
External Networking in a Large Corporation: General Mills, Collaborations, and Philanthropic Opportunities

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Introduction

The Lasallian tradition of servant leadership is often associated with non-profit entities, specifically schools, and efforts concerned with service to the poor.⁴ While most frequently engaging within the domain of the non-profit and the field of education, opportunities exist for Lasallian institutions in higher education to partner with researchers, partnerships, and consortiums in the for-profit sector. Within the for-profit sector, motivated individuals can, and are often interested, to organize towards a greater good, through corporate social justice and philanthropic programs.⁵ Corporations are comprised of people, like any other organization and as such, can be positive change agents. Our topic today aligns with the Lasallian research theme of Food, Nutrition, and Health.⁶ Specifically, we will address external connections and partnerships and how these can lead to product innovation, increased food safety, reduction in food waste via sustainable delivery and crop handling, and increased access to nutritious foods.

Our discussion presents in two sections. Open and connected innovation of for-profit sectors within established economies. The benefit here is helping small companies gain market traction more efficiently and helping larger companies innovate faster to better address consumer needs. The second section focuses on partnerships and projects between the for-profit and non-profit sectors within developing economies. The benefits realized are increasing food security and nutrition while supporting a sustainable agricultural economy.

Open Innovation and External Networking

Open Innovation has been defined and researched by academia and applied by several industries for more than a decade.⁷ Although the degree of application usually differs widely from industry to industry, the intent is fairly ubiquitous and is greatly dependent on the state of the business (i.e. renovation vs. innovation).

"Outside-In," "Inside Out," and "Coupled Process" are the three key differentiating concepts for how Open Innovation can be applied.⁸ "Outside-In" networking is the most widely practiced to date, and involves an organization's effort to broadly communicate a set of needs externally in order to partner into external know-how, ideas or solutions. The "Coupled Process" – the mutual exchange of Intellectual Property (IP) and know-how between two or more partners, is an extended evolution of the "Outside-In" process, or in some cases a combination of the "Outside-In" and "Inside-Out" process. The progression of the "Inside-Out" process, the simple out-

licensing of internal IP, is the “Enabled Supply.” This new Open or Connected Innovation concept has not been fully explored or described by any industry to date.

The main aspect of “Enabled Supply” is the utilization of an internal technology by an external partner with the intent of building a viable supply chain, benefitting both parties. The following two examples help illustrate the concept of “Enabled Supply,” which in practice should ease the implementation into any corporation:

A technology, with or without IP or trade secret, is not being applied within the corporation because of changing business needs. By approaching suppliers along the value chain, new value can be created through licensing and through allowing the supplier to sell (e.g. a technology enabled ingredient / product) to customers outside of the field, and potentially also back to the corporation. Creating a market and supply chain by allowing the technology to grow externally proactively creates an advantaged future business for the organization.

A technology, with or without IP or trade secrets, is being applied within the corporation however, and also has applications outside the field. To monetize that opportunity, the right external partner needs to be identified who can cover functions like application, R&D, sales, and potentially even contract manufacturing for a technology enabled ingredient / product. Incubating a new “go to market” strategy externally will provide novel and incremental benefits to both parties involved.

