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USER-GENERATED CONTENT SYSTEMS AT INTUIT (A)

Most of our ideas do not come from my preaching or suggestions. They come from entrepreneurs inside the company who say, 'Yes, this is a problem we could solve.'

—Scott Cook, Chairman and Founder, Intuit¹

INTRODUCTION

Paul Coletta, a senior customer experience manager, and Floyd Morgan, a principal software engineer, sat down for coffee at Intuit's cafeteria in San Diego. It was 10 a.m. on a Monday in August 2006 and they were waiting for a minor reorganization to determine their next project. In the meantime, Coletta and Morgan were in a dead zone. They had always gravitated toward the new product mindset and with Web 2.0² just starting to gain uptake, they were intrigued by the possibilities of launching a new product or service. The two, as Coletta explained, "wanted to do something social." The opportunity to make their down time productive motivated them to try something new with one of the core products, TurboTax.

TurboTax was a tax preparation product (offered in both online and desktop versions) that guided users through an interview-like process to collect their tax return data. It consisted of approximately 20,000 screens that were utilized in a decision tree format based on users' answers to specific questions. After spending several years on TurboTax, one Coletta and Morgan were keenly aware of the usability issues or "pain points" that Intuit had identified after working with customers. "Intuit," Coletta explained, "would collect these pain points and then go back and try to fix them but, in the process, make something less clear or break something else." Intuit had attempted to rewrite the interview screens and initiated various customer

¹ All quotations are from the authors' interviews unless otherwise noted.

² The second generation of the Web, which represented a movement away from static web pages towards dynamic and sharable content, user collaboration, and social networking (including blogs, wikis, etc.).

Sara Gavisier Leslie and Professor William Barnett prepared this case as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

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service applications, but none of these efforts solved the larger issue: how to offer users more knowledge about the tax domain.

Coletta and Morgan believed that they could leverage Web 2.0 and social technologies, specifically a user contribution system, to improve the TurboTax user experience and provide a solution that could answer most, if not all, user questions. According to Coletta, “Once we hit on social, we knew what we would build would be something inside of TurboTax as opposed to a separate website. The next step we needed to make was to figure out what would be the unique aspect of social technology that we would pursue.”

USER CONTRIBUTION SYSTEMS³

User contribution systems aggregate and leverage various types of user input in ways that are valuable to other users. These systems can aggregate content (wikis, blogs, comments, videos) or goods for sales. Examples of content aggregators include the creative expression video-sharing site, YouTube, and the social connections and personal information sites of Facebook and LinkedIn. Other systems, such as eBay, Craigslist, and Etsy actively aggregate goods for sale.

Passive user contribution systems also leverage and aggregate user contributions, but in ways that are often invisible to users. For example, Netflix’s movie recommendations aggregate buying behaviors, and Google’s search engine algorithm, which functions based on the web-linking behavior of users, finds the most relevant links for users. Other systems can aggregate resources—Skype aggregates computing resources for its internet-based phone system while Honda’s Internavi traffic information aggregates vehicles’ speed and location reports to provide accurate traffic information. (Please see **Exhibit 1** for a taxonomy of user contribution systems.)

People contribute to these systems for various reasons. Some systems offer rewards in the form of coupons or reputation, such as “top contributor” badges. Individuals also contribute out of a desire to help others, engage in a community, or express their thoughts and opinions. Of course, people can even contribute to these systems without any knowledge—buying a book at Amazon, thus contributing to the company’s recommendation engine, is involuntary and invisible to the user.

User Contribution Systems in Practice

The main characteristics that hold all of user contribution systems together is that they convert information from users—customers, employees, or even prospects—into a system, usually Internet-based, that is useful to other others. While some companies’ sole offering is a user contribution system—eBay is a good example—many firms leverage user contribution systems to improve products, increase customer intimacy, drive employee performance, and reduce customer service costs.

³ This section draws heavily from Scott Cook, “The Contribution Revolution,” *Harvard Business Review*, October 2008, pp. 1-10.

