

The KWHS Essay Contest: Entrepreneurial Winners Conjure Gloves, Alternative Energy, Shoes and Locks

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In preparation for its launch, Knowledge@Wharton High School held a contest in which it invited high school students from across the U.S. and the world to submit essays on their choice of two topics: “Starting a New Business” or “Socially Responsible Businesses.” From the several hundred entries, judges chose four high school students (two each from grades 9-10 and 11-12) as winners in each of the two topic categories. Below are the four winning essays in the “Starting a New Business” category, which asked students to support the question — “If you could start your own company, what would it be?” — with creativity, solid business know-how and smart strategies to sell their products.

The essays have been edited for length and KWHS style.

Starting a New Business 11th/12th Grade Winners

First Place

Julie Cheng, Richard Montgomery High School, Rockville, Md.

“The Future of Gloves: You Can Feel It in Your Skin”

The touch-screen, multi-touch capabilities featured in laptops, the ubiquitous iPhone, GPS devices and even the spy gadgets in recent James Bond movies are luxury innovations that are quickly becoming a technical standard. The ability to control equipment with a swipe and a pinch has rendered it necessary to always be in full control of nature’s most dexterous tools: our hands. And yet, every year for 13 long weeks, our gifted fingers are reduced to fumbling phalanges,

stuffed into heavily padded winter gloves that cripple capacitive touch-screens that rely on fingertip-conducted electrical currents.

My company, Touch Innovations (TI), will sell Skins, the first gloves to make technological innovation compatible with cold weather. Skins are thinner than traditional gloves and mold to each finger, thus providing touch-screen tapping precision. Skins are stalwart barriers from the cold, but are no barriers at all to the wearer's capacitive touch-screen activities. To address the growing concern over typing-induced joint problems, Skin's internal gel structure will cushion and support knuckles and joints. Combining durable elastic fabrics with porous microfibers with a layer of insulating gel, Skin gloves have aesthetic appeal, longevity and the power to protect active fingers.

For seed funds, I will look to friends, family members and non-profits such as the American Arthritis Foundation that have shown keen interest in partnering with corporations to develop arthritis-impeding products like Skins. As this idea will require further research and advanced manufacturing, angel investors and well-connected venture capitalists must be called upon. Like most technology-related companies, my company, Touch Innovations, will eventually sell equity, with a minimum initial public offering of \$3 billion. Going public will be a good way to increase brand recognition among potential consumers.

Touch Innovations will dominate the glove industry because our patented product will be the original first of its kind and the glove of the future. Having our product backed by the American Arthritis Foundation will also convey credibility.

Our first consumer base consists of tech-savvy, no-nonsense millennials who want functional gloves that they do not have to shed when typing on laptops or cell phones. Teen- to college-age consumers will abandon easily unwoven knitted gloves for gloves with modern aesthetic appeal and resilience: Sleek and shiny Skins are sold in bright colors comparable to those found on the popular iPod, and their durable skintight stretch fabric is like Under Armor for technologically inclined hands. A Skins-wearer is instantly branded as someone who values quality and has an active lifestyle that requires him or her to stay connected with the latest technology, even in the coldest months. The second consumer group consists of working professionals who wear Skins to improve their hand joint health.

These consumers will be attracted to Skins by the gloves' very nature. To expand our consumer base to those who might choose fashion over function, Skins will periodically launch gloves featuring the graphics of contemporary designers and artists. Betsey Johnson and Takashi Murakami are examples of potential collaborators. These more expensive, exclusive designs will be produced in limited quantities before retirement. Having Skins become collectible items released at surprise intervals will ensure that the product is always a fresh topic in fashion magazines and in the general media.

The market strategy is to brand Skins as a socially acceptable holiday gift and a phenomenon ingrained in pop culture. Secondly, Skins will be sold both as a complement to touch-screen gadgets and as a work of advanced technology itself.

