MADAKET HEALTH

A Game Changer

It finally felt like spring after a record-breaking snowy winter in Boston, and many were celebrating by watching the 2015 Red Sox home opener. In his new office in Harvard Square, Jim Dougherty chuckled at Patriots' Tom Brady's attempt at an opening pitch and reflected on his Red Sox dilemma of Fall 2013.

A die-hard fan, Jim had tickets for Game 6 of the World Series, purchased long before it was clear whether or not the Sox would get to that game. When it became clear that the Red Sox could win the World Series at Fenway – which had not occurred since 1918 – he realized he had a conflict. Many weeks before, Jim had finally secured an out-of-town meeting with a very large prospect for his health technology start-up, Madaket Health (herein Madaket). While it was tempting to reschedule, Jim ended up foregoing his tickets to the (winning) game to pitch his start-up instead.

Though it had been a painful decision at the time, Jim was proud of his choice. He was now finalizing a valuable contract with the prospect he had begun cultivating at that meeting. In the past months he had closed a favorable Series A financing round, began launching a commercial version of his product and grown his team to 17 FTE. With this new bandwidth and runway, he and his team wanted to clarify Madaket's customer strategy. Within the health payments industry, who should Madaket target first? How should they think about customer sequencing? What were the benefits and costs to concentrating on each potential customer group?

Symptoms: Restless Entrepreneur

Jim Dougherty was a restless entrepreneur. A successful entrepreneur and chief executive, Jim had not only scaled several start-ups, he also helped to propel new businesses towards impact as a Senior Lecturer in MIT's Entrepreneurship Lab (E-Lab)

class.[1] Having moved backed to Boston after selling his enterprise software start-up MetaMatrix to Red Hat, Jim felt that the time had come for him to found a new venture.

Jim wanted his new venture to leverage his entrepreneurial and professional experiences in enterprise software in a new market undergoing dramatic change. Jim focused on his experiences at a number of companies over the past two decades, including Lotus, Gartner, MetaMatrix, and a company called Intralinks. As Chairman and CEO of Intralinks 10 years earlier, Jim had witnessed how software solutions could fundamentally change the existing process of document exchange in a traditional industry. Intralinks, a "software as a service" (SaaS) provider that extended collaboration beyond firewalls, had been instrumental in turning what were previously manual processes involving packages and couriers in the banking sector into highly efficient and secure digital transactions. Under Jim's leadership, Intralinks had developed a flexible software architecture, which allowed it to quickly iterate on customer feedback. Through multiple prototypical collaborations with potential customers, Intralinks developed clearer insights and learnings from the market than any of its competitors and built a platform that customers could easily use to solve problems that they currently tolerated but did not have the bandwidth to fix. In the process, Intralinks revolutionized the banking industry.

An area Jim had both read and discussed at length with his colleagues about was the healthcare space. The Affordable Care Act would require the entire industry to undergo dramatic change; health care would face more cost pressures than ever before as well as strong governmental incentives to improve efficiency. Jim saw the great potential to bring about positive change, especially through healthcare IT, which would leverage his past experience and deep expertise in producing enterprise software.

For the next few months, he started hunting around the healthcare eco-system, looking for potential problems to solve. After numerous interviews with stakeholders, and observing emerging changes in the number of insured and methods of reimbursement, Jim concluded that there were excellent opportunities in the US healthcare payment system—this was the place for him to start.

Diagnosis: Opportunities in the US Healthcare Payment System

At its heart, the US healthcare payment system centers around 3 main constituents: private insurance companies and the US government (the "payers"), healthcare

[1] E-Lab (15.399) focuses on projects where students work with local innovation-based start-up companies on a semester-long project aimed at accelerating those ventures.

providers including physicians, physician assistants and nurse practitioners ("providers"), and patients. Amongst these 3 constituents, there are three streams of money: the payment of money by companies and patients for insurance coverage (premiums to payers); the reimbursement by payers to providers for healthcare services provided, and copayments made by patients to providers at the point of care. More than $3 trillion flows through the U.S. Healthcare Payment System each year.[II]

In evaluating this system, Jim recognized an opportunity in the area of "physician enrollment." For a physician to be reimbursed by an insurer, that physician must go through several steps, including a process called credentialing (where the payer receives information about the physician's medical degrees, years of experience, etc.) and enrollment (where the physician provides the information required by a given insurer to begin claims processing). Nearly all physicians must enroll with multiple insurers, and the roster of insurers a physician enrolls with changes over time (since different patients have different payers).

The as-is state for the enrollment process is highly unwieldy for both payers and providers. Specifically, each time a physician accepts a patient using a different payer, the physician has to enroll with that payer before reimbursement can be successfully authorized. Market research indicated that up to one-third of all providers experience changes in their enrollment profile each year, and these changes have to be updated with all their payers. The average physician is enrolled with 25 different payers, each of which may need information in slightly different formats or with slightly different types of data.

