New Business Architecture Accelerates Innovation in Health and Wellness R&D

Executive Summary

CUSTOMER
Multinational Corporation

INDUSTRY
Retail/CPG

CHALLENGES
- Execute on the company's open innovation vision.
- Increase revenue by entering new markets—in particular, emerging countries.
- Develop a collaborative model for R&D that increases innovation.

SOLUTIONS
- Open innovation architecture that scales across the company's R&D organization.
- "Connected Innovation" playbook that incorporates nine open innovation activities.
- "Architecture in Action"—a forecasted, visual representation of what the Cisco IBSG / customer engagement would produce.
- Open "Innovation Network" pilot conducted with the company's Protein team.

RESULTS
- Shortened response times dramatically: researcher responses requiring less than a day increased from 16.7 percent before the pilot to 47.1 percent after the pilot. Responses requiring three or more days decreased from 33.3 percent to 11.8 percent.
- Increased interaction and built stronger rapport between the Protein team and internal/external partners, and improved access to relevant expertise.

Background

A multinational, U.S.-based corporation that manufactures and markets a wide variety of food and beverage products has an expansive portfolio that includes 18 product lines generating billions of dollars in annual retail sales. Since 2006, under the leadership of the CEO and chairman, the company's focus has been on marketing healthier products and striving for a net-zero impact on the environment. This focus on healthier foods and lifestyles is part of the CEO's philosophy to deliver sustainable growth by investing in a healthier future for people and the planet. To do so, the company must continue to build a portfolio of wholesome foods and beverages for both developed and emerging markets; find innovative ways to reduce the use of energy, water, and packaging; and provide a supportive workplace for associates.

Business Challenges

The health and wellness movement, driven in large part by an increase in obesity, is placing pressure on food and beverage companies to deliver products that are more nutritious. This factor, coupled with the strategy to enter new markets—in particular, feeding people in emerging countries in low-cost, nutritional ways—is compelling one of the world's largest snack food and beverage companies to come up with a collaborative model for increasing innovation in R&D.

The company's core products historically have been enabled by in-house expertise, intellectual property (IP), and established ways of working—which are internally/departmentally focused. In-house expertise and IP alone, however, will not provide results quickly enough to deliver on the company's goals. In addition, R&D teams work autonomously, and researchers across various company sites have limited opportunities for travel and meeting in person. This culture and organizational structure have made it difficult to achieve greater teamwork, trust, and collaboration required for more breakthrough innovations.

In the midst of transforming from a company with fairly autonomous business units to one of shared services and capabilities, the company was searching for ways to align on key corporate goals despite its organizational structure. For R&D, this meant finding a way to build better relationships among researchers, increasing their comfort level in reaching out to one another and asking for insight and feedback.

Being better connected would encourage collaboration while alleviating some researchers' discomfort with, for example, sending an instant message to a "stranger" (someone with whom they do not have an established relationship).

Open Innovation: Early Stages

The company had a number of innovation initiatives already in place. One was virtual teams chartered with developing breakthrough ingredients or platforms that would accelerate new product introductions, providing the foundation for its health and wellness portfolio. These teams were a natural test bed for new operational models because of their virtual nature.

Another initiative was an open-innovation governance structure sponsored by the company's senior vice president of food. This structure consisted of a cross-organizational team to drive the principles of the company's vision for open innovation—a vision it calls the Innovation Network. The team had some prior success with discrete actions and tools. What it did not have was a comprehensive business architecture for open innovation. While these initiatives and others were a place to start, they operated independently. The customer realized it needed a more holistic approach, one that would combine these efforts, new opportunities, and solutions into one methodology that could be tested and scaled across the entire R&D organization.

Based on ongoing dialogue with the customer's new global CIO and staff, the Cisco® Internet Business Solutions Group (IBSG) was asked to provide thought leadership around the idea of open innovation. IBSG also suggested an engagement methodology that presented a holistic way to help the customer execute on its Innovation Network vision.

Before this vision could materialize, it would need the right R&D team to produce near-term results for the company's health and wellness program. Both Cisco IBSG and the customer conducted interviews with three R&D teams to assess their passion, desire, and aptitude for open innovation, as well as to identify opportunities open innovation would provide in the short term. The Protein team was selected by Cisco IBSG and the customer, with a mandate to conduct research and develop new protein ingredients for potential use in the company's product portfolio.

