



## ***Marketing Plan for LifeSafer Ignition Interlock***

***“Dollar a Day Keeps the Ambulance Away”***



**Course Title:**

**Technology Marketing**

**Course Number:**

EMGT 555

**Instructor:**

Dr. Antonie J. Jetter

**Term:**

Fall09

**Author(s):**

Neelu Singh, Ganesh Subramanian,  
Mukundan Tirumalai, Ashok Bhatla, Matthew Letts,  
Shoaib Khan & Naresh Bokka

ETM OFFICE USE ONLY

Report No.:

Type: Student Project

Note:

<b>1</b>	<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>2</b>	<b>SITUATION ANALYSIS .....</b>	<b>2</b>
2.1	INTRODUCTION .....	2
2.2	PROBLEM ANALYSIS AND STATISTICS .....	2
2.3	PROBLEM SOLUTION.....	4
<b>3</b>	<b>MARKET ANALYSIS .....</b>	<b>4</b>
3.1	MARKET SIZE .....	4
3.2	MARKET SEGMENTS .....	5
3.3	MARKET RESEARCH AND TARGET MARKET SELECTION.....	6
<b>4</b>	<b>CUSTOMER ANALYSIS.....</b>	<b>6</b>
4.1	COMPELLING REASON TO ACT: .....	6
4.2	INTERVIEW METHODOLOGY: .....	7
4.3	VOICE OF CUSTOMER TO SOLUTIONS: .....	7
<b>5</b>	<b>COMPETITION ANALYSIS .....</b>	<b>8</b>
5.1	KNOW YOUR COMPETITOR.....	8
5.2	BENEFIT AND COST ANALYSIS .....	8
5.3	QUANTIFYING THE PRODUCT .....	9
5.4	INFERENCE .....	10
<b>6</b>	<b>BUSINESS OVERVIEW .....</b>	<b>10</b>
6.1	PRODUCT DESIGN AND FEATURES .....	11
6.2	SWOT ANALYSIS – IGNITION INTERLOCK SYSTEMS .....	12
6.3	VALUE PROPOSITION .....	13
6.4	PRODUCT EXPERIENCE: .....	13
6.5	BRAND IDENTITY:.....	13
6.6	ALLIANCES AND PARTNERS:.....	13
<b>7</b>	<b>MARKETING STRATEGY .....</b>	<b>13</b>
7.1	PRICING .....	13
7.2	DIFFERENTIATION.....	15
7.3	PROMOTION PLAN .....	16
7.4	FUTURE GROWTH .....	18
<b>8</b>	<b>FINANCIAL ANALYSIS.....</b>	<b>19</b>
8.1	INCOME AND EXPENDITURE TABLE .....	19
8.2	PROFIT CURVE.....	20
<b>9.</b>	<b>CONCLUSION.....</b>	<b>21</b>
	<b>APPENDICES .....</b>	<b>22</b>
	<b>REFERENCES: .....</b>	<b>34</b>

# 1 Executive Summary

In today's dynamic world parents are often challenged when kids attain the teen age as they get overly exposed to bad habits easily due to the nature of world we live in. Common bad behaviors include the influence of Drugs and Alcohol. The problem gets multiplied when teenagers get to drive when they are under the influence of alcohol. It is generally acknowledged that the greatest risk of traffic crashes is among teenage drivers. Traffic crashes are the leading cause of death for teenagers across the United States. How many times we have read or seen in TV about the young and precious lives lost due to driving under the Influence of alcohol. It can be a heart breaking scenario to see children die in front of parents at the young age. Can we prevent this? If so can it be done at the minimal expense for the parents, and at the same time put a preventive measure on the teenagers when it comes to driving under the influence of alcohol?

Ignition Interlocks had been there for several decades and have gained significant importance to control drunken driving. They have grown to a level today maturing as reliable products to address DUI convictions effectively. They have a model in which they address the problem of repeat DUI offenders in coordination with the Law enforcement agency. One issue with the current approach is, it offers a reactive solution for a problem which already occurred once, but prevents in future. We are looking at a model by introducing the product to parents of teenagers by proactive installations on teen agers cars before any accidents happen.

In this Marketing Plan we are introducing Automobile Ignition Interlock to the parents of teenagers. Our product LifeSafer ignition interlock is already deployed successfully across the nation for the market of DUI violators. Based on our face to face interviews to understand the Customer requirements and the extensive research methodology we deployed narrowed us to finalize this product. In this Marketing plan, we introduce the product to our identified market segment, the value it brings to our customers, competitors of LifeSafer, the flexible pricing model and finally our promotion strategy are all brought out in a sequential manner. We are very confident that this product has a good potential in the untapped market of parents of teenagers and this Marketing plan would be an eye opener for LifeSafer to step in and capture the new market.

