoly through first-mover advantage (since no other companies to date offer cross-platform integration for smart home devices), it is only a matter of time before competitors develop their own cross-platform integration software. Thus, the smart home integration market will eventually become monopolistically competitive.

Examining the elements of our graph, for the current smart home integration market

maximum willingness to pay is high since we offer a personalized, premium service. We experience inelastic demand with a high income effect and low substitution effect. If our target customers' incomes increase, their consumption may not change, but if their income decreases, consumption could drop drastically. We have a low substitution effect because only a handful of especially tech-savvy consumers can integrate their smart home devices themselves and we currently have no competitors. Given our short-term monopoly, we have high market power, further increased by the fact that our smart home integration service is a **durable good**. As mentioned before, FCI's software packages are personalized, which gives us high product differentiation. This outweighs the low barriers to entry into the market, since we don't have a patent for our software and similar integration is replicable. Because our services require advanced technology and hardware, we have a relatively high minimum average variable cost with respect to our customers' maximum willingness to pay, explaining our fairly inelastic supply. Lastly, our marginal cost is high since our operation is hard to scale up- with more customers come more problems, especially given the personalized nature of our service.

Mission Critical Business Process

Full Circle Integration's organizational architecture includes B2B consultants and three teams: client relations, technicians, and software developers. These individuals work together to accomplish our company mission of personalized, cross-platform smart home integration. Since we deliver our services across the US, we have several regional offices and adjust team staffing regionally to best match increasing demand. However, every regional office has a single B2B consultant. The client relations, technician, and software development teams have a team lead chosen based on seniority and experience. The team lead is in charge of monitoring and measuring performance, as well as making firing decisions.

B2B consultants and FCI's three teams play decisive roles during the four phases of the customer journey, our mission critical business process. **The customer journey is our mission critical business process because it is the means through which we continually attract and retain customers within our business.** Four phases of the customer journey include the outreach phase, pre-sale phase, installation phase, and post-sale phase. Key business problems we encounter during the customer journey are the transfer of **specific information** between FCI employees regarding the unique needs of customers and the **common pool resource** of our technician's time. When we dive deeper into our organizational architecture, we will use Carlito's (a fictional client) customer journey in our Northeast region as an ongoing example to illustrate key points.

Leadership/Management Philosophy

Given their experience and seniority, team leads are not only expected to be leaders themselves but nurture a connection to the “invisible leader- the common purpose”

(Follett, 94). We believe that leadership encompasses an individual’s ability to articulate and act on such a common purpose, which in FCI’s case is to deliver a fluid, personalized customer experience. Management, on the other hand, is the means through which a common purpose is actually put into effect within a group. Building and managing our common purpose begins with our interview process.

The objective of our interview process is to build small, tight-knit teams that are connected

on both a strategic and personal level. A three to five person panel made up of team members from a specific department conducts interviews for that department. The amount of panel members is based on availability and experience of the potential hire. Candidates sit at a round table along-side the interviewers, not directly across from them, to better foster discussion.

Qualifications of individual candidates are important, but not as important as the ability to adapt and pick up new skills. Members of the panel take turns asking questions, some relating to previous work experience, some relating to hypothetical decision-making in certain situations, and some to judge character and team fit. Panel members also mention the common purpose of all FCI employees and ask for the candidate’s opinion.

Let us imagine that Candace is interviewing with our client relations team in the

Atlantic-Southern region and openly admits she has little experience determining

high-value leads. Firstly, Candace shows her character by revealing her skeleton and builds trust through her transparency. Secondly, if Candace describes an instance during her professional career where she learned a new skill that helped her improve her customers' satisfaction, the panel may overlook her one lacking qualification. Throughout the interview, the panel clearly lays out job requirements, salary, monitoring and measuring methods, and incentives- candidates may even ask about the salaries of members of the panel if they wish. As mentioned before, transparency is key to building trust; towards the end of the interview, it should be obvious to Candace if she is hired or not. Ultimately, our interview process yields new hires with a strong team fit and an unwavering dedication to serving our customer's personalized needs, which aligns with the common purpose of all FCI employees. This common purpose continues to be reaffirmed in weekly team meetings.

During weekly team meetings individuals evaluate their own performance and that of their peers to establish both first and second-party enforcement. The ultimate goal of these gatherings is to build a culture of accountability at FCI. If Nichole knows that Brett has not followed up with a customer about a technician's visit in over a week, she is expected to speak up about the issue during the client relations team meeting. Speaking up is not a matter of being nice or mean, it is about making sure everyone is contributing their best effort to the team's common purpose of creating a fluid, personalized customer journey. Being honest with oneself and one's team is paramount, and everyone's constructive opinion is equally valuable. Honesty builds transparency which preserves trust, and trust fosters collective action which improves our customers' experience. Close bonds within teams are critical, but equally important are strong

lateral bonds between teams, which are strengthened during FCI's annual company-wide business trip to Hawaii.