New Business Architecture Defines Innovation Network

In September 2008, the customer worked with Cisco IBSG to develop a scalable business architecture—for people, processes, and technology requirements—and roadmap to bring open-innovation capabilities to the R&D organization, starting with the Protein team. Five deliverables were identified:

1. **Create and Execute a Diagnostic Survey To Gauge the Company's Readiness for Open Innovation and Develop a Roadmap for Areas of Improvement**

   The 40-question diagnostic survey was divided into several key areas: openness, control, technology/tools, and culture. The survey was distributed to 125 global R&D employees, ranging from individual contributors to vice presidents, and was completed by 95 percent of the participants. The results of the survey showed that each of these areas provided the customer with opportunities to improve open innovation. A roadmap was then created to

characterize the current state of open-innovation readiness, improve the level of preparedness, and identify key action items. Initial items included making IP contracts more flexible and easier to understand; connecting people through technology to build and enhance relationships, share information, and improve researcher responsiveness and key performance indicators (KPIs); and encouraging new behaviors among team scientists when it comes to breakthrough innovation—for example, predefining strategic partners, using technology to strengthen relationships and using the community to gain access to industry experts with whom they were not familiar.

2. Create a Business Architecture that Would Detail the Roles of Internal R&D Scientists and External Partners

More than 39 in-depth interviews were conducted with the Protein team and internal management stakeholders, including nine external partners (two universities, three vendors, two consultants, one nonprofit association, and one intermediary). Questions related to triggers for innovation, knowledge skills and resources, current data sources, mapping teams and people, ideation, process flows, and decision making. The interviews revealed the current state of the company's operational model—processes, people, engagements, and technology-enablement—and identified key innovation processes and areas for improvement. From the interviews, Cisco IBSG and the customer created an ecosystem map of internal employee/external partner job types. For each job type, a depiction of needs, opportunities, and gaps was documented for use in constructing a new business architecture. Key innovation processes derived from the interviews were cross-verified with the Protein management team, and the results were synthesized into nine connected-innovation activities:

1. Develop, share, and maintain strategic plans
2. Find experts (internal and external)
3. Understand consumer insight, competition, and the science involved
4. Solve a scientific problem with an off-the-shelf solution
5. Solve a scientific problem with a proprietary solution
6. Legally protect novel ideas (negotiate IP rights)
7. Vet ideas and approaches
8. Develop proof-of-principle prototypes
9. Identify new opportunities, products, and materials

Cisco IBSG and the Protein team constructed a "Connected Innovation" playbook that documented these activities. Each activity corresponded with a job type, step-by-step process enhancement for each job type (negotiated among ecosystem partners), and a commitment by intercompany team members to use the new processes. These activities were reengineered with the goal of achieving the tenets of open innovation (faster, better, less expensive) and applying the tenets broadly to all R&D organizations within the company.

Many partners supported multiple R&D teams across the company; therefore, if this architecture worked with the Protein team, it would scale to other R&D teams.

3. Define Key Challenges, Opportunities, and Initial Areas of Focus

The architecture needed to recognize current and evolving technology standards and solutions already in deployment for this solution to be scaled over time. Through a series of workshops with various team members, Cisco IBSG created "Architecture in Action," a forecasted view of the future aligned with a series of connected-technology components. The intent was to explore Innovation Network scenarios and articulate a compelling vision for the engagement to executive sponsors.

> "This effort was focused on developing an overall innovation process that could be supported by effective use of technologies. By focusing first on process, the team effectively identified needed capabilities versus point solutions."
>
> CIO, Corporate Functions

A series of workshops was held with a representative group of IT leaders in R&D. Baseline and target architectures were then created to codify the business needs and opportunities for a connected innovation environment and the technology required for the Innovation Network. To achieve this, it was important to understand the customer's current environment (processes, solutions, and technology) and architecture standards relevant to implementing new applications and infrastructure. Because the R&D organizations operated autonomously, casting a wide net over all of R&D to see if the architecture would scale was challenging. Cisco IBSG considered all of R&D when reviewing target architectures and then customized a footprint for the Protein team, working with IT to define various capabilities a subsequent pilot would support.