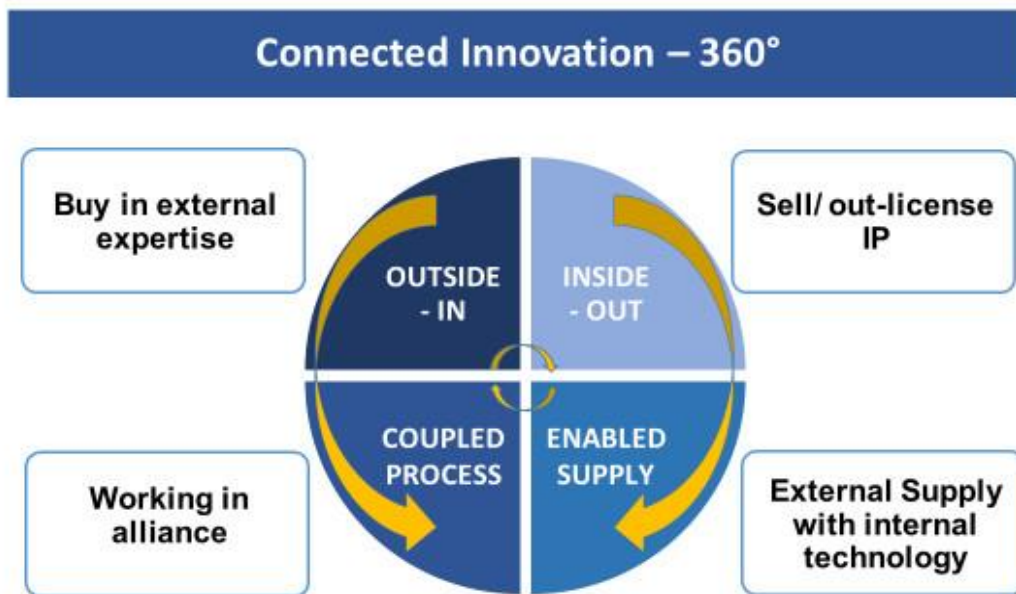


Figure 1: The four concepts of Open Innovation⁹

The already well defined “must-have” of Open Innovation, the “win / win” paradigm, especially applies to the concept of “Enabled Supply.” As a matter of fact, “Enabled Supply” can only be successful if *both* the internal *and* external partners advance the benefits from the collaboration. This fourth concept of Open Innovation can be applied in any industry or corporation. It is a novel approach to creating value and paints a much more complete picture of Open or Connected Innovation. It now truly is “Connected Innovation 360°.”

Philanthropic External Opportunities

There are many opportunities to volunteer both locally and globally within our communities: churches, schools, and a variety of charities such as “Habitat for Humanity,” “Food Shelf,” etc. Volunteering is part of a virtuous cycle where skills and services are offered gratuitously to meet an unfulfilled need. Those giving the action also reap the benefit of giving back. Those in the business sector have also discovered unmet needs where specific technical and business skills can be applied philanthropically to help others. It is within this context that possibilities exist for partnerships between the for-profit sector and Lasallian higher education. Technical and business outreach shares learning of less common skills such as engineering, marketing expertise, and finance in rural areas within growing economies as in Africa or Haiti. Within this experience, volunteers also get a chance to further develop their own skills and gain exposure to very diverse cultural, political, and economic contexts. The synergy between both is a more robust, global network. It is by engaging as either a connector between the for-profit firms and areas of mission in the developing world, or through direct research collaboration between corporations / collaborations and institutions in the Lasallian higher education network.

There are two examples of philanthropic external collaborations, Compatible Technology International (CTI) and Partners in Food Solutions (PFS). Both models are a blended effort between industrial partners, governmental agencies, and often these efforts also intertwine with religious groups and students.



Figure 2 External Philanthropy Collaborations

CTI was founded in 1981 by engineers from General Mills, Inc. and the Pillsbury Company.¹⁰ It is worth mentioning that back in the 1980's Pillsbury and General Mills often competed with each other, so a combined effort at that time was extraordinary. It is a hopeful symbol of how much can be accomplished despite diverse initial perspectives. The focus of CTI is to improve global agricultural sustainability. Food waste is a key contributor to reduced agricultural resources and access to nutritious food. CTI focuses on enabling rural farms, especially those that empower women in those regions through engineering and technical solutions.

One of the key areas for food waste is at harvest. Crops grow at a varied pace, depending on environmental conditions and management. Many of us no longer feel the excitement, anxiety, and exhaustion of harvest time, given our urban environment and developed world economy. But, the fact is, if a farmer doesn't get their crop harvested in time, it will waste in the field and no longer be consumable. We may be familiar with images of seemingly endless wheat fields being harvested by large combines as a symbol of agriculture. The reality of how harvest technology is applied is much different when referring to arid or tropical regions of the developing world where different crops, such as millet, are the staple to the diet. If you've ever seen bird seed, you've seen millet. It is a small, round grain that grows on stalks. The advantage of millet, is that it can grow where conditions are too harsh for corn or wheat. The disadvantage is that there were no good automated ways to harvest and process it, especially in areas where fuel and electricity are not reliably available or affordable.

CTI invented a mechanical thresher, which is a small, hand-powered or motorized, portable device, suitable to separate millet seed (or any other grain), from the chaff (stalks, hulls). This mechanical thresher increased efficiency four-fold, resulting in saving 27,520 kilos of millet per year in one region in Africa.¹¹ This thresher is often combined with a mechanical grinder. The grinder was invented to be able to grind grains into flour or it could also double as a way to grind groundnuts (peanuts) into flour or paste (peanut butter). This grinder is so efficient that it can cut down forty days of work to eight while at the same time preserving the vitamin content of the crop and reducing spoilage. The intangible benefit here is access to education. Often, in agricultural areas, school is suspended until the harvest is complete. The faster and more efficiently families can harvest their crops, the sooner children can get back to their studies.