Every year, FCI flies all of its employees to Hawaii for a four day business trip at an all-inclusive resort. **During this business trip, FCI's management team outlines new company-wide policy changes, recognizes individual regions for outstanding performance in categories such as customer service and number of customer referrals, identifies key improvements that must be made across the business, and reaffirms the common purpose all FCI employees should have.** This trip is also an opportunity for FCI employees to build relationships with individuals outside of their team and region. The transfer of **specific information** about a customer's needs between teams occurs on several occasions during the customer journey, so creating strong lateral bonds between teams is crucial. FCI employees have several hours of free time during the four days to mingle with each other by the pool, walk on the beach, or have late night hangouts in the bar. Building new friendships and professional connections within the company during this annual gathering increases clannishness through tradition and the expression of common values.

Organizational Architecture

Although we expect a small amount of clients to find us through our digital marketing campaigns, the majority of our customers enter the business through referrals during the outreach phase. Most referrals come from our B2B partners and from satisfied customers. Our B2B relations consultants are in charge of maintaining existing and building new relationships

with construction companies, realtors, and home remodelers within their region. The success of these relationships relies on repeat face-to-face interactions to educate our partners on updated FCI services for a more targeted identification of high-value referrals. B2B relations consultants are well suited for these responsibilities due to strong existing relationships with leading construction companies, realtors, and home remodelers within their region and a demonstrated ability to build new relationships.

We chose to implement a consultant model because it allows us to pay our consultants for referrals only when they lead to a sale and produce revenue for FCI. Thus, consultants have an incentive to give us the largest amount of high-value referrals to maximize their own profit. We define high-value referrals as referrals that generate the most revenue for FCI and the most satisfaction and utility for a potential customer. A B2B relations consultant shares referrals with client relations associates on a rotating basis and receives a five percent commission for every referral they bring in that leads to a sale. Sharing referrals on a rotating basis levels the playing field for client relations associates for their own sales-based commissions. At this point in time sharing referrals is still a transfer of **general information**, since nothing about a potential customer's specific needs is actually known.

Illustrating the outreach phase, Maliah, a builder in Stamford, Connecticut, is finishing construction on a house for Carlito, a client of hers. During a walkthrough of the house, Carlito shows Maliah some of the smart devices he recently purchased, including a Ring doorbell, Google Home Mini, and an LG OLED TV. Maliah, who has an established relationship

with Andrew, our B2B relations consultant in the Northeast region, identifies Carlito as a potential high-value FCI customer. During Andrew's bi-weekly visit to Maliah's office, Maliah relays the **general information** regarding Carlito's existing smart home setup to Andrew. Upon returning to the regional office, Andrew shares the general information about Carlito with Rob, a client relations associate.

The pre-sale phase begins immediately when a client relations associate connects with a potential high-value customer. **These high-value customers are initially identified by client relations associates from a pool of B2B referrals (discussed above), referrals from existing satisfied customers, and sales calls.** A single client relations associate takes a customer from the pre-sale phase through the post-sale phase to minimize the transfer of **specific information** and give our customers the most personalized service they can. Client relations associates are ideal for this task given their proven ability to build and maintain long-term relationships with customers. Since our client relations associates also have experience determining highest-value leads, they decide which referrals from our B2B partners and satisfied customers to pursue further. Client relations associates follow-up with potential high-value customers through email or phone to gauge interest, answer basic questions, and consider any unique requests.

After determining the highest-value leads, client relations associates schedule in-home consultations with those potential customers and determine if a technician's attendance is necessary. A technician's attendance depends on the client relations associate's judgment about the potential complexity of a customer's questions regarding the installation process, which

would require the transfer of **specific information** that only a technician knows. After answering general questions, asking if the potential customer wants to purchase additional smart home devices with their package, and establishing total system requirements, client relations associates give potential customers a price quote. Pricing may be negotiated up to five percent below the initial price quote until a final price is reached, closing the sale. From there, client relations associates coordinate installation dates with customers three to four weeks later.

A client relations associate receives a base salary in addition to a ten percent commission for every sale made. As a general quota, every client relations associate must generate \$25,000 of revenue a month, on average, during every quarter. In addition to a commission, the client relations associate that generates the most revenue during a quarter receives a \$1,000 bonus. If a client relations associate does not meet their average monthly revenue requirement during a quarter, they have the following two quarters to outperform the quota. Failure to do so results in the termination of their position by the client relations team lead.