## 2 Situation Analysis

### 2.1 Introduction

For at least a score of centuries, alcohol has come to a product that has provided a variety of functions to humans [1]. The abuse of alcohol has been known for many eras. It becomes quintessential to fight the abuse of alcohol, especially DUI (Driving under influence). Though prohibitory laws have been enacted since 1650's in various forms and different length, it appears that the ill-effects of actions under influence have not been rightly perceived by the consumers. As far as DUI/DWI is concerned, though the law does intervene in limiting and preventing driving above a particular BAC (Blood Alcohol Content), the chances of getting arrested for driving with an illegal blood alcohol concentration (BAC) is 1 in 50 or less [2]. The effort to drive safe for the sake of the self and for the safety of the others in this nation should go beyond traditional enforcement. Only then would there be self instituted deterrents for potential DWI offenders before they become one.

### 2.2 Problem Analysis and Statistics

It is to be noted that during year 2005[2], there were about 15000 deaths from accidents where one or more of the drivers had some measurable BACs. Of these 13452 deaths were directly attributable to heavy alcohol intake only. Appendix A below shows the number of lives that could be saved with proper measures in place to curb drunk driving.

A research study by the Pacific Institute for Research and Evaluation estimates that if nobody drove with a BAC any higher than 0.04 percent, nearly 15 to 26 percent of crashes between 4 pm and 2 am could be prevented [3]. While in 2007, there were 41259 motor vehicle related fatalities of which 13041 were from alcohol impaired driving (32%), there were 37261 fatalities in 2008 of which 11773 were from alcohol impaired driving (32%) [4]. The year-wise number of fatalities due to BAC as in Appendix B below, shows that higher the BAC, the more the chance that the crash could result in a fatality. The appendix also shows that the number of drunk male drivers overshadow the females.

Of the alcohol related fatalities listed above, the contribution to those that were fatal from the teenagers' segment is as follows [5]:

Year	Total Young Drivers Involved		Drivers Involved by their BAC Level			
			Any Alcohol (BAC 0.01+)		High Alcohol (BAC 0.08+)	
	Number	Rate per 100K Young Drivers	Number	Rate per 100K Young Drivers	Number	Rate per 100K Young Drivers
1999	8187	64.71	1772	14.01	1368	10.81
2000	8224	63.83	1932	15.00	1496	11.61
2001	8166	64.84	1885	14.97	1444	11.47
2002	8325	66.39	1913	15.25	1460	11.64
2003	7884	63.37	1861	14.96	1466	11.78

Following up on that, the number of fatalities in the age group 16 to 20 (for both sexes together) for the years 2004 and 2005 amounted to the following [6]:

<b>Age Group 16-20</b>				
<b>Year</b>	<b>2004</b>		<b>2005</b>	
<b>BAC</b>	<b>Num</b>	<b>% of total crash fatalities for the age group</b>	<b>Num</b>	<b>% of total crash fatalities for the age group</b>
BAC 0.01	1772	23%	1518	21%
BAC 0.08	1397	18%	1198	16%

The total number of lives saved in the age group 18 to 20 varied from 927 in 2004 through 714 in 2008 when Governmental measures like minimum age were mandated [7].

Lower age groups, either because of their ignorance, peer pressures, or family influences, have evolved to become more worrisome [8]. The drinking habits in the teens seem to manifest as heavy drinking in the twenties, an alarming trend indeed per the “Results from the 2008 National Survey on Drug Use and Health: National Findings”.

The effects of alcohol on teenagers’ driving abilities are not just confined to the drivers, but to the passengers who also travel with such teenagers. It would be pertinent to note that nearly 31% of the young drivers, 27% of the young passengers and 41% of the other youngsters were fatally affected in crashes that had a young driver. Nearly 64% of the young drivers were in the age group 15-20 [9]. Appendix F shows the related information. It would also be pertinent to note that costs per person in motor vehicle crashes have risen from \$642700 in ‘94 to \$1.1M in Y2K per fatality, and in the case of a critical injury from \$563000 in ‘94 per person up to \$1.2 M maximum.

The percentage of students who use alcohol - Grades 9 to 12 [10] youth in the years 2003 through 2009 is detailed in Appendix I. It is disturbing to see that there is an access to alcohol at such a young age. Data shows that 14% of U.S. high school seniors surveyed said they drove under the influence of alcohol. As seen before, the parents seem to influence the teens more when it comes to their habits at home as well as in driving and it would be incumbent on every parent to ensure that there are sound habits as well as safeguards to ensure the safety of not only their teen children, but also the well being of the other passengers and non-occupants as well.

There is bound to be this question. Why are we looking at all this data on alcohol consumption and youngsters? What are we trying to address?

The forthcoming sections would deal with

- Listing the measures that are currently in place to prevent the much unwanted alcohol related crashes among the US population in general, and more particularly youngsters
- The most viable option currently available on a commercial basis
- The plan that we could adopt to market the product chosen so that it can benefit not only our , organization, but also address the voices of the customers of the product.