Skins, priced in the \$20 to \$30 range, will be more affordable than leather gloves and deliberately more expensive than knit gloves. The extra expense signals to consumers that Skins are of premiere quality, and allows Skins to occupy the ideal price range for friendly gifts.

To reach the consumers who have gobbled up iPhones and GPSs, Skins must be presented as necessary complements to these devices. TI will sell Skins next to touch-screen devices in Apple and Best Buy stores and at Cingular and Verizon booths. For six months following product launch, a discounted price for Skins will be offered for buyers of touch-screen items to kick-start consumption, and thus, the visibility of Skins on campuses and workplaces. Skins will also be available at online stores of the aforementioned retailers. TI will begin offering color customization and name labeling through a Skins online store within two years of the IPO. Personalization will make Skins an even more attractive gift, and appeal to consumers' individualistic attitudes.

A glove that is advanced enough to have its own TV, Internet and print advertisements will certainly generate buzz. Hence, Touch Innovations will launch an aggressive advertising and product-placement campaign. Advertisements will air on primetime TV and popular websites such as YouTube the last week of November as the holiday shopping season begins to reach the public and, more specifically, younger, tech-savvy consumers. These ads, directed by acclaimed abstractionists such as Michel Gondry, the creator of the legendary Motorola RAZR ads, will present Skins as works of futuristic technological innovation. Furthermore, to make a mark as a pop culture phenomenon and thereby increase sales, TI will win the free product placement of celebrities by offering exclusive diamond embellished gold Skins that are sure to interest Hollywood trendsetters.

Touch Innovations' long-term goal is to expand sales outside the United States to the rest of the world. Analysts forecast \$230 million in international sales of touch-screen mobile phones by 2012. TI will also solidify its image as the premiere health-conscious hand clothier by selling glove-like joint protectors in the warmer seasons. To establish itself as a leader in supporting charitable and current causes, TI will join brands such as Gap and Apple in donating proceeds of Red Skins as part of the AIDS Product Red initiative. TI will continue to mold its image through the years with a trademark handprint logo, sponsorship of inventive design competitions for students, support for arthritic relief research, and continued production of quality gloves that are more lightweight, compatible with any new technology developed and more weather-resistant.

Second Place

Faraz Rahman, Sunbeams School, Bangladesh

“Jatropha: Letting Everybody Win”

In modern times, few commodities are as high in demand as crude oil. As our energy needs increase, countries require more and more of it, but only a few countries can supply it. A developing country such as my own, Bangladesh, which does not fall in the latter category, must depend on imported oil, which is likely to rise to even higher prices in the long run.

My business idea involves producing an alternative form of energy: Jatropha. Jatropha is a shrub that grows in most climates and soil types, including those unsuitable for food crops. It produces seeds from which oil can be extracted and used as biodiesel. One hectare of jatropha produces between six and 10 tons of seeds annually, which, after a drying process, are pressed to extract jatropha crude oil. Studies have shown that around three kilograms of seeds produce a liter of oil. The extracted oil is then refined into Jatropha Methyl Ester, which can be used as biodiesel. Up to 20% of this oil can be mixed with diesel without any engine modifications, and more can be used with minor modifications.

I plan to obtain financing for the business from venture capitalists or from private firms that would use the oil themselves, and would therefore want to invest in a means to reduce their fuel costs. Jatropha oil is expected to be considerably cheaper to produce than diesel, since cheap labor is readily available, and degraded land can be purchased at a low cost. I plan to further reduce costs by arranging for farmers to plant jatropha in their marginal land, directly buying their harvested seeds.

The main deterrent for firms to change from fossil fuels to alternatives, such as solar power, is the considerable capital expenditure involved. However, using a 20% mixture of jatropha oil would not necessitate any significant investment. Buyers would be likely to initially use this mixture, and eventually modify their engines to run on a greater percentage of jatropha. I plan to provide the engine modification services at a minimal price to encourage conversion and therefore increase sales.