Illustrating the pre-sale phase, Rob travels with Sarah, a technician, to Carlito's home in Stanford, Connecticut for an in-home consultation. Rob decided to bring Sarah along because Carlito mentioned that he had specific questions about the installation process. Carlito already spoke with Rob on the phone extensively about the services FCI offers, and expressed his frustration about the lack of integration between his two LG OLED TVs and a Google Home Mini. Rob asks if Carlito would consider purchasing a second Google Home Mini for his living room as part of his package, and he agrees. Carlito then asks about the complexity and length of

the installation process, and Sarah transfers this **specific information** based on the customer's home layout, as well as the number and type of smart devices to be integrated. Rob then gives the Carlito a \$6,500 quote on the spot for the installation, before settling on \$6,250 and completing the sale. Rob and Carlito also agree on an installation date three weeks from now.

The installation phase begins after a client relations associate transfers the unique needs of the customer and the specific system requirements learned during the in-home consultation to a software developer. The software developer then develops a personalized software package given their experience developing software that enables device to device communication.

Customer software packages are assigned to software developers on a rotating basis to maintain an even workflow across the department.

Apart from assisting with in-home consultations, a technician's primary responsibility is the installation of the FCI Router, based on their demonstrated experience installing home systems. Since technicians' time is our **common pool resource**, technicians are dispatched to customer's homes on a queue basis to maximize time efficiency. Using a scheduling software, the technician plans for transit and assembles inventory for a specific customer on the installation date scheduled by that customer's client relations associate. After dispatch, a technician drives to the customer's home and installs the FCI Router, in addition to any smart home devices the customer purchased with their package.

Once the FCI Router is connected to the same WiFi network a customer's smart home devices are on, technicians help customers add trusted devices the FCI Router can connect with, enabling communication. For every smart home device that is connected to the FCI Router, customers can adjust settings and set notifications for those devices. From a single desktop portal or mobile app, a customer can receive a notification about restocking eggs in their Samsung Smart Refrigerator, see their live Ring Doorbell feed, change the brightness of Philips Hue light bulbs in their living room, and adjust the volume on their Vizio smart TV in their bedroom. The FCI Router communicates with smart home devices across all platforms including Google Smart Home, Amazon Alexa, and Samsung SmartThings. Furthermore, as companies release new smart home devices, our software development team sends over-the-air updates to ensure full compatibility in the future. Before leaving, the technician performs a final system check and product walkthrough for the customer, ensuring the system is ready to go. The installation phase ends once the FCI Router and additional smart devices are installed and the software integration is complete.

Illustrating the installation phase, Carlito's personalized software package is assigned to Marie in the software development department. Rob, Carlito's client relations associate, gives Marie the list of devices Carlito wants to integrate, and discusses Carlito's specific wish for close integration between his LG OLED TVs and Google Home Minis. Marie then develops the personalized software for Carlito, and after simulating deep integration between an LG OLED TV and Google Home Mini, downloads the software package to an FCI Router. Henry from the technician team happens to be on queue on the date and time of Carlito's installation, and drives

to Carlito's home after assembling the necessary inventory (Carlito's FCI Router and a Google Home Mini). After installing the FCI Router and the additional Google Home Mini to complete Carlito's package, Henry helps Carlito add his two LG OLED TVs, two Google Home Minis, three Nest Thermostats, and six Philips Hue lightbulbs as trusted devices on the FCI mobile app. Henry also walks Carlito through the specific integration between his LG OLED TVs and Google Home Minis. Before leaving, Henry performs a final system check and answers Carlito's final questions about the FCI app functionality. Carlito is satisfied.

The post-sale phase begins after the installation of the FCI Router is complete. **A single client relations associate a specific customer has worked with since the pre-sale phase remains a point of contact post-sale.** Client relations associates determine when to do an initial follow-up (whether by phone or email) based on **specific knowledge** about their customers. During an initial follow up, customers are asked about their satisfaction with their FCI system and to describe any troubles they have encountered. At any point post-sale, client relations associates have the decision right to notify software developers and dispatch technicians when customers experience malfunctions with their FCI systems. Software problems are delegated to members of the software development team, while hardware problems are delegated to members of the technician team.

To minimize the transfer of **specific information**, software developers address problems in the software packages they developed personally. In addition to addressing software problems and bugs, software developers roll out monthly updates to all software packages they developed and

monitor cybersecurity threats to ensure that customers' systems are not hacked or that customers' data is not compromised. Technicians are dispatched to customer's homes during the post-sale phase on the same queue basis used during the installation process, unless a customer requests the same technician that initially installed their FCI Router.