The television show *Dancing with the Stars* is a user contribution system that uses both feedback from professional judges and television viewers' votes to choose the show's winners. Involving the television audience adds to the excitement of the show and gives viewers that ownership in choosing the show's winners. Similarly, Starbucks runs a website called "My Starbucks Idea," which allows users to make suggestions for new drinks and improvements to current offerings. The best suggestions—sugar-free holiday drinks and customized Frappuccinos—are highlighted and voted on, and a companion blog provides updates on suggestions implemented, thus involving customers in the product development process and increasing their satisfaction. Finally, Hyatt Hotels runs an online concierge service called Yatt'it where users provide local travel tips, which are then rated by other users. This service improves Hyatt's customers' satisfaction and reduces concierge costs.

Why Should Companies Employ User Contribution Systems?

User contribution systems can free companies from the responsibility of providing content to a user base. Instead, these systems enable users to do the work for a company. Contrast a newspaper's "want ad" section to Craigslist: while newspapers used to have to staff a department to sell and manage advertisements, Craigslist is (almost) a self-sustaining engine. As Scott Cook explains, sites like Facebook or MySpace enjoy free raw material as "users perform gratis work that companies typically have to pay for." Even when only a small percentage of users contribute to a compilation, users enable systems like Wikipedia and eBay to grow and scale more quickly than a venture could on its own; Wikipedia has 10 times as many articles as *Encyclopedia Britannica*, is constantly updated, and never stops growing.

Despite the benefits of enabling users to contribute to a company web site or blog, some companies are concerned about letting customers and employees provide feedback that can be viewed by anyone. As Cook explains, "User contribution seems messy and scary; giving customers a public podium to comment freely about your products and company seems to violate the management canon, 'Don't hold me accountable for what I don't control.'" ⁴ Companies worry that they will have negative opinions on their site, lose control of their brand, or have inaccurate information and face litigation. While these concerns are common, they overlook the fact that companies cannot respond to negative content if they do not see it, yet they can put in safeguards to mitigate the risks of having misinformation on their sites. Finally, while inviting user contributions does involve giving up some control, brands give up control every time a message is released. By involving customers in the brand's message, however, companies can develop a stronger relationship with customers and ensure that the brand and its message remain relevant. ⁵

While "crowdsourcing" or outsourcing tasks to the general public can provide organizations with answers that are lower cost (and, possibly, more accurate) than they might be otherwise, organizations that employ this tactic may find that a user contribution system creates other issues. Specifically, they must determine if they want allow all content, regardless of importance or accuracy (follow an "inclusionist" policy) or practice tighter editorial control (follow a "deletionist" policy). If an organization believes that the wisdom of the crowd is self-correcting

⁴ Scott Cook, "The Contribution Revolution," *Harvard Business Review*, October 2008, pp.1-10.

⁵ Brian Haven, "Leveraging User-Generated Content," *Forrester Research*, January 25, 2007.

and will ensure the accuracy users' contribution, then it can put a user contribution community on autopilot. However, if it takes a deletionist stance and believes that it is the company's job to maintain relevance and quality thresholds, then it must act as a mediator to ensure that the quality of the content remains high. This stance may lead more quickly to high quality content but the downside is that it is expensive.⁶

INTUIT⁷

In 1982, Scott Cook, a Harvard MBA with consumer marketing experience at Procter & Gamble and a consulting background at Bain & Company, was thinking about starting a company to provide software for the personal computer. He had always been intrigued by technology, had entrepreneurial leanings, and was enthusiastic about the potential of personal computing, which was starting to expand beyond hobbyists and into general use by the early 1980s.⁸ When his wife pointed out the tedious nature of paying bills, he realized that handling personal finance was an important unmet need that was well suited to the personal computer. In early 1983, Cook decided to leave Bain to found Intuit.⁹

Intuit released its first product, a personal finance program called Quicken, in 1984. The company was intensely focused on the customer—understanding what customers wanted, what they liked and disliked, and how they used the product. In 1992 the company launched QuickBooks, an accounting program for small business. Intuit went public in March 1993, and later that year acquired ChipSoft, maker of TurboTax personal tax software. While Intuit had been through a cycle of acquisitions in adjacent areas such as online insurance and mortgage brokerage businesses, it divested many of these and, by 2007, returned its focus to the core businesses of personal finance, small business accounting, and tax preparation software for individuals, accountants, and small businesses. It also provided payroll services and financial supplies.