Jatropha's low capital expenditure and low cost make it an attractive alternative to diesel. In addition, the fuel is cleaner than diesel, renewable and locally produced; using it gives businesses a way to advertise to their consumers that they are "going green".

My primary targets will be the truck and bus transport companies, which are major consumers of diesel. I will also target the mills and factories that use standby power generators running on diesel, which they have installed mainly due to the frequent power cuts in the country. Distribution of the oil will take place through company tankers as well as through fuel stations. While the former is more suitable for mills and factories, the latter will be more apposite for trucks and buses. The company's own tankers will undergo the engine modifications necessary to run on a high percentage of jatropha, to exemplify effective use of the product. The oil will be sold at two levels of concentration: the 20% mixture and a higher 80% to 90% mixture for modified engines. The blending will be undertaken by my own business when delivering directly to customers in tankers, as well as by the fuel stations under contract.

Advertising relies on an emotional hook and rational arguments to win over the hearts and minds of buyers. My jatropha program's primary advertising points will be the low capital expenditure compared to other kinds of alternative energy, and the low cost relative to diesel. The fact that the capital investment involved in using the 20% mixture of jatropha is virtually nil will be stressed, while the low cost can be clearly illustrated through a simple comparison with diesel prices. The local economy and environment will also benefit — an added plus for businesses.

Apart from news conferences and press releases, an effective way of reaching the target market is through industrial trade bodies, such as the Bangladesh Road Transport Association, the Bangladesh Tea Association, the Bangladesh Garments Manufacturers and Exporters Association and the Bangladesh Jute Mills Association. These comprise businesses in the respective industries, and advertising through these associations will ensure that the message is conveyed to the right people. Showing how jatropha specifically benefits firms in a particular association will enhance the efficacy of presentations held there.

Commonly seen all over Bangladesh, local diesel-run trucks have a certain charm; they are brightly painted and sport signs on their fuel tanks reading "Ami Diesel Khai" which, roughly translated, means "I Drink Diesel". When supplying jatropha oil to transport companies using such trucks, I plan to arrange for stickers to be placed on the fuel tanks reading "Ami Jatropha Khai". These will be easily noticeable, and being associated with this endearing peculiarity of local trucks, will provide good publicity and generate interest in the product. I will advertise similarly through buses running on jatropha. I also plan to advertise in fuel stations in the industrial areas and Export Processing Zones around the country.

I am confident that my business idea will generate high profits for me, as the stakeholder. I also have a major stake in my country, and that is what makes me more optimistic about jatropha. Being a cheaper substitute to diesel, it will help to reduce Bangladesh's dependence on imported crude oil and mitigate the problems of long-run increases in its price. My idea will also make good use of degraded land, provide work to a substantial number of people and benefit the economy by reducing costs for industries. A good business idea will, as a rule, make someone rich. I feel that what truly sets apart my idea is that it will not only benefit myself, but also my customers, the environment and the economy of my country. In short, jatropha will let everybody win.

Starting a New Business

9th/10th Grade Winners

First Place

Sara Meretab, Montclair High School, Montclair, N.J.

“Shell Shoes: Shoes with Soul”

How many times has your young daughter worn those patent leather, slip-on shoes sitting in her closet? Or your son, those brand new size three leather loafers he wore to a family wedding? For most parents, the answer is once or maybe even twice. But in six months, will those brand new shoes still fit your rapidly growing child? Unlikely. What a waste of money. What a waste of time. What a waste of environmental materials. That is why I would like to introduce a revolutionary concept in shoes called “Shell Shoes — Shoes with a Soul.” What’s so great about Shells? First, they are expandable shoes that “grow with you.” Imagine shoes with adjustable tabs that allow for growth of three shoe sizes. Secondly, Shells will truly have “soul.” Each pair purchased by customers will be matched by a donation of one pair of Shell Shoes to a child in Africa, Asia or South America who could not otherwise afford one. Shells will have incredible potential to benefit families within the United States, as well as those around the world.