Remarkably, despite significant automation in other areas of the healthcare payment system, the entire physician enrollment process is done largely manually. There exists no electronic repository that consolidates physician information or the data requirements of all payers. As a consequence, for the more than 750,000 credentialed physicians in the US, each time they are enrolled with a physician network or have to interact with a new payer, physician information has to be manually input or modified.

Not surprisingly, the resulting enrollment process is lengthy and payment claims are frequently delayed. Further, payments are often improperly routed, causing cash flow and account settlement delays. The typical enrollment process currently takes between 2 weeks to 3 months to complete, costing both providers and payers time, payroll expense, and revenue.

II See http://en.wikipedia.org/wiki/Health_care_in_the_United_States for a more detailed overview of the US healthcare payment system.

The Patient Protection and Affordable Care Act ("ACA" or Obamacare) provided a direct impetus to address non-strategic administrative procedures such as the manual enrollment process. In particular, a key provision of ACA specified that administrative costs for payers should not exceed 15% of the total costs (this is called the Medical Loss Ratio). As such, payers are now under significant pressure to simplify and streamline provider payment and claim reconciliation to reduce costs.[III]

It became clear that this non-strategic administrative waste was not only a growing opportunity crying out for a solution, but also something that spoke to Jim's core competency in using enterprise software to increase efficiency in an existing value chain. If they could develop a platform solution recognized as a trusted, neutral third-party service at the center of physician enrollment process, they could bring significant value to all constituents in the system. Moreover, the type of system and team that Jim had helped build at Intralinks would be an ideal fit for enabling that change.

Jim was also able to partner with Ted Achtem and Mads Kvalsvik, two MIT graduates who had worked with Jim before and were looking to re-engage with the start-up experience. On the business side, Jim brought on Scott Soderstrom, who would head up finance and also work with Jim on business development. With the identification of a clear problem to be solved, and the skeleton of a team that could address it, Madaket Health was born. The first goal of the founders was to dramatically simplify and rationalize the process of physician enrollment, and then use that success to establish themselves as the most trusted electronic interface between physician groups and payers in the U.S. healthcare system.

Course of Treatment: the Madaket Health SaaS platform

While quietly confident of the opportunity at hand, the Madaket team appreciated that the path to success was far from clear as they faced many competing choices and would have to make tradeoffs. Even though they believed in the potential value of their solution, they still had to work through a large number of operational details, and there was tremendous value to be gained from working with partners in a more collaborative style. Since the ultimate adoption by both providers and payers would hinge on whether or not it could be integrated easily and seamlessly into a real-time operating environment, it was important to get detailed customer feedback at an early stage to ensure they were creating unique value in the existing marketplace. Building on his experiences with prior SaaS companies such as Intralinks, Jim realized that it would not be possible to identify

[III] See http://www.cms.gov/CCIIO/Programs-and-Initiatives/Health-Insurance-Market-Reforms/Medical-Loss-Ratio.html for a detailed overview of PPACA's provisions.

key features, identify required levels of functionality, and determine how to scale solutions without detailed and iterative customer feedback.

Thus, Jim and his team decided to operationalize Madaket as a software platform that connects providers and payers in a highly simplified yet secure fashion, using an architecture that would allow them to incorporate different functionality, features and positioning as they learned more about the market. They decided to build a rapid prototype of their solution, and then seek a collaborative partnership with either a Revenue Cycle Management ("RCM") company or a payer to gain feedback, optimize the platform, and demonstrate value. Their start-up costs were modest: $200,000 was raised from Fidelity Biosciences (with which Jim had a pre-existing relationship) and Lux Capital.

At its heart, the Madaket platform is a SaaS-based electronic repository of provider information that Madaket stores, packages and provides to payers. A two-sided platform, providers will submit their information to Madaket once. Madaket will automatically process and package the data and then provide each payer with only their desired data in their desired format. This feature is crucial in the conception of Madaket. While payers do not need to change their systems (or learn a new one), providers only have to learn one system—Madaket's—and then Madaket will handle the translation of data into usable, payer-specific formats. The Madaket SaaS platform provides support for highly configurable, complex data structures, including bi-directional electronic communication, and includes encryption for secure storage and transmission. At the same time, the service is "smart": data events will be automatically triggered by new enrollments, re-enrollments, and the like. In essence, Madaket offers a one-stop service; each provider will only have to provide their enrollment data once, and then will be able to initiate enrollment with any new payer in a seamless, automated manner as the need arises.