In fiscal year 2009, Intuit's revenues reached \$3.2 billion with net income of \$447 million. Revenues were highly cyclical, while expenses were relatively constant throughout the year. Flagship products, QuickBooks, and TurboTax made up almost 50 percent of its revenues.¹⁰ (Please see **Exhibit 2** for a breakdown of revenue by product group.) QuickBooks' product had 4 million small business users (with an estimated 17 million individual users) while the TurboTax products garnered roughly 44 percent of the tax software market with 15.4 million filings.¹¹ In the early 2000s, *Fortune* regularly ranked Intuit as the most admired software company in the United States and included Intuit in its list of best places to work.

Throughout its 27 year history, Intuit had a strong culture of personal observation. The company logged over 10,000 hours of direct observation of users annually and the CEO, Brad Smith,

⁶ "The Battle for Wikipedia's Soul," *The Economist*, March 6, 2008.

⁷ Company background section taken from GSB Case HR-31, "Employee Recognition at Intuit."

⁸ In January 1983, *Time* had named the Personal Computer as its 1982 "Man of the Year."

⁹ Suzanne Taylor and Kathy Schroeder, *Inside Intuit*, (Boston: Harvard Business School Press, 2003), pp. 1-9.

¹⁰ Intuit Annual Report 2009.

¹¹ Tom Ernst Jr., Greg Duham and Jobin Mathew, "Intuit: Desktop Leader Evolving to Online World," Deutsche Bank, July 8, 2009.

completed 60 of those hours himself. The company was keenly aware of how users approached tasks and leveraged Intuit software to tackle financial chores.¹²

FIRST ATTEMPTS AT USER CONTRIBUTION SYSTEMS

Cook originally became interested in user contribution systems in the early 1990s after using the Zagat restaurant guides. These small books included recommendations from regular diners, not paid reviewers, and were known as the authoritative restaurant guides in the U.S. His interest piqued after watching companies like Wikipedia, Amazon, eBay and Google become some of the world's best-known Internet sites. Though these businesses were different, they all relied on user contribution systems.

TaxAlmanac

At an annual offsite in March 2005, Cook posed this question to Intuit's top 300 executives: "How might we leverage user contribution at Intuit, both to enhance existing businesses and create new ones?" The professional tax preparation group began to think about how to solve one of professional tax preparers' common problems: getting answers to obscure questions. Their answer was a wiki/forum site where tax preparers could contribute both questions and answers for the benefits of other tax preparers. The group's director of product management, Brian Andrews, quickly assembled a team on March 28 with a target launch date of April 30. The team worked at epic speed; they had a working product by April 12 which they then "seeded" with articles from 20 tax analysts. After conducting reviews with tax professionals and professors, the team was able to launch the product, known as TaxAlmanac, on May 2, 2005.¹³ Cook was impressed:

I was informed of the TaxAlmanac launch two days before it happened, which made me feel both delighted and surprised. Only 30 days had passed since I had first heard about the idea from Andrews. The ProTax group had our slowest growth rate, alongside our check business, in part due to its customers' aversion to product innovation. TaxAlmanac's launch showed me how they were innovating before other areas of the company, and doing it fast—very fast.¹⁴

TaxAlmanac grew to include over 170,000 pages and was used by 400,000 unique visitors.¹⁵

While TaxAlmanac's wiki was not as successful as the team or Intuit would have hoped, the professional tax preparation group built a discussion forum for professional tax preparers that did gain traction. As Doyle explained, "People liked to ask their peers questions, and having the discussion forum made them feel less isolated and alone when they were doing their work." The discussions, threaded around articles on the tax code, enabled users to discuss and argue about

¹² Quentin Hardy, "The Big Deal: Intuit's Brad Smith," *Forbes*, November 5, 2009, <http://www.forbes.com/2009/11/05/intuit-mint-financial-software-intelligent-technology-brad-smith.html>, (March 17, 2010).

¹³ For further information, see "TaxAlmanac," GSB No. E-252, pp. 3-10.

¹⁴ For further information, see "TaxAlmanac," GSB No. E-252, p. 10.