While it is true that there are numerous competitors in the shoe business today, there is no company quite like Shell Shoes. There are companies such as Nike and Adidas, but they strictly focus on athletic shoes. Then there are businesses like Stride Rite, Primigi and brands found in department stores. Yet they, too, are limited to school shoes and dress shoes. These companies are selling the same bland shoe styles that lack personality, usually in more reserved colors such as white, black and brown. Isn’t the best part of society’s youth the exact opposite of bland styling? Children have an offbeat imagination that simply isn’t seen in such styles.

Conversely, Shell Shoes will have all the fun personality of colorful Converse and Crocs along with the practicality and comfort of Sketchers. They will be produced in a wide array of rainbow colors with comfortable and expandable NASA memory foam lining the inner side.

Shells will also have a soul in two distinct ways. The first is through Shell Shoe donations to children triggered by consumer purchases, while the second is through the conservation of the Earth. By using small (5”x5”) cardboard recyclable shells to package the shoes, we will ensure limited waste from product packaging. The Shell Shoes will simply fold in half within the compact package. Also, Shells will be made of a biodegradable latex-like rubber. We can express this to consumers through slogans such as “Shells — Shoes that Only Leave a Green Footprint.”

Finally, we want Shells to be unique from each other. Consumers want to know that their pair is different from their friends’ pairs. That’s why each pair of Shell Shoes will have a funny or inspiring phrase stamped on the bottom. The Snapple Company used a similar tactic by creating “Snapple Facts,” which greatly contributed to the incredible success of the business.

Shell’s target consumers are parents of children ages 1 through 12. This range represents the youth’s greatest period of foot growth. Shells are also very affordable at a price per pair of \$19.99. With Shells, parents will no longer have to buy additional pairs of shoes in larger sizes, and can instead easily adjust the length and width of a Shell Shoe. I also believe Shells have incredible potential in the global marketplace as well.

Within the United States, reaching Shell’s target consumers should be relatively easy. For starters, I will easily allocate some of the money to launch numerous advertisements on channels popular with young children, including Nickelodeon, Cartoon Network and Disney Channel. Although parents don’t tend to view these channels on their own, they often get exposed to them through their kids.

Also, we want Shells to be incorporated into everyday life. Parents will no longer have the hassle of going to the mall for shoe shopping. Instead, Shells will be sold in convenient locations that aren’t just limited to shoe retailers, in places like drug stores and grocery stores. The compact packaging allows Shell Shoes to be sold in stores where retail space is tight. This unique distribution idea for Shells is similar to what “L’Eggs” did for pantyhose and tights. Consumers will see Shell Shoes as inexpensive, reliable and easy.

By far, the most attractive quality of Shells to consumers is their novel expandability. Where regular shoes are sold in but one size, Shells are built with the ability to adjust across three different sizes for both length and width. Small circular gauges on the base of the shoes can be rotated to increase the length or width of the sole by pulling the recessed insert of rubber sole forward. The upper portion of the slip-on shoe will be made of highly pliable and elastic rubber or fabric depending on the selected style.

Shell Shoes will require plenty of start-up capital to both physically build the shoes and to transport them to stores. To start the business, I plan to take out a loan from a bank while simultaneously inviting friends and family to invest in the business and become equity owners. In addition, I may even approach some shoe manufacturers to see if they would like to invest in Shell Shoes in return for partial ownership. Such a deal might allow my business to use some of their excess available factory capacity to produce Shells at a lower cost. If the start-up cost for my business plan becomes too great, I will also consider licensing the product concept and unique packaging to an existing company.

In short, Shell Shoes—“Shoes With a Soul,” are expandable shoes that will be mutually appreciated by all members of the family. They are fun and comfortable for kids, but easy and affordable for parents.

Second Place

Kathryn Hopkins, Unionville High School, Kennett Square, Pa.