4. Create a Technical Architecture To Support Open Innovation

A detailed technical architecture was built, consisting primarily of new technology and emerging solutions on which the company would standardize. Because the technical architecture was comprehensive, a phased approach to implementation was identified. During a workshop, Cisco IBSG and company sponsors pinpointed and prioritized pivotal requirements for the network, based on which capabilities would be most valuable to the pilot. Table 1 maps Phase 1 (proof of concept) capabilities to the nine Connected Innovation activities.

Table 1. Phase 1 of the Pilot's Technical Architecture

Connected Innovation Activities	Capabilities						
	Usability	Rich Collaboration	Unified Repository	Unified Search	Discussion Forums	Voting/Rating	Social Networking Directory
Develop, share, and maintain strategic plans	X	X	X				
Find experts (internal / external)	X	X	X	X	X	X	X
Gain insight into consumers, competition, and new scientific domains	X	X	X	X	X	X	
Solve a technical problem with an off-the-shelf solution	X	X	X	X	X	X	
Solve a scientific problem with a proprietary solution	X	X	X	X	X	X	
Vet ideas and approaches	X	X	X		X	X	
Develop proof-of-principle prototypes	X	X	X	X	X	X	
Identify new opportunities, products, and materials	X	X		X	X	X	X
Identify and protect proprietary solutions	X	X	X	X	X	X	

Source: Cisco IBSG, 2009

Phase II (near-term) and Phase III (long-term) capabilities were also aligned to these activities, and included external access to experts, immersive experience via Cisco TelePresence™,[1] project spaces, internal/customer innovation sites, rich digital media, timely response, and dashboard.

A roadmap was then developed to map prioritized capabilities to technology requirements to allow implementation based on a clear strategy and approach. Since building trust, encouraging collaboration, and sharing more openly were essential elements of the Innovation Network, both Cisco WebEx™ web conferencing and Cisco TelePresence technologies became foundational components of the new architecture.

5. Create an Economic Model from KPIs To Support Continued Expansion of Open-Innovation Principles and Tools

A detailed economic model was created to identify the metrics that would prove the business architecture successful. The model included tracking pipeline opportunities worth more than US$50 million, reducing the time it takes to complete each of the above nine activities from days to weeks, and reducing costs by improving the process of filtering opportunities in the early stages of innovation. The model had broader measurements than the Protein pilot could produce, given the product development horizon versus the length of the pilot. Ultimately, however, this model would be used to justify widespread expansion and measure long-term benefits.

1. Cisco TelePresence, a key requirement for building trust among internal and external partners, was being deployed elsewhere within the company. Therefore, the timing of its implementation did not fit the launch date for the subsequent pilot.

Protein Team Pilot

The new business architecture was completed in March 2009, and a pilot was launched in June. Each member of the Protein team was provided webcams, Microsoft SharePoint content-management software for working in a web-based collaboration environment, and RSS feeds such as NewsGator for staying abreast of industry news germane to the pilot and innovation activities. Service-based research tools illumin8, SciFinder, and ScienceDirect were also included in the architecture for finding experts and gaining access to data.

The main objectives of the pilot were to stimulate faster, better, less-expensive breakthrough innovations through encouraging and rewarding team members for using the new business architecture and related technology. Specific goals were to:

- Tap the collective knowledge of external resources via a secure collaboration space. For example, a researcher could select multiple external resources and pose a question or problem statement, or share a file, and request that the response be posted on the platform for other external participants to see. In this way, each person could build on all of the responses, providing the researcher with a solution that reflects the collective knowledge of all contributors. Prenegotiated response times were also set.
- Establish a deep sense of "connectedness" across the team of internal researchers using webcams, web conferencing, instant messaging, and a community webpage through which researchers could collaborate.
- Build relationships founded on common goals to achieve an enhanced knowledge management program. Past efforts to digitize knowledge were largely unsuccessful.
- Capture recordings of web-conferencing meetings and related documents via Cisco WebEx, and post recordings to an online library located on the team's internal community webpage.
- Speed knowledge acquisition by identifying and aggregating access to external content and experts through RSS feeds, software solutions, and self-serve "licensed databases" (databases that did not require access via a librarian).
- Identify and reward new behaviors by the Protein team through recognizing them on the customer's internal website and in R&D team meetings.