## 2.3 Problem Solution

It would be pertinent to see what measures are in place to prevent these unwanted losses to lives. These would include:

- a. The policy to revoke the offenders' licenses on the spot without a court conviction (this saw a reduction in the crashes),
- b. Sobriety checkpoints do reduce fatal crashes, but these are not widely conducted [11] and depend on the number of affordable officer counts, funds etc.,
- c. Alcohol interlocks
- d. Graduated licensing laws in the United States do attract good support from the parents of the teenagers. (as happened in California)

Among these, the ignition interlocks seem to offer some promise that the teenagers, more so, their parents. Looking at the total number of motor vehicle trips, those that were driven under influence, and the number of interlocks in use, it would seem that there is at least a high potential for ignition interlocks to play a role in the reduction of alcohol related crashes and injuries.

## 3 Market Analysis

### 3.1 Market Size

As per the statistics provided in the previous sections, we see that drunken driving is a major problem in US and laws to stop it are not very strict. As per 2006 data, there are 135 million cars/personal vehicles in US. On average, someone is killed by a drunk driver in the US every 40 minutes. A total of 41,059 total traffic fatalities were recorded in the US in 2006. Of those, an estimated 12,998 (over 31%) were drunk drivers (Blood Alcohol Concentration above .08) [12].

Our product- Ignition interlock System (commonly also called as Breathalyzer) can help reduce the no. of accidents and save lives on the road. We are not in the business of prohibiting drinking, but we can definitely help the society in habit of safe driving. Breathalyzers can help the drivers in judging whether they are fit to drive a car or not.

Our company is already in the business of selling and installing Ignition Interlock Systems / Breathalyzers. We are exploring new markets to increase our sales and at the same time be a responsible corporate citizen.

We are doing marketing analysis only for US. In US, cars are a major transport system. Public transport is nonexistent in many of the states. Under peer pressure and desire to be independent, teenagers like to get drivers license as soon as they attain the age of 16 years. They are also under pressure to drink and enjoy life. When drinking and driving are mixed, this is what causes the major problem. We analyzed that problem of drunk driving is more acute in US due to a large no of cars and commercial vehicles.

Problem of drunk driving also exists in European nations. But many of the European countries have a good public transport system. Majority of the people use buses/rails to drive to work and markets. Families have only one car instead of one car per individual. Although drunk driving is a problem, but stringent laws and good public transport stop people from combining drinking and driving.

Therefore, to start with, we are only analyzing the US market. Once we are successful in US, we will explore market in other countries.

## 3.2 Market Segments

### DUI Repeat Offenders

As of 2009, almost all the states in US have laws permitting the imposition of ignition interlock devices as sentencing alternatives for drunken drivers. State DMV offices enforce installation of breathalyzers for DUI offenders. Installation of Breathalyzers reduces the fines and punishment. DMV Office monitors the use and data of Breathalyzers. Four states have already enacted laws that after a 2<sup>nd</sup> DUI, breathalyzer installation is mandatory. Many companies selling Breathalyzers are already targeting this market segment. These companies have preferred vendors status with the DMV. We feel that this segment is already crowded as majority of the competitors are already focusing on this segment.

### Rental Car Companies

We surveyed Rental Car Companies like Hertz, Avis and Enterprise. As these companies operate for profits, they do not want to interfere with the problem of drunk driving. Consumers are responsible for any liability and it is not possible for them to check driving records for every consumer. They are not interested in interfering with DUI related policies.

### Commercial Fleet Customers

As per statistics from year 2006, there are 8.8 million commercial freight vehicles in US. No of Light Trucks in the country are 9,205,813

The fleet segment includes larger national or regional companies that necessitate eight or more vehicles as part of their business services. Typical fleet customers include car/truck rental companies, delivery companies, and government organizations and municipalities. Fleet use is a good test opportunity for new technologies and benefits because the heavy use model encourages revelation of technological failure on a much more rapid time scale.

Fleet customers already have their safeguards in place to check drivers for drugs and alcohols use. Fleet users like FEDEX and UPS need to maintain a discipline among their driving staff. They cannot afford to have drunk drivers delivering packages to consumers. Although Fleet vehicles is a huge market, but drunk driving is not a major problem area for these commercial vehicle operators.

### Parents of Teenage Drivers

Safety of their teenagers is first priority for parents. Kids in US want to get drivers license moment they turn 16. And the parents worry starts. If they give a car to a teen to drive, their insurance rates go up – as also their stress. Teens mostly operate under the peer pressure. Drinking and Driving is pretty common as this is a form of entertainment.