After the completion of an early-stage software prototype, the Madaket team was able to attract the attention of a leading RCM ("Pioneer"[IV]), which has been a pioneer in using technology to enhance revenue management and offer physician practice management services. After multiple meetings and discussions, Pioneer agreed to test their solution on a trial basis. These early interactions and enthusiasm to experiment by an industry leader provided an important reinforcement to Madaket's hypothesis that the enrollment process was an area where established companies faced a well-defined challenge, and that their proposed solution could add meaningful value.

[IV] Name disguised for confidentiality.

As they started to meet with potential customers and others in the industry, Jim was able to attract interest not only through his description of his potential solution but also through the integrated team that he was building to implement that solution. As a founder, Jim was well and had a track record of success in similar types of ventures. Equally importantly, over the course of his career, Jim had developed a network of developers and software engineers that he was able to rapidly bring on board and so build a cohesive team from Day 1. As specific examples, Ted Achtem and Mads Kvalsvik had both worked with Jim at Intralinks, and each had used that experience in other projects and ventures over time. Scott Soderstrom was also able to add value immediately and provide finance and business development support while the platform was being built. Based on their shared knowledge, the team was able to work quickly and efficiently in translating concepts and user requirements into running code that could be tested in an operational environment. While Ted focused primarily on the overall architecture of the software, Mads quickly assembled and managed a team in Pune, India, to ensure rapid execution and implementation.

Positive Symptoms: Early customer validation

The first beta of the platform went live in October 2013. A key milestone occurred when the software was used to enroll a real-world physician with an actual payer. Particularly against a backdrop where the "Obamacare" website debut was a source of national ridicule, the Madaket team was pleased to find that their hard work and careful integrative work with their customer had paid off: the integration had been a success, and Pioneer was able to begin using their software. The rollout to the rest of Pioneer would require persuading multiple decision-makers of the value of the new approach, but early indications were positive that, with time and effort, Madaket could solve a real problem for RCMs.

With this early validation, the Madaket team had felt sufficiently confident to roll out their solution to a wider audience. In 2014, they had begun discussions with two other large RCMs in hopes of securing them as customers.

One RCM, "Classic"[v], was a large player, which had been relatively slow to adopt technology into its services. Classic faced a challenge in attracting top technical talent to its decades-old company headquartered in a city that did not have the entrepreneurial ecosystem of Silicon Valley or Boston. Classic served 300,000 providers, mainly composed of small private practices consisting of 1-5 physicians each. During initial conversations with Classic, they expressed significant interest in using Madaket to

[v] Name disguised for confidentiality.

"leapfrog" their current processes towards a more technology-forward position. As Jim recalled, Classic executives told him "[digitization] is happening faster than we can deal with, and you're moving faster, so we will outsource it to you…We're putting our faith in you." In fact, they had even described that if Madaket's solution were to pass Classic's testing, they were planning to cancel existing vendor contracts, eliminate some clerical staff and reallocate some of its senior leadership to other strategic priorities.

The other RCM Madaket was focused on, was "Kingfish."[VI] Similar to Classic, Kingfish had been relatively slower to adopt SaaS technology. Kingfish also served roughly 300,000 providers, however these were mainly made up of hospitals with 50+ providers each. The Madaket team believed that the value they could provide to the end users of Kingfish, hospital physicians, would be even greater for Kingfish's end clients than that of Classic and Pioneer. Jim for example, knew from his early interviews with hospital physicians that many of them also saw patients outside of the hospital (e.g. private practices at home, serving as part-time physicians for dance troupes or athletic teams). Thus, their reimbursement process was even more complicated (and therefore had even higher administrative costs) than the average provider.

Together, signing these RCMs would provide Madaket with access to around 600,000 providers in total, a significant majority of the overall market. Conversations with Pioneer, Classic and Kingfish had given the Madaket team greater confidence that they really were working on the right idea, and perhaps even more importantly, they were introducing it at the right time. While this was great news, at the same time however, they were also beginning to see competitive threats on the horizon.

The most notable competitive threat came from the Council for Affordable Quality Healthcare (CAQH), a non-profit alliance of health plans and trade associations that had developed Universal Provider Datasource (UPD), a database that facilitated the process of credentialing (the step before actual enrollment). According to CAQH, approximately 1 million physicians are included in the UPD, and more than 700 payers and provider organizations are currently using this adjacent service.[VII] As well, CAQH, on behalf of their insurance industry stakeholders, was in the process of developing a potentially rival service that aimed at streamlining the enrollment process as well. Indeed, it is clear that Madaket is on the radar screen of CAQH: the CAQH enrollment service mock-up looks extremely similar to the design and approach that Jim and his team had provided to potential customers at an early stage of their development process. At some level, the CAQH move offers validation: Madaket clearly is addressing a real industry need, and

[VI] Name disguised for confidentiality.
[VII] See http://www.caqh.org/participatingorgs.php for detailed list of organizations participating in the UPD

Jim and his team believed that it is unlikely that CAQH will actually be able to deploy a platform with the same level of functionality and robustness as Madaket. Moreover, Jim had recently attracted a former senior business development person from CAQH as a consultant to Madaket. With that said, they nonetheless recognize that they will be competing with CAQH as they try to build their customer base going forward.