> "I found our collaboration and partnership with Cisco IBSG very productive. Through a survey and scores of cross-functional, cross-divisional interviews, they helped us understand our readiness to implement open innovation and defined a roadmap to fill the technology, culture, openness, and business-process gaps."
>
> Group Manager, Innovation Network

Results

The pilot took place over a seven-month period. A project manager was chosen to engage and motivate the team for the pilot's duration. Periodic

reviews of the new architecture were also held, including one with the company's CEO and chairman. The goals of the pilot were to 1) test how the evolution of the innovation process could be accelerated, and 2) determine if the model was moving in the right direction in terms of major capabilities required for scaling.

Post-pilot results showed that the desired positive momentum was achieved and that the pilot was a success. With culture and change management core to successful adoption, more pilots and further modifications are needed. The new business architecture is on course and is being adjusted for use by other R&D teams within the company—15 teams have been targeted for this architecture.

Based on specific post-pilot survey results, members from the Protein team improved innovation by solving problems and finding experts faster. Researcher responsiveness, which is key to accelerating innovation, improved markedly: "rapid responses"—response from a researcher delivered in less than one day—increased from 16.7 percent before the pilot to 47.1 percent after the pilot. By contrast, "delayed responses"—response after three or more days—decreased from 33.3 percent to 11.8 percent.

Identifying expertise among the company's innovation partners had been a prior challenge. The ability for team members to locate relevant expertise also improved significantly. Prior to the pilot, only 30.8 percent of participants were able to locate a suitable external resource in less than five days; following the pilot, 43.9 percent were able to do so.

Overall, the Protein team had more frequent interactions and built stronger relationships with both internal and external partners. Survey results showed improvements in openness, sharing, and speed to results, as well as increased value in seeing the other person face to face. When it came to using Cisco WebEx with a webcam, one survey respondent reported, "I didn't like the feature at first, but I now see the value in 'reading' the person on the other side of the line. Very few people outside of our pilot have webcams." Building relationships via visual representation is a critical step in opening the aperture inside and outside the company to speed relationship building. Little change was noted in the ease of establishing nondisclosure agreements and flexibility of IP ownership.

Other results from the pilot:

- While WebEx proved a valuable tool for supporting discussion threads and feedback among the group, some researchers said they still prefer email. This preference had a lot to do with their level of comfort using a new tool. At the same time, discussion threads did allow for better connection and collaboration across R&D locations.
- Researchers found the ability to "tag" items in the online library helpful in locating and organizing saved materials.
- Researchers believed the tools increased their ability to work as a team and created an enjoyable experience.

Because of the pilot's short duration, it could not address every priority requirement. For example, a security/technology issue prevented the predetermined community from being fully open to external partners.

While the pilot results proved positive, it is important to note that transforming a company's culture cannot be achieved in such a short time and, in particular, with a workforce that is not used to embracing the concepts of openness and collaboration. Had the pilot been conducted with a younger team that already incorporated these concepts into their work and personal lives, adoption of the business architecture companywide may have occurred more quickly. Nonetheless, the pilot played a critical role in showing that innovation is all about finding experts, building relationships and trust, and solving problems together. It's essential to keep conversations going—either in person or virtually.

Next Steps

The new business architecture is an ongoing effort that will evolve, improve, and transform the company's processes and culture over time. It is now seeded in the company's R&D organization, and the roadmap Cisco IBSG created will serve as a guidepost for open innovation for years to come. Expanding this footprint deeper into the customer's R&D organization for increased information sharing and relationship building is the next step.

Largely as a result of the pilot and Cisco IBSG's relationship with the customer, Cisco TelePresence has become the customer's corporate standard for high-fidelity video conferencing and Cisco WebEx the standard for web conferencing. The customer has deployed more than 30 TelePresence rooms companywide and has demand for 30 additional systems.

> "Cisco IBSG has been a solid partner, bringing relevant talent to the team and effectively leading the process. They proved that they were truly focused on our problems and our needs. We are on a journey and they started us down the right path."
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> CIO, Corporate Functions

More Information

Cisco Internet Business Solutions Group (IBSG), the company's global consultancy, helps CXOs from the world's largest public and private organizations solve critical business challenges. By connecting strategy, process, and technology, Cisco IBSG industry experts enable customers to turn visionary ideas into value.

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