Parents of teenage drivers have a compelling reason to ensure safety of their kids on the road. **It is not possible to control drinking completely, but it is possible to avoid drinking and driving. This is where we will use our beachhead strategy. Parents of teenagers are our target market.**

There are 21 million teens in US and out of which 9.9 million drive. Although some of the teens buy the car themselves and live separately, majority of the cases, parents provide a car and buy insurance for their teenage kids. In the case of this market segment, buyer of the product is different from the end user of the product. Therefore, we also analyzed how many households/families live in the US. Data shows that there are nearly 115 million families in US – out of which 84 million are with children from birth until 18 years of age. But question arises – how many families with teenagers??



We ran into one more difficulty here. We do not know how many teenagers in a family and out of that how many drive their own car. In this market segment, it is very common for teenagers to share a car. Families can have 1-5 teenagers.

For sake of simplicity, we are working on an average. Among the families with the kids, 2 teenagers share a car with one of the parents or amongst themselves. The market segment analysis section shows that there is a potential to market the product to the parents of at least 4.95 million car drivers in the teenage segment.

From other available data, we could ascertain that alcohol was a major contributing factor for teenage deaths. (11.9% of crashes nationally during the seven years from 2000 through 2006). In 2006, more than 19% of drivers ages 16 to 20 who died in motor vehicle crashes had been drinking alcohol. Of the 1,746 traffic fatalities among children ages 0 to 14 years, 19% involved alcohol impaired drivers. It would not only be prudent, but also pertinent that the concerned parents of the teenagers would be a major area to be concentrated upon.

### **3.3 Market Research and Target Market Selection**

According to the National Highway Traffic Safety Administration, whom we approached, there were about 9.9 million teen drivers in the US. Also according to the National Household Travel Survey from the US Department of Transportation, there were nearly 2.18 vehicles per household in 2001.

According to the population estimates from the US Department of Commerce (Bureau of the Census), there were nearly 2.53 people expected per household in 2010. They also predict 115 million households in all in 2010. Of this about 62.2% of the households are family based households where 19 million 15 yr -19 yr olds live, and 9.9 million are teen drivers. From the above fact that there are 2.18 cars on the average and therefore, it means that there is a potential for at least half (the second vehicle of the household being shared between the teenager and one other parent, say), that is, 4.95 million drivers to have in their cars the ignition interlock. However, the adoption rate to begin with, would probably be around 3% of the 4.95 million teenagers, as a pragmatic estimate, increasing with acceptance and sales expenditure entailed.

## **4 Customer Analysis**

### **4.1 Compelling Reason to Act:**

#### **Safety:**

As it is already mentioned in the previous sections that motor vehicle crashes remain the number one cause of death among youth ages 15-20. There were 7,460 youth motor vehicle deaths in 2005 (which include both drivers and passengers) [13][2]. Drivers aged 15-20 are accounted for 12.9 percent of all the drivers involved in fatal crashes and 16 percent of all the drivers involved in police-reported crashes in 2006 [14][1]. Teen driver at the wheel, under influence of alcohol can cause serious damage not only to themselves but other teen passengers as well in the car. The accident and fatality rate is nearly doubled in those situations.

The 2000 NHSDA showed that among youth aged 12 to 17, rates of past month alcohol use were higher in rural areas than in large metropolitan areas. Greater parent involvement, setting driving rules and parental supervision are associated with less risky teen driving behavior. Crashes were one-seventh as likely to occur and traffic violations were one-fourth as likely to occur among teens with strong parental monitoring [15].



***Not all Drunken Driving Accidents end in murder:*** This statement can be best explained with example of ***Jacqueline Saburido***. She was taking a break from college and industrial engineering classes when she came to the United States from Venezuela to study English. A drunken driving crash changed her life completely. Reggie Stephey, an 18-year-old high school student, was on his way home from drinking beer with some buddies. He struck the car carrying Jacqueline and three other friends. Two died on impact and Jacqueline and one other survived [16][3].



#### **Insurance benefits:**

Voluntary use of an ignition interlock device sends a message to insurance companies that you're serious about avoiding drinking and driving and won't pose an unacceptable risk. The voluntary installation of an ignition interlock installation may help to negotiate a favorable plea bargain or facilitate the driver's release from custody while the case is being resolved. An ignition interlock device is an insurance policy for parents of high school and college-age drivers that guarantee that the car won't be driven if the driver has been drinking [17][4].

#### **4.2 Interview Methodology:**

Our team took interviews of parents of teenagers and based on them we were able to analyze the customer voices. From the interviews we identified the requirements of the customer so that we could clearly define broad areas of expectations the product should meet. After identifying the requirement, we identified the high level categories and various products' performance related concerns. Subsequently the features of the "Life-Safer" providing solution to respective requirement were identified and are listed in the following table.