Illustrating a post-sale scenario, Carlito calls Rob about a problem with his FCI system three months after installation. Carlito's FCI Router no longer communicates with his Philips Hue lightbulbs. Rob notifies Marie in the software development who initially developed Carlito's personalized software package, and Marie begins working on a patch. She discovers a glitch in her code that shuts off communication with the lightbulbs when two Nest Thermostats are being simultaneously adjusted. Marie codes the patch, and sends it over-the-air to Carlito's FCI Router. Marie then adds the patched code to the next software update, assuring the issue does not repeat in the future. Rob follows up with Carlito to make sure his FCI system is fully operational again.

Issue tracking software is used by the software developer and technician team leads to monitor and measure the performance of their team members. During the installation phase, software developers must download the final versions of software packages to an FCI Router three days before the set installation date to undergo final testing. Throughout the post-sale phase, software developers must also resolve software problems with the software packages they developed within three days, on average. Furthermore, monthly over-the-air software updates

must be sent out by the last day of the previous month and cybersecurity threats must be addressed within two hours of being identified.

On the topic of cybersecurity threats, one faction FCI faces is customers who become concerned with data privacy and the security of their FCI system. Several cases of scandals involving data privacy in recent years, including Facebook’s Cambridge Analytica data breach of over 80 million users, fully justify our customers’ fear of security. We manage this faction by fostering transparency and trust. Our website outlines our data policy, which states that we never collect and store user data, nor do we distribute it to third parties for a profit. The website also features a “Meet the Cybersecurity Experts” page, with short biographies and headshots of our software developers with the most cybersecurity experience. Software developers are always available to speak with customers about **specific information** regarding data privacy issues when notified by that customer’s client relations associate. These measures give our customers confidence that their personal data remains private and that attempts of hacking their FCI system are dealt with in a swift and professional manner.

Given the high turnover rate of software engineers, our software developers receive an industry-standard base salary which goes up five percent every consecutive year they are employed by FCI. The software developer with the lowest average response time to software and cybersecurity issues during a specific quarter receives company-sponsored professional certification opportunities, including CSSLP, MCSD, and C. This is to ensure our software developers continue advancing their technical skills throughout their careers. If a software

developer fails to meet x number of deadlines for tasks (listed in the paragraph above) in a given quarter per the software developer team lead's discretion, the software developer is issued a warning. Failure to improve performance the following two quarters results in the termination of their position by the software developer team lead.

Every technician truck is equipped with GPS that is integrated into the issue-tracking software to ensure our technicians arrive to customers' homes on time. **Since technicians' time represents our common pool resource and technicians must respond to emergencies and work long hours, they are paid overtime (one and a half times their normal rate) in addition to receiving an industry standard base salary which goes up two percent every consecutive year they are employed by FCI.** Given their right to overtime pay, technicians may be incentivized to spend excessive amounts of time at customer appointments. Such a scenario blatantly detracts from our common purpose of providing a fluid, personalized customer experience, which renders our own technician teams another faction FCI faces. We manage this faction through incident reporting, which is monitored and measured by the technician team lead. Incidents include arriving late to an installation, a customer reporting that a technician smoked on their property, or a customer reporting that a technician spent excessive amounts of time at their home for no apparent reason. A technician's position is terminated after x number incidents, per the technician team lead's discretion. Given our incident reporting structure, we firmly believe that our technicians would not risk unnecessary overtime pay when faced with the potential termination of their position.

Conclusion

Because Full Circle Integration develops personalized software packages to meet customers' unique smart home needs, we are a high margin, low volume business that targets tech-savvy homeowners at any stage of the home-buying process. Our four phase customer journey is our **mission critical business process** because it is the means through which we continually attract and retain customers within our business. Through our leadership and management philosophy, we establish our common purpose of delivering a fluid, personalized customer experience, promote transparency and trust during our interview process, foster a culture of accountability in weekly team meetings, and build stronger lateral bonds between teams during our annual company-wide business trip to Hawaii.

As a result of our organizational architecture, we are able to address both of the key business problems we experience throughout the customer journey and manage our two factions. The transfer of **specific information** between members of the same team is minimized by having a single client-relations associate take a customer from the pre-sale phase through the post-sale phase and ensuring software developers address problems in the software packages they developed personally. Dispatching technicians on a queue basis to maximize time efficiency solves the problem of our technicians' time, our **common pool resource**. To manage our factions, customers concerned with data privacy and security may speak with our software developers about specific issues and have access to our data policy, which states we never collect user data. Furthermore, through our incident reporting structure, technicians who have contemplated taking advantage of our overtime policy are incentivized not to do so.

Ultimately, FCI's software package that connects smart home devices to create a fully-integrated smart home network solves the problem of a 'fragmented' smart home experience. The level of personalization we offer will continue to differentiate us from future competitors in the smart home integration market.

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