Equestrian App Innovation

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Problem/Opportunity:
One fact of life is that parents will always be worried about their children, friends will be worried about other friends, spouses will be worried about the other spouse, and children will be worried about their elderly parents. Even though there have been many technologies to help bring peace of mind, such as the Life Alert and Fall Detection on the Apple Watch, I want to take that technology one step further. I grew up riding horses as my activity of choice, but I am also the youngest of six children. Since a parent could not always sit with me while I was riding, this became a huge dilemma between my parents and I. I felt like I should be able to ride whenever I wanted, but my mom would not allow me to be on a horse’s back without another person to be there if I were to fall and get hurt. There is an inherent risk involved whenever a person is around a half ton animal. Because around 48% percent of the total population of horseback riders are under the age of 18, there is a large demographic of parents that are concerned about their child’s safety while riding (Sports Market Analytics, 2016).

Along with the Fall Detection Technology, many NFL teams are now integrating sensors into the helmets of their players in order to determine the impact the fall had on the brain. Many times, high ability equestrians can suffer head traumas similar to that of an NFL player. Studies have shown “horse-riders can expect a serious accident once in every 350 hours of participation, which is twenty times more dangerous than motor cycling” (Pilato, Henry, Malaise, 2017). Injuries sustained from a fall off a horse are most likely deemed not as serious as those sustained from a motor cycle incident or a football player. Many times the equestrians are trained to get back on to the horse within thirty seconds of the fall. Instead of taking precautionary measures, the riders simply get back on to continue to ride. The technology used in many NFL football helmets could be vital to protecting the brain of many equestrians. Riddell, the leader in football helmet innovation and production, manufactures a helmet with integrated sensors to monitor the impact of a hit to the head (RiddellSports, 2018). The sensors used in football helmets could greatly improve the understanding of every fall sustained by an equestrian athlete.

Since both the Fall Detection Technology and helmet sensors are already developed, the missing piece would be putting the two innovative solutions together in a single user friendly app. I want to develop an Apple Watch and iPhone app that will piece the two technologies together. By using the Fall Detection on the Apple Watch, the rider’s emergency contact will immediately be notified of an injury sustaining fall. Along with the notification that the rider had fallen, the emergency contact will also be able to see the level of impact the brain received from the fall based on the sensor that is in the rider’s helmet. The sensor will also be able to communicate with the rider’s iPhone so that they can see a history of all their falls. The figure below demonstrates the technology that is already in place, but is only being used by the football industry. The profile that I would like to integrate into a single app for equestrians would be able to show the exact same figures.
In order to integrate the technology used by both Apple and Riddell, I would either have to get permission from both companies to use their technology, or I would have to create a similar version of what is already created. My goal would be to take what is already created, and make a version that is similar but unique to the equestrian discipline. For example, I would like the sensor to be able to detect the trajectory of the fall instead of worrying about volume and load, like the football helmets. The phone app would be the one stop shop for tracking all Apple Watch and helmet sensor information.

Marketing:
Because this app has such a specialized niche, the marketing strategy must target a very specific audience. In particular, high ability equestrians. For example, the number of falls in level one equestrian eventing is 5.3% of every competition ride versus 11% in level four competition riding (FEI, 2019). Even though high level riders are also better riders, they are more at risk for injury. In particular, head injury is a major concern for high ability equestrians. The helmet sensor would be more likely to appeal to high level riders whereas the Apple Watch app is more likely to appeal to individual people of all abilities that intend on practicing alone. The equestrians that are planning on working alone must also be willing to invest in an Apple Watch. In order for the product to create value for the consumer, it must be unique, effective, and reliable.
Marketing:
This app will be unique by integrating the Apple Watch component with the helmet sensor into a comprehensible platform. The app must be effective in order for consumers to even think about purchasing it in the first place. Through data proving the app’s effectiveness, consumers will learn to trust the technology. If the different components of the app are not reliable, then consumers will be dissatisfied with their purchase. Since the majority of business in the equestrian world is done by word of mouth, consumers must be overly satisfied in order to promote the product to other equestrians.

The most threatening competitor for the app would be Apple. Since Apple has already created the Fall Detection technology, they will be the gold standard for all products following. Apple has also been criticized because the apps that are developed by Apple in house will always be the first apps to appear in the App Store. In 95% of apps that generate revenue for Apple, their apps will be shown above any other outside developer’s app (Mickle, 2019). The figure below displays how Apple developed apps are positioned vertically after the basic search displayed on the lefthand side.