#### **4.3 Voice of Customer To Solutions:**

<b>Category</b>	<b>Requirement</b>	<b>Solution</b>
<b>Safety</b>	The product shall have the ability to stop a drunken person, having alcohol content more than allowed from driving.	<ul style="list-style-type: none"> <li>• Ignition Interlock device.</li> <li>• Timed-Lockout</li> <li>• Violations Reset</li> <li>• Vehicle Restart</li> </ul>
<b>Reliability / No of Attempts / Tamper-proof.</b>	The product shall guarantee the accuracy of the reading, in not more than one attempt.	<ul style="list-style-type: none"> <li>• Bypass Detect</li> <li>• Events Log</li> <li>• Random or Fixed Retest</li> </ul>
<b>Economic Value</b>	The product shall be affordable for almost all social classes of people.	<ul style="list-style-type: none"> <li>• LS-Auto Plus</li> <li>• Quite aggressively priced as compare to competitors.</li> </ul>

<b>Insurance Benefits</b>	The product shall enable the insurance benefits to those who are volunteering for installation of this device.	<ul style="list-style-type: none"> <li>Partnership with insurance companies like Liberty Mutual.</li> </ul>
<b>Low Maintenance Cost / Power Consumption</b>	The product shall have minimal cost of maintenance/calibration.	<ul style="list-style-type: none"> <li>Service Reminder Reset</li> <li>Partnership with companies who provide services like oil change for timely calibration.</li> </ul>

## 5 Competition Analysis

### 5.1 Know your Competitor

Breathalyzer products are available from various companies across the nation. Since the current market caters towards addressing the issue of DUI violations, most of the Companies who produce Breathalyzers work out a program along with the DMV for the user, and educates the user about the program during the installation. The program starts with a Certified Installation, followed by monitoring and reporting of Driving History of the user during its use and finally successful completion of the program will result in the Un-Installation of the product. It is important for us to know the kind of process being used by Companies in the current Breathalyzer Market.

Since the primary Market segment of ours is focused on parents of Teenagers, we wanted to look at a reliable product. Looking at the current pattern of how Breathalyzers are deployed, we understand having a product acceptable across the country is little bit difficult, due to the product not cheap as well as State Laws are different in every state. There are lots of Companies sell Breathalyzers but they restrict their segment only to a particular geographic location. Since Life Safer has a much bigger distribution network and it can be deployed anywhere within the country, we want to look at Competitors who can effectively deliver not only all of the important Parameters above in a Cost Effective and Efficient Manner, but also should have wide distributed network across the country. Based on the above parameters, we have selected 2 products which are considered as a competitor for LifeSafer. The Determinator from BestLab and BAID from Intoxalock are the competing Products for Lifesaver. Both of these products are currently addressing only the segment of DUI Violators. We can only look at these 2 competitors from the perspective of how their product performs comparatively with ours, what kind of a distribution network they have compared to LifeSafer, the fixed and variable cost involved for the usage of the product and finally how all of the above contributes to the product value from the point of view of the customer.

### 5.2 Benefit and Cost Analysis

C.V.D	FC100 (Our Product)	BAID Competitor A	Determinator Competitor B	Comparison among Product, A & B
<b>BENEFIT</b>				
<i>Technical</i>	The number of attempts for testing before every drive can be preset.	Feature not available	There is no limit on number of attempts..	Our Product : Best  Product A: Doesn't have the feature.  Product B: Better
<i>Economics</i>	Monthly Cost is 29.99\$ and also, covers Installation fee. Cannot	Monthly Cost is \$78. Installation fee is 110dollars. Can be Purchased for \$1595.	Install Fee \$130.  Monthly \$65.	Our Product : Best  Product A: Better

	be Purchased.			Product B: Good
<i>Emotional</i>	The protection it gives the Teenagers resulting in Peace of Mind for their Parents. Distribution Network with a good support model ensures the Product is monitored all the time.	Parents feel comfortable.	Parents somewhat feel comfortable as they do not get to visit the Dealers, instead every month they get a calibrated product and they have to mail the current one..	Our Product: Best. This because it performs in an astonishing manner; Great Support Team.  Product A: Good  Product B: Better
<i>Network</i>	We have the more chances to attract more students from the students' communities with the existing users.	Not looking at Teenage Segment.	Not looking at TeenAge Segment.	Our Product : Better  Product A: NA  Product B: NA
<b>COST</b>				
<i>Monetary</i>	Price is within range of competitor products but more portable and reliable.	Can be Purchased at a high price (1535\$), but have a high Installation Fee (\$130)and Monthly recurring (78)Fees. .	\$65 recurring fee monthly is relatively ok, but also have a Installation Fee of \$110.	Our Product: Best.  We are offering at a low recurring feet to allow us gain market share. And we are offering without any contract, so this is the way that we can attract more Parents to buy the product for their Children.  Product A: Good  Product B: Better
<i>Troubles</i>	Teenagers can take the car to the closest dealer at any time to check the product for any Malfunction..	Product can be taken to the nearest dealer.	They have to wait for a new product to be shipped in the event of a Malfunction.	Our Product : Best  Product A: Best  Product B: Good
<i>Risks</i>	Since the Product is used in the leased model, anytime if it malfunctions it can be replaced..	They are offering three year Guarantee	Product can be replaced for any malfunction but it has to reach by mail.	Our Product : best

### 5.3 Quantifying the Product

The Product value was determined as a Team Activity. We took the help of a Comparison Chart with Top Five requirements. Once we defined the Top Five requirements, we derived the weights of the requirement with a Pair wise comparison chart. A scale of one to five, 5 being the best, was used on each product under particular evaluation criteria. LifeSafer's F-100 did well mainly due to its performance, reliability and supportability from the Company.