Though Jim and his team saw CAQH as their strongest potential threat, he believed other private sector competitors also loom on the horizon. For example, he was keeping his eye on venture-backed Instamed, which was aiming to digitize health care payments,[1] and Doximity, a "Linkedin for Doctors" that also offers a suite of HIPAA-secure communications tools, and is seeking to link physicians to payer networks.[2]

The Prognosis: Madaket Health Going Forward

While no start-up experience is problem-free, Madaket has so far enjoyed a relatively smooth process. By the end of 2014 they had closed a Series A financing, developed a working customer-tested software platform, built an integrated team, demonstrated real value from their product, and closed a large contract with Classic.

In part because of that success and the validation of their business proposition, it was unclear how Madaket should position itself in the future. On the one hand, Madaket can concentrate its efforts on serving technology-based RCMs like Pioneer with the value proposition of helping them attract new physician groups and lower their costs. From a technical standpoint, working with the sophisticated IT team at companies like Pioneer would allow them to reinforce the value of RCN SaaS products through the integration of the Madaket process. However, it also seemed possible to Jim that Pioneer could perceive Madaket as only a small "feature" to its own product.

On the other hand, Madaket could focus on serving Classic and other similar RCMs, which have lagged behind on the technology front and are seeking ways to quickly catch up. The Classic executives expressed that the Madaket team was their preferred type of partner to help them improve the efficiency of their processes. Yet serving clients like Classic would also pose a challenge as a successful roll-out of Madaket could face some organizational resistance, as their platform allowed existing clerical employees to be replaced or reassigned. Jim worried if organizational frictions would slow down the integration of Madaket.

Finally, Kingfish was a third type of potential customer to focus on. Kingfish was particularly attractive as it served providers clustered together in hospitals, allowing Madaket to potentially achieve scale more quickly. Rapidly scaling could help Madaket

build the critical mass they needed to both forestall competition and create value for both payers and providers alike. The challenge was that there are only a few RCMs modeled like Kingfish and their procurement processes were notoriously rigorous and lengthy.

Jim was very proud of how far they had come. In a few short years, they had secured an enthusiastic first customer, built a technology that had a positive industry response, and a strong, growing team. He was now looking towards figuring out how to build on their early success to establish a position of long-term leadership in the healthcare payment industry and establish a durable competitive advantage for Madaket. As Jim considered the future of Madaket, he considered two key questions:

First, given that Madaket was now able to present potential customers with a battle-tested team that could meaningfully talk about how they solved the physician enrollment process, they were well poised to serve any of the three potential customer groups (RCMs including and similar to Pioneer, Classic and Kingfish). The question was which customer should they choose to concentrate on and why? How should they think about both the timing and sequencing of targeting other customers? Should they focus on achieving a successful roll-out with one customer or should they try to manage a staggered process across multiple organizations?

Second, what should Madaket's pricing strategy be? Should the pricing for RCMs like Pioneer be consistent with that of those like Classic and Kingfish? Should they price only one "side" of the market, by charging RCMs, or should they also consider charging payers as well? Or alternatively should they adopt a membership-type model, in which each customer—whether as an RCM or a payer—pays a monthly fee? The Madaket team's main objective was to find a pricing strategy that could allow them to earn significant margins on their development efforts while allowing the company to scale and grow quickly.

Appendix A: Brief Biography

Jim Dougherty

Jim Dougherty is a Senior Lecturer in Technological Innovation, Entrepreneurship, and Strategic Management at the MIT Sloan School of Management.

Mr. Dougherty has extensive experience working directly with investors to execute highly successful turnarounds of troubled companies. Great Hill Partners recruited Dougherty to be their first-ever Operating Partner. He has stabilized and recapitalized such companies as Gartner, IntraLinks, Prodigy, and Small Business ISP. At Lotus Development Corporation, Dougherty was the founder of eApps (Internet Division), and he created the NOTES: NEWSSTAND business publishing service, which was later sold successfully.

He is also an Adjunct Senior Fellow for Business and Foreign Policy at the Council on Foreign Relations.

Dougherty holds a BA in government from Framingham State University, an MA in international economics from Columbia University, and a Graduate Certificate of Special Studies in finance and administration from Harvard University.

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