¹⁵ Scott Cook, op. cit.

the code and their individual interpretations. As of April 2010, Tax Almanac had seen 1.98 million unique visitors.¹⁶

Despite the success of the forum feature, however, Gerald Huff, director of the Technology Innovation Group, explained that “TaxAlmanac has not taken off and Intuit has not found a way to monetize it. The usage is relatively high and it’s been appreciated by our accountant customers but, within Intuit, we are still looking for ways that it can bring value to the company.”

Zipingo

Later in 2005, Intuit made another foray into user-generated content with a product called Zipingo. The online tool, similar to Yelp (www.yelp.com), was meant to connect consumers with local businesses (restaurants, retailers, barbers, etc.) and user-generated reviews. The idea was to leverage Intuit’s Quicken user base and encourage them to rate local businesses. Unfortunately, as Huff explained, Zipingo encountered limited interest from Quicken users:

In the initial implementation in Quicken, it wasn’t clear to Quicken users as to why they would use Zipingo and why they would rate things. All of a sudden, there was something new in their user interface and they didn’t understand it because they were in a Quicken context. Their view was often, “I’m just trying to get my stuff into Quicken quickly.”

The Quicken team did not see the integration of Zipingo as a priority. Further, the timelines for implementation of Zipingo and the release calendars of Quicken were mismatched—Quicken was on an annual release cycle while Zipingo’s engineers were working on rapid iterations. Moreover, the product failed to attract enough users to make it viable. As such, it was closed in August 2007.

THE TURBO TAX USER CONTRIBUTION EXPERIMENT

Coletta and Morgan had each spent several years working on TurboTax, Intuit’s flagship tax preparation software program. Coletta had managed software development for TurboTax’s online and desktop divisions for seven years and Morgan had spent seven years writing code for TurboTax. By virtue of their experience, they could easily identify TurboTax’s main weakness: it did not sufficiently answer users’ questions while they were preparing their taxes.

TurboTax offered some clarifications on the screens, such as asking a user if they had any deductibles in a specific area. However, these so-called clarifications were often actually confusing to users. TurboTax would try to clarify what users were asking for but, as Coletta explained, “The customer wasn’t privy to or didn’t really have enough tax domain knowledge to know whether what they had in their hand was a deductible or where they should place in on the form.” Cook echoed this shortcoming:

When you're using a product like Turbo Tax, if you don't get your question answered as you are completing your taxes, you both cannot and should not continue. A lot of people, amazingly, do continue the filing process. However, many will not finish and will be much less likely to use TurboTax again the next year.

User Assistance Efforts and Tools

The user experience team tried rewriting the interview screens to make descriptions and explanations clearer, but it was not successful. As Morgan explained, "The team might make a change that clarifies a point for one person but ends up breaking it for another." TurboTax also had a "frequently asked questions" (FAQ) section on the TurboTax web site. The tax development group would create hundreds of questions and answers, then decide on which screens the answers would appear. However, FAQs could not solve all users' issues either, as Morgan explained: "The answers to users' likely questions were fixed and weren't written in the words of the customer."

Additionally, the team added a commercial search engine with a natural language query capability to help answer users' questions. The team could see the queries that users were generating. Upon reviewing the queries, Morgan explained, "I noticed that users were asking these hairy, detailed, lengthy types of questions that the search engine could never solve." Coletta added, "The majority of the questions were long tail¹⁷ questions such as, 'My aunt lived with me for four months during the tax year and then she left. How much of her time is deductible because she was my dependent and I paid for her meals, lodging, etc?'" The search engine could not make sense of these long tail questions. Rather, it was limited to providing answers to questions that were simple, such as, "What is the definition of dependent?"

Proposing a Solution

In late 2006, Coletta and Morgan started to build their user contribution system for TurboTax. They wanted to apply what they saw happening in online social communities where people can ask and answer each other's questions. Their idea, however, was to offer a solution that would not require users to leave TurboTax in order have their questions answered, but would reside within the application. Coletta and Morgan asked, "Why don't we take the power of communities and make it more accessible and meaningful to users?" In other words, as Cook explained, "Instead of making users leave to find answers, let's bring the mountain to Mohammed. Let's take community and stick it on every page of Turbo Tax. Let's allow people to ask whatever question is on their mind and then allow other users to answer it." They named their idea "Collective Intelligence Agent" or CIA.