**Table 5. Product Value Index Derivation**

Requirement	Weight of the requirement	FC-100	BAIID	Determinator
Product won't give false positives	0.25	5	5	1
Product start time should be low.	0.10	5	4	3
Product shall have retest function programmable	0.05	5	1	1
Product shall come with low monthly payment.	0.35	5	2	3
Product should be supported with extensive distribution network	0.25	4	3	4
<b>Product Value Index</b>	<b>1.00</b>	<b>4.75</b>	<b>3.15</b>	<b>2.65</b>

## 5.4 Inference

It is clear from the Competitors analysis that there is no viable competition for LifeSafer in the segment of parents of teen drivers. Moreover the requirements of the Customer from our Survey match the product specifications more than any other Competitors product. At this time from the Competitive analysis, LifeSafer has a very good opportunity to capture the market. However, as the market matures and with awareness about the availability of the product reaches the parents of teen drivers and if appropriate action of law enforcement making Ignition Interlock as a mandatory product will increase healthy Competition. The threat of new entrants can be from Automobile Manufacturers in installing this product by default in every vehicle. Companies like Volvo are already installing Ignition interlocks for Commercial Vehicles. More Automakers would follow suit. However LifeSafer being in a much better stage to provide support, would then automatically become the Alliance Partners for those Auto Manufacturers.

## 6 Business Overview

LifeSafer Interlock was formed in July 1991 by surviving pioneers of ignition interlock technology and programs stemming back to the first state initiated pilot program by the State of California in 1986. LifeSafer and its independent Service Provider partners in the Interlock business have been largely responsible from the industry-side in driving the market by developing and advancing legislative initiatives at the Federal and State levels, technological standards and Program regulations, hardware and software products for the industry to emulate and most extensive distribution and service network in the United States.

## 6.1 Product Design and Features

The FC100 is an alcohol-specific device only responding to the presence of alcohol. It is designed to meet and exceed technical guidelines for Breath Alcohol Ignition Interlock Devices published April 7, 1992 by NHTSA (National Highway Traffic Safety Administration) [18].

The LifeSafer incorporates these design elements: *Ergonomics, Simplicity, Reliability, Specificity, and Anti-circumvention*. The following features are software programmable:

### **Hum Tone:**

Requires client to deliver a hum resonance while blowing the alcohol test prior to starting the vehicle. Deters techniques utilized to mimic human breath or to absorb alcohol.

### **Random or Fixed Retest:**

The client is alerted and given a grace period to retest after the vehicle is put into the run state. The test can be delivered while operating the vehicle. Breath test refusal or failure is recorded and sanctions are imposed, including honking of the car's horn. Deters drinking after completing a sober start and vehicle idling at bars.

### **Timed-Lockout:**

The LifeSafer can be programmed to accept a breath test during specified times and otherwise remain interlocked. Restricts driving hours and allows for the device to be temporarily used as an immobilization tool.

### **Bypass Detect:**

If a breath test is not passed within a prescribed period of time after the vehicle is put into the run state, the horn will begin honking until the vehicle is turned off or a breath test is successfully passed. All events are recorded. Deters hot-wiring and push-starting of vehicles.

### **Events Log:**

A built-in memory chip records all events associated with the use and /or misuse of the device. Reports are generated through a Personal Computer in a summary and complete hard-copy format.

### **Violations Reset:**

If the pre-determined number of violations occurs during a monitoring period, an early inspection is required. Failure to report will result in immobilization of the vehicle. Violations are quickly identified and reported to the jurisdiction.

### **Service Reminder Reset:**

Reminds the client of a scheduled monitoring check. Failure to have the device monitored within the scheduled time period is a violation and results in a device lock-out.

### **Power Interrupt:**

A dated record of when the 12 volt power has been disconnected or interrupted. The device maintains memory through an onboard back-up lithium battery. This condition (other than Tampering) can occur when a vehicle's battery is disconnected due to repairs or is replaced. Clients are required to provide documentation of repairs.

### **Vehicle Restart:**

In the event of a vehicle stall, the driver has a grace period during which the ignition can be turned off and re-engaged without having to submit an additional breath test.