(Mickle, 2019)
**Strategy/Management:**
Since the majority of the technology that will be implemented in order to create a comprehensive app is very new, the natural trend of technology will determine the success or failure of my product. Like everything in life, technology is constantly evolving and changing. In order to keep up with the current trends, the app will need to be monitored closely to determine if the technology is outdated. If the current technological components become outdated, updates to the app and helmet sensors will need to be implemented. Streamlining data to simple, comprehensible reports is a trend that is projected to continue to grow (Frost & Sullivan, 2019). The market for this app should continue to grow. Since people are more concerned with their health, they are taking it into their own hands. Artificial intelligence apps are growing in the healthcare field. It is likely that “AI will become a common theme across all digital initiatives and platforms” (Frost & Sullivan, 2019). With a comprehensible app that monitors the impact on falls as well as alerting an emergency contact in the case of a fall, consumers are taking their health into their own hands through a single app.

Because my innovation is a mix between a product and an app, there are multiple different components for the human power needed. For the app, a one time design can be used for all people. In order to create the app, I will be the lead designer, and I will consult with other developers in order to have other people to collaborate. I will send the sensors off to a third party to be manufactured. Because I will be the only one involved in the actual developing of the app, I will be the key component of management. I will also be able to answer any customer service questions or complaints.

**Operations:**
The main operation that is involved in my app innovation would be the actual development of the app. Since I would be the one creating the app, I would be considered a key resource. Another key resource would be the manufacturer of the helmet sensors. I would like to partner with Athlete Intelligence in order to buy the sensors for each of the helmets. Athlete Intelligence is dedicated to protecting the brain of all types of athletes. Since Athlete Intelligence develops sensors for all sports and helmet types, the company would be able to develop a special sensor just for the equestrian helmet, or they could tweak a sensor that has already been developed. Athlete Intelligence also sells an outside sensor called the Shockbox sensor. Since this sensor is from a third party, it does not have to be used in collaboration with the Athlete Intelligence data platform. The Shockbox sensor is intended for “individual helmeted sports including hockey, snow sports, equestrian, and BMX” (Shockbox, 2019). Since the sensor can be simply attached to the top of any helmet, the Shockbox Sensor will most likely be the most economical as well as intuitive device to use.

The main bottleneck of this process would be the implementation of the sensors. Since the sensors are from an outside company, and the consumer must attach it themselves, there is much more room for error. Because the sensors must be ordered, there is a fine line between buying enough to supply the consumer and having more sensors than will sell. In order to reduce the
probability of buying too many sensors, I would want to do a single order to begin with, then adjust the order by demand for the following orders. If I were to increase capacity, the biggest crutch would be to order more sensors. Since the app can be downloaded multiple times without additional cost to the developer, the actual app itself is not apart of the bottleneck.

**Finance:**
The initial investment involved in creating the app would include a computer capable of app development, the development software, the helmet sensors, and marketing tools. Because my current computer does not have the power to run app development software, an entire new computer would be purchased. Along with the computer, the app development software would also need to be installed. Since there are many different types of development software, the price will determine the capabilities of the software. In order to create the app of my dreams, I would need a moderate capability software set. I would want to hold an inventory of fifty helmet sensors to begin. In order to advertise my intuitive app, I would want to market to the specific segment of equestrians. In order to do this, I would advertise on horse tack equipment websites as well as in a series of equestrian magazines. The chart below displays a compact expense table.

<table>
<thead>
<tr>
<th>Expense</th>
<th>Cost (In US Dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Computer (one time)</td>
<td>2599</td>
</tr>
<tr>
<td>Development Software (per year)</td>
<td>99.00</td>
</tr>
<tr>
<td>50 Helmet Sensors</td>
<td>8999.5</td>
</tr>
<tr>
<td>Marketing</td>
<td>7000</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>3000</td>
</tr>
<tr>
<td>Total Expenses</td>
<td>21697.5</td>
</tr>
</tbody>
</table>

(Apple, 2019) & (Gridiron Tech, 2017)

The ongoing expenses that investors should expect would be the development software which has an annual fee and the cost of the helmet sensors and marketing. The development software is a fixed expense because it is a single fee every year. Even though the app development is a one time process, as technology changes, the app will need to constantly be updated. The variable expenses would include the helmet sensors and the marketing expenses. Since the sensors could change price based off of the inventory the manufacturer has as well as the number placed in each order, the unit price could change from order to order. The other variable expense would include the marketing category. Since I do not know how well the product will do in the beginning, I do not know how intense I will need to market or for how long.
To begin, I will be charging a one time fee of $200 for the sensor and app bundle. Since there are 2.7 million horses on average being shown each year in the United States, that number will serve as the sample size (Kilby, 2007). If .01% of the equestrian population bought my product bundle, then the innovation would bring in $5.4 million in revenue each year. After one year, the investors should start to see positive cash flow. Since the app bundle is dedicated to such a specific niche, positive cash flow could take longer to obtain. Investors should expect to get paid pack for their investments within five years of the launch of the company. Investors should expect to get around a 15% return on their initial investment.
Works Cited


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