CIA was to be a contextual product whose functionality would be dependent on the screen that the user was viewing. In the existing product, the tax experts determined which questions the

¹⁷ The "long tail" questions were those questions that were less popular and, on a graph, appeared at the tail of the distribution. Each question came up infrequently but, collectively, all such questions comprised about 20 percent of the questions that users posed.

user would ask, and then answered these questions. Coletta and Morgan's idea was to enable the user to determine what appeared on the screen.

Developing a Proposal

Coletta and Morgan quickly put together a PowerPoint proposal for CIA and a mock-up of the product. (See **Exhibit 3** for Coletta and Morgan's slides from August 2006.) Despite their excitement, Coletta explained, even they had doubts:

It's one thing to illustrate a proposal on paper but, considering the interactivity, you need to see how people would use it. We wondered if people would deviate from their work and actually look over and use the tool; up to this point the people at Intuit couldn't get people to read anything on the screen anywhere else but where their taxes were being filled out.

The team came up with three main options: a question and answer tool, hyperlinks to more information, or lists of facts from the program's database. They chose the question and answer format first. They defined three popular use cases: ask a question, review an answer, and answer a question.

Though unclear of the interaction between the user and CIA, the team tested out their idea by taking a branch of the TurboTax product and populating it with questions and answers. They put the three popular use cases front and center on the tax screens.

REACTIONS FROM THE COMPANY

As Coletta and Morgan started to talk to their colleagues about their idea, they faced major skepticism from tax experts and users.

Tax Experts and Users

Intuit employed several hundred tax experts who helped design TurboTax and craft the algorithms for the screens. These experts, Cook explained, "uniformly thought the CIA idea was garbage—worse than garbage. Their response was 'You've got to be an expert to answer tax questions. This cannot work. It will not work. It'll be endangering to the product.' "

Separately, the CIA team asked users, "Who do you trust for tax answers?" The marketing team gave users a choice of possible answers including professional tax preparers, the Internal Revenue Service (IRS), TurboTax FAQs, and other taxpayers. Cook explained that "other taxpayers" was not a popular choice: "No consumer voted for that one, virtually none. They all said, 'I want a tax expert.' They didn't want to trust some yahoo they didn't know."

The tax experts were also concerned about accuracy and quality of the answers and doubted if the users would take the answers the community provided.

Market Research

In order to test the idea of CIA with the product's target market, the development team arranged for groups of users to experiment with it. These individuals, who had already filed their taxes, would come into Intuit's lab and do their taxes again in what Intuit called "usability studies." This time, however, they had the option to use CIA while they were filing. As the tax experts suspected, many of the users said they would not trust answers that did not come from a tax expert and were reluctant to use the application.

Nearly everyone outside of the CIA team felt that users' unwillingness to try CIA was a major concern; and that the money being spent on the project and new product was in vain, since no one used it in usability. Coletta and Morgan, on the other hand, felt the test was contrived: the participants had their taxes and even received their refunds. Their main goal was just to finish the project. The CIA team observed that users stayed on task and skipped any sticking points in order to complete the job. Since they did not have to interact with CIA, they ignored it. As Cook explained, "Any struggles that they had while completing their taxes had occurred and been resolved when they were working at home."

Frustrated with the lack of interaction with CIA, the team asked the users to talk out loud about the questions they had. Morgan explained that after they made this invitation, "There was a tsunami of questions that they shared with us. They had the questions in mind but they were not in a real world situation so they did not share them." Coletta added, "You could see all the agony and angst that were coming out of them, but when they were actually using TurboTax, they didn't explore."

Coletta and Morgan felt that the usability studies were fundamentally incapable of proving the worth of CIA. Coletta explained, "When you are dealing with a social technology, you have to experiment with the real deal or else the related market research is meaningless. We were introducing a brand new, large social function and you had to be in the real world in order to prove the concept of it." Further, Morgan added, "It is hard to simulate the individual user questions that might arise. Since the users had already done their taxes, they didn't have a burning question to answer in a lab session." Unlike the environment that the team was envisioning, in the lab there were not 100,000 people feeding in content—it was an individual activity with no social component.