**Emergency Bypass:**

If the Bypass is invoked, the client must return to the service location before the vehicle is immobilized. Proof of an emergency is forwarded directly to the referring agency. Service Centers may be pre-authorized to invoke the Emergency Bypass in the event of a device malfunction.

**Required Calibration:**

A feature that if set will not allow a service center to reset the interlock device without first conducting a computer controlled calibration if a specified period of time has elapsed since the previous calibration.

**Early Service Recall:**

Is a feature that will require the operator to return to the service location within a specified period of time should the device detect that the alcohol sensor may be ready to fail.

**LS-Auto Plus:**

LifeSafer licenses proprietary software that controls the programming of the device and guarantees integrity of the information that is extrapolated from the EVENTS LOG. LS-AUTO PLUS is an integrated, software package that controls inventory, accounting and reporting for the Service Provider.

## 6.2 SWOT Analysis – Ignition Interlock Systems

<b>STRENGTHS</b>	<b>WEAKNESSES</b>
(1) We are already in this business and understand the industry and product.  (2) We have a reliable Product.  (3) Many NGOs working in this area is a big advantage for marketing of the product.	(1) Company does not have a good advertising experience as all earlier sales were through law enforcement.  (2) It can be difficult to change the mindset of teenagers. If they view the advertising in a negative sense, that will be bad for our communication strategy.
<b>OPPORTUNITIES</b>	<b>THREATS</b>
(1) Huge untapped market – Safety is a big concern for this segment.  (2) Pending Govt. regulation can provide a boost in crossing the chasm quickly.	(1) Built in Ignition Interlocks as an option in the new cars have to be partnered with carefully otherwise they can penetrate to our target market.  (2) Competitors also have the product. If they also start offering the service to our target segment, market will become crowded soon.

## 6.3 Value Proposition

Value proposition of the Lifesafer ignition interlock is to address the features and value driver to the target market which are the parents of the teenagers. It is a superior and smarter design version of product in market. Ignition interlocks will be helpful in avoiding the cost of any possible accident that could happen due to a drunken teenager. LifeSafer's ignition interlock brand indicates that both the company and product are created in keeping the safety of the driver and other's on the road in mind.

The users of Lifesafer interlock will be able to get discount from insurance agencies. It is not only helpful for parents but also for teenagers who have a higher cost of insurance.

## 6.4 Product Experience:

This product is built on keeping safety in mind as well the ease of use. This product will be helpful for parents knowing that the car and teenager is driven in safer hands. For user it will be a simple to use product.

## 6.5 Brand Identity:

In order to establish the brand identity LifeSafer Interlock, Inc., is a closely-held, private company and all of its shareholders are or were actively involved in the Interlock industry. A couple have passed on, Mr. Robert "Bob" Krominga and Dr. Donald Collier - the original inventor of the Breath Alcohol Ignition Interlock Device.

## 6.6 Alliances and Partners:

In order to market this product successfully, Lifesafer would use the already established channels in most of the U.S. States. We will also partner with wholesale dealers like Costco, NAPA, Baxter's, etc. These places will have trained technicians who will be licensed to install the device in the teenagers' cars. For calibration of the breathalyzer the oil change services Oil can Henry, Jiffy lube will be partnered. These places will also service and maintenance of the product. We will also partner with the auto dealers and their servicing departments who can install Lifesafer ignition interlock on used car sale for parents buying it for teenagers. The NGO's for teenager's safety such as drug free America will also be partnered for easy access of this product. Liberty Mutual will also be partnered to provide discount that they offer on breathalyzers.

# 7 Marketing Strategy

## 7.1 Pricing

Pricing is one of the most important elements of the marketing mix that generates a turnover for the organization. The remaining 3p's are the variable cost for the organization. It costs to produce and design a product; it costs to distribute a product and costs to promote it. Price must support these elements of the mix. So pricing is a difficult aspect to handle it should reflect relationship between demand and supply. Also pricing element is easiest to adjust as compared to other elements in the marketing mix. The pricing strategy portion of the marketing plan involves determining how you will price your product or service; the price you charge has to be competitive but still allow you to make a reasonable profit [19].

Pricing strategy is very important factor in building a long term relationship with the customer.

So the key aspect here is selling value not the product/price. The keyword here is be reasonable" you can charge any price you want to, but for every product or service there's a limit to how much the consumer is willing to pay. Your pricing strategy needs to take this consumer paying capacity into account. Pricing a product too high or too low could mean a loss of sales for the organization. Pricing strategy is very important factor in building a long term relationship with the customer. Pricing for our product Lifesafer FC100 will depend on



Pricing should take into account the following factors:

- 1) Competitive Pricing:
- 2) Perceived value of the customer:
- 3) Target group and willingness to pay:

### Competitive Pricing:

There are many competitors in the market catering to the DUI offenders and people willing to install breathalyzer. But our company is focusing on the Teenager's parent segment which is relatively new segment.