One specific example of philanthropic technical development in the New World General Mills has been involved with is the processing of breadfruit in Haiti. Breadfruit is bland, nutritious food and a good source of carbohydrates. It has an extremely short shelf-life (2-3 days). However, if shredded and dried, shelf-life is increased significantly (1 year). The adaptation and application of a technology that allowed breadfruit to be shredded and dried resulted in a crop that now experienced 20% crop losses versus the 80% loss historically experienced. Dried breadfruit shreds can be used directly as part of a family's diet, ground into a flour for use in pancakes, biscuits, etc. or could be collected and sold to a manufacturer to create ready-to-eat fortified snacks. This created an economic circle, benefiting rural families by direct addition to their diet and a source of income. The finished extruded product was flavored and sold in market in Port-aux-Prince as well as provided to local schools as a fortified, nutritious snack.

Partners in Food Solutions (PFS) was founded in 2008 by like-minded business and technical people from General Mills, Cargill, and DSM.¹² This Initial group expanded to include other

companies and also attracted support from USAID. The focus of this effort is to improve food security in Africa. Africa has a growing population; it will have 50% of the world population within the next three decades, yet one in four persons in sub-Saharan Africa lack access to adequate food.¹³

There are five parts in the chain of agricultural economics: farming (including crop management and harvesting), post-harvest (e.g., grinding, storing), processing (turning agricultural crops into foodstuffs), marketing and distribution (access to markets and making your products known), and consumers.¹⁴ PFS focuses on processing and marketing / distribution. This is a key connection point that keeps farmers employed and populations fed. This is also the point where PFS identified the need for technical support, which it is uniquely positioned to provide, given volunteers come from agricultural corporations representing different aspects of food processing and business.



Figure 3 Improving Food Security

As an example, Project Peanut Butter was one of those ‘quick win’ solutions through collaboration. Famine relief programs can be an amalgamation of small-scale enterprises, with a blended influence of volunteers from religious groups, private firms, and charities and are funded by government programs and private donations. In this particular instance, the manufacturer of a peanut butter famine relief food was paying market price for the main nutritional ingredient, peanuts. However, large corporations often negotiate supplier contracts, leveraging an economy of scale to reduce raw ingredient costs. By using corporate sourcing agents to secure the raw ingredient cost of the peanuts, the peanut butter manufacturer saved over \$2 million, which they leveraged to purchase more raw ingredients and consequently were able to manufacture more famine relief products than ever before.

PFS is unique in that it can provide not only technical support, but business support in the form of marketing strategies, operational efficiencies, business plans for small start-up companies, and financial planning. Projects General Mills has been involved in have leveraged the skills of food chemists. For example, fortified soy corn blends are used as supplemental foods for families that live with unsecure access to sufficient nutritional food. Water is added to the soy corn blends and the blend is cooked into a porridge to necessary calories, protein, and nutrients. However, it is too thick for young children, who are just weaned, to consume. This is commonly corrected in a home by diluting with more water, which unintentionally reduces the nutritional quality of the food. General Mills' project was to reduce the viscosity of the fortified blend. By fermenting the blend at the manufacturing site, we were able to reduce the level of complex carbohydrates in the dry mix and created a product that was thinner without the need to add extra water.

PFS was the subject of a Wall Street Journal article, entitled “A Different Kind of Volunteer Work”¹⁵ which, though specific to PFS, also incorporates many of the core tenets of CTI. Both volunteer groups leverage specific business and technical skills as well as corporate structure to create unique contributions to philanthropic efforts.

Volunteers in these programs are highly engaged because they feel good about giving back, especially when this form of connection aligns with their technical skills. It brings more meaning to their academic training and career experience. Additionally, it helps new professionals develop new skills and broaden networks. Unique opportunities exist for Lasallian university researchers and students who seek to partner with corporations in these efforts. Initially, new skills may be learned, research understood, and partnerships forged. Additionally, the core mission and research agenda of the International Association of Lasallian Universities (IALU) may be realized through making significant contributions to the sustainability and safety of water, food, and nutrition.

To Learn More...

PARTNERS IN FOOD SOLUTIONS
www.partnersinfoodsolutions.com

- Volunteers are part of member companies
- Focused on business solutions
- Interconnected with other volunteer groups & businesses

cti
 compatible technology international
www.compatibletechnology.org

- Anyone can volunteer
- Focused on technical solutions
- Interconnected with other volunteer groups & businesses

Figure 4 Partnerships in External Philanthropy

Endnotes

1. These remarks were presented as part of a keynote address at the sixth annual International Symposium on Lasallian Research held in Minneapolis, Minnesota, U.S.A., September 24-26, 2017.
2. Christine Nowakowski is a Principal Scientist at General Mills Corporation, Minneapolis, Minnesota. She received her PhD from The University of Wisconsin-Madison.
3. Olaf Gruess is a Technology Manager and Global Connector at General Mills Corporation, Minneapolis, Minnesota. He received his PhD from The University of Bonn, Germany.
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