Relinquishment of Quality Control

Employees also pushed back on CIA out of fear of losing quality control. Product managers were apprehensive because they would not be able to control the content on CIA, especially if people voiced negative opinions of the product. Unlike products like QuickBooks, where Intuit controlled every pixel, CIA would hand over control to users. Employees also felt that the tax business was just different from other businesses that had implemented user contribution systems successfully. Further, Cook explained, "Employees felt that consumers doing their taxes are not going to trust other consumers. They want to talk to an expert."

Product General Manager

Coletta and Morgan shared their idea with TurboTax's general manager, Brad Henske. Henske realized the value to customers and the potential cost savings that could be achieved if users could access an online tool rather than an Intuit call center; every question that customer service did not have to handle on the phone translated into lower service costs and expedient answers to customers' questions. However, he was concerned that users could try to take advantage of their opportunity to comment publicly and embarrass the company.

Cook: Belief in the Concept, Doubts About the Application

While CIA was conceived independent of Cook's ideas about user contribution, he became intrigued after seeing a prototype. However, despite the interest that Cook had in user contribution systems, he also had his doubts:

Online communities usually work in an area that you are interested in, something that's a passion. Who is passionate about their taxes? You've got people who are racing to get through their taxes. It's an awful task you don't want to be doing, you just want to get it done under a deadline. Why would anyone stop to help somebody you've never seen and will never see again?

DETERMINING NEXT STEPS

In December 2007, Coletta and Morgan were at an impasse. They thought their solution would answer the problem of getting people tax domain knowledge. Despite Coletta and Morgan's confidence, however, there was no consensus in the company as to the value of the concept. It also seemed doubtful that the team would be able to build out the capacity of its servers in time for a full TurboTax launch before tax season got fully underway.

While Henske was curious to see how the project would unfold, the rest of the division hated the idea of CIA. As Cook explained, "They wanted to ring-fence the experiment so it couldn't damage the rest of the business." Their idea was to limit the test to the lowest volume SKU¹⁸ of TurboTax, Online Home and Business TurboTax, which represented about 0.5 percent of TurboTax users.

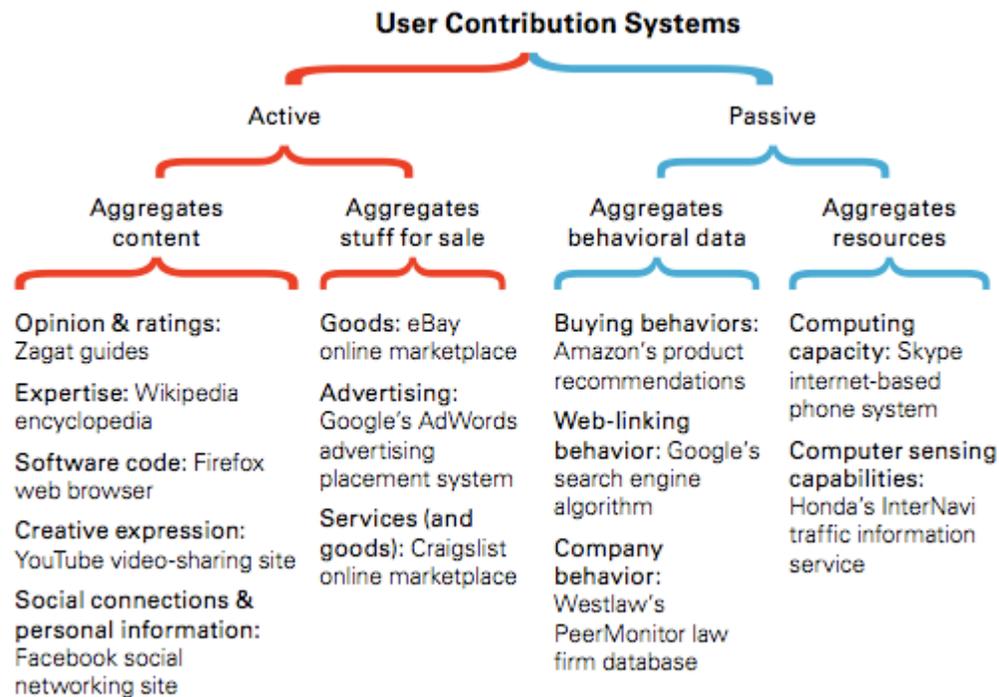
Cook wondered if a small pilot even had the ability to be successful, considering the number of individual screens in the product:

If you're in a low volume setting and you spread the questions across 20,000 screens, there is a high likelihood that you will not get critical mass. Someone will ask a question, three other people will see it, and nobody will answer it. Only one in one thousand users of Wikipedia actually contribute and here we're talking taxes so the ratio's probably even worse. Launching the program on a small product could kill it because it would be so constrained by virtue of being a tiny volume SKU.

¹⁸ SKU: Translated as "stock keeping unit." The sku provides identification, usually alphanumeric, of a particular product that allows it to be tracked for inventory purposes.

The company needed to determine a next step for CIA that would enable it to prove the concept of user contribution within TurboTax without doing too much potential damage to the core product.

Exhibit 1 User Contribution Systems



Source: Intuit

Exhibit 2 Intuit Revenue by Business Segment*

<i>Business Segment</i>	<i>FY 2009 Net Revenue</i>	<i>% of Total Net Revenue</i>
Financial Management Solutions (QuickBooks)	\$579 M	18%
Employee Management Solutions (Payroll)	\$365M	12%
Payments Solutions	\$291M	9%
Consumer Tax	\$996M	31%
Accounting Professionals	\$352M	11%
Financial Institutions	\$311M	10%
Other Businesses (Quicken, Intuit Real Estate, Canada)	\$289M	9%
Total Company	\$3.182B	100%

*Includes product and service revenue.

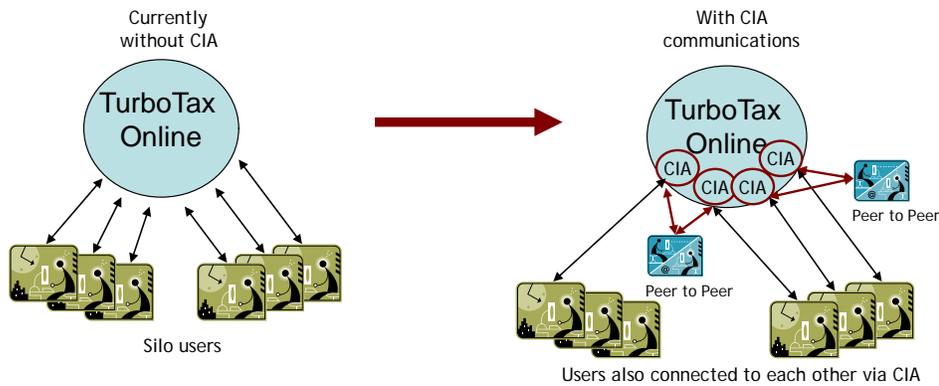
Source: Intuit 2009 Annual Report.

Exhibit 3 Introducing Collective Intelligent Agent for TurboTax

CIA

“Collective Intelligent Agent”
for TurboTax
Aug 2006

Concept: Create a peer-to-peer social communication and collaboration network among the collective during the Tax Preparation Process. The collective is defined as the group of customers that are using or have used the Online TurboTax service during the current tax season. A software agent will be used to harness and facilitate the collective intelligence and knowledge sharing of the user community.



pcoletta, fmorgan, mkanderson

CIA

“Collective Intelligent Agent”
for TurboTax

“What did you do with your weekend? I spent mine with Turbo Tax and our financial records for the year. I still need to figure out how to handle the municipal bonds we sold, then I can file. I can't believe how OBTUSE the entire process is. I spent quite a while trying to figure out how to handle some stock sales. I wish it wasn't so complicated. I saved \$350 from what it was costing us to have it done. How much money is a weekend worth? Maybe we'll pay to get them done next year...”

What if the above customer could have gotten some immediate advice on what to do with municipal bonds and handling stock sales? We have live tax advice, but it's not immediate and definitely not real-time or scalable. What if you could post a question to any of a thousand or more users immediately, and just as quickly receive answers or website instructional links to help you figure out stuff.