“Smart Locks: A New Way to Lock Up Your Belongings”

High school is supposed to be the time in students’ lives when they are learning and growing, but they can also have fun and enjoy the last few years of their childhood. Student life can be hectic with a large academic workload, yet school time should not be wasted by having to spend extra time unlocking and opening lockers that have a combination lock on them. Most students are usually in a hurry to get to their classes, an appointment, or to just leave school and catch the bus on time. Combination locks take up time and energy, and a new idea is rather essential in this modern world.

The combination lock is a tool that schools use to help students keep their belongings safe and private. Students need a lock on their lockers because not only will people steal things, like books or electronics, but they will also plant things in random lockers, such as illegal drugs. Many students choose not to have a lock because they feel that they are an unnecessary waste of time. Locks take time to open because you have to spin the dial three times and carefully make sure that you land on the correct numbers. New lockers each year are expensive and when reusing locks, they get old, and they don’t open the first time. This adds added moments that can make a student late and add more stress into their already busy and hectic schedules.

Smart Locks are a tool that will help students stay safe and private, but also get through the school day with ease. Smart Locks are sets that include a lock and a remote opener that can open the lock from anywhere within 15 feet. All you have to do is put the lock on the locker and press the button on the remote. The lock will open right in front of your eyes. The remotes and locks are programmed and are paired together so that the one remote only opens the corresponding lock. Also, when the lock is opened, it will light up so the student quickly knows where his or her locker is, further reducing time and stress in a crowded hallway.

Smart Locks not only keep the student’s belongings safe, they also save time and energy. At the press of a button, the locker opens with ease, and the books are readily accessible. Smart Locks come with one master lock for the administration, so if at any time the school wants to perform a locker check, they can press the button on the master remote, and all of the locks will open up instantly.

Another advantage of Smart Locks is the fact that they will pay for themselves in the years to come. Many combination locks are purchased each year and require replacement due to the fact that they break or get lost. With Smart Locks, there will be no worry about replacement or loss because they will be permanently installed on lockers.

The marketing strategy for Smart Locks is primarily one of selling the benefits and advantages to school boards. The sale will be for a complete conversion of schools in the district over to the Smart Lock program. The initial goal of Smart Locks' marketing strategy is to introduce the locks to broad student populations, and target specific groups of schools.

The first group of schools that Smart Locks will target will be new and emerging schools. These schools have money to spend and do not have lockers already. They will need lockers for the students, and Smart Locks is willing to set them up with the newest technology around for approximately the same price as old combination locks cost.

The next group of schools that Smart Locks will try to pursue are large schools that have crowding and security issues. Smart Locks will help fix problems with crowding because they are fast and easy to use, which results in less people in the hallways at one time. Also, Smart Locks help schools with security issues because the school administration is able to open all of the lockers with one remote.

The last set of schools that Smart Locks will aim at are the school systems and school boards that are spending money and trying to upgrade their facilities. Many schools across the country are working to renovate their buildings, and Smart Locks would be a great addition to these plans. The schools that are on the brink of renovations, for whatever reasons, would be a prime candidate for Smart Locks.

In order to get initial funding for Smart Locks manufacturing and development, prior to selling into the schools of America, the Smart Locks company will seek investors in several established lock companies, like MasterLock, to entice them to invest their research and development funding in this new project. It is assumed that with this investment, they will become partial owners of this technology. Their established brand reputation will help add credibility to the sales presentation of the Smart Locks program. After initial installations and planned press reviews of the improved benefits of Smart Locks in educational magazines, Smart Locks will be in high demand by schools upgrading their technology. It is likely that Smart Locks will be the new cool thing, bringing the same draw as new cell phones and iPods.

With teenagers these days looking for the newest and best technology, Smart Locks will flourish across the country very quickly. The goal of Smart Locks is to not only take over the lock industry, but to also help out schools. Smart Locks keep the students safer, and they also help to prevent overcrowding in the hallways. They are easy and quick to use, so locks on lockers aren't a hassle any more. And who knows? Maybe soon students across the country will want an upgrade to their locker systems and will start requesting Smart Locks from their school administration.

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