One of the new paradigms for the Web 2.0 is harnessing social intelligence. By using word tagging and other technologies, these sites create a filtering mechanism to allow their users to specifically target their areas of interest and sharing in a variety of areas. In essence, the Web 2.0 is striving to allow a vast conversation among hundreds and thousands of users. Outside of the internet, this would be impossible, but by harnessing the power of these social networking techniques, this can be done with great value to the user.



pcoletta,fmorgan,mkanderson

CIA

“Collective Intelligent Agent”
for TurboTax



This harnessing of the social network is the concept behind the Collective Intelligent Agent (CIA). The CIA will enable peer-to-peer communication with any user of TurboTax for the current tax season.

CIA centers around two communication ideas. One is a forum-like community that allows a TurboTax Schedule “C” online user to share knowledge in real-time. Unlike regular forums though, the topic context will be around each interview screen.

The second idea enables “Implicit” knowledge sharing by utilizing metrics and statistics gathered from the collective community of users. For example, if the user is on the rental deduction screen, CIA will display the average rental expenses for that type of business. This is just the beginning in presenting implicit knowledge. CIA could also go and filter Bolgs and display relevant information from them. In this way we can provide a larger picture for the user to show them how they fit statistically in the community for their particular business or sole proprietor.



pcoletta,fmorgan,mkanderson

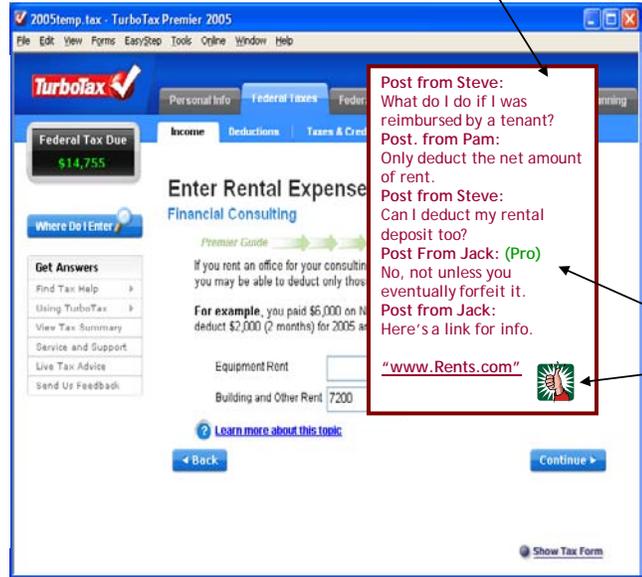
CIA

“Collective Intelligent Agent”
for TurboTax



There are three attributes that drive the workings of CIA. It will be domain specific so that the content sharing will center around Business Taxes and Tax preparation. It will be application specific so that the timeframe of sharing content will center around the users tax preparation sessions. Lastly it will be interview specific to enable the user to access information and share knowledge on a per screen basis for each of the interview screens.

CIA Sample View window in TurboTax



The CIA window will allow the user to view recent and aged posts. The most popular posts will be also be noted and ranked.

- + Expertise of user gets noted
- Best Web link gets a thumbs up rating by users

pcoletta, fmorgan, mkanderson

CIA

“Collective Intelligent Agent”
for TurboTax

Technology Requirement Drivers:

- Enable a peer-to-peer communication alert window
- Allow customers to post questions
- Allow customers to post answers to questions
- Allow customers to view the communication history
- Allow the customers to search and post web links
- Create a per screen context for information sharing
- Create a metrics and statistics analyzer



Use TDI Methodology for Development:*

- 1) Explore modification to TTD for peer-to-peer window
- 2) Envision UI elements and mechanics (appearance, invitation by customer, scrolling, monitoring of content, filtering of content)
- 3) Quickly develop code snippet
- 4) Get feedback and adapt
- 5) Re-envision and make incremental releases

* We will use lean and agile methods for quick technology driven development and employ an Explore, Envision, Adapt cycle. This method does not eliminate the due diligence normally associated with CDI, but just redistributes the effort by interspersing feedback with incremental development.

pcoletta,fmorgan,mkanderson

Source: Intuit