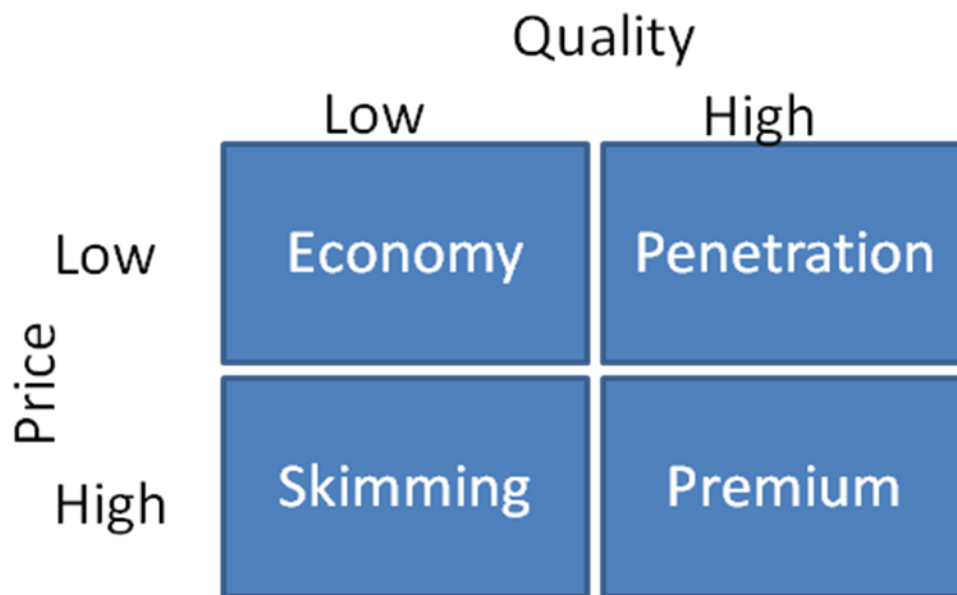
Perceived value of the customer /targeted segment:

Here perceived value of the targeted segment is the safety of the teenagers for the Teenager's parents.

Target group's willingness to pay: As per the surveys conducted by our team the target group is willing to pay monthly fee of \$30-\$40. So Our Company would be targeting to price the product around this range.

LifeSafer's target segment is teenager's parents so there are many pricing strategies which can be employed. Based on the objectives the company wants to achieve the pricing strategies that can be employed are given below.

- 1) Penetration pricing: organization sets lower price to increase sales and market share.



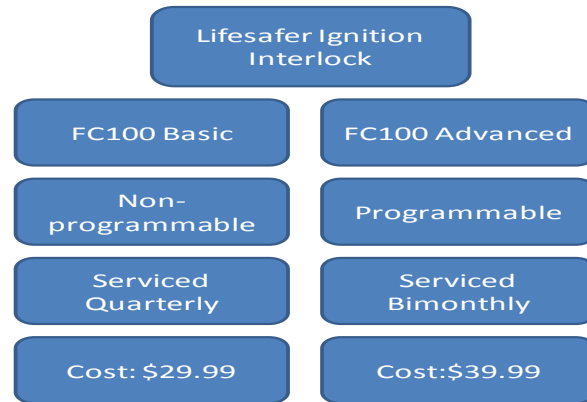
## Pricing Strategies Matrix

[www.marketingteacher.com](http://www.marketingteacher.com)

Lifesafes would be employing penetrative pricing strategy. Penetration pricing pursues the objective of quantity maximization by means of a low price. It is most appropriate when Demand is expected to be highly elastic; that is, customers are price sensitive and the quantity demanded will increase significantly as price declines. There are disadvantages of implementing a penetration pricing strategy is the likelihood of competing suppliers following suit by reducing their prices also, thus nullifying any advantage of the reduced price. A second potential disadvantage is the impact of the reduced price on the image of the offering, particularly where buyers associate price with quality. These disadvantages can be taken care by

re-evaluating our pricing strategies at regular intervals and also by portraying a positive image of the company through branding. So based on the strategies discussed Lifesafer Inc decided to come out with two versions of our product FC100 basic version and FC100 advanced version. Lifesafer FC100 Basic version would be priced at \$29.99 without customization feature and FC100 advanced version would be charged \$39.99 with the option of customization feature.

### **Two Versions of FC100.**



Pricing strategy for Lifesafer FC100 is based on paying capacity and willingness to pay by the targeted segment of teenager's parents. So as per the surveys conducted we came to know that the targeted segment was only willing to pay for this product only if this was priced between \$30-\$40. So Lifesafer decided to come up with 2 versions of the product FC100 basic and FC100 advanced catering to the needs of lower end of the segment price range and upper end of the segment price range. So Lifesafer FC100 would be priced at \$39.99 and \$29.99 for FC100 advance version and FC100 basic version respectively as per the paying capacity of the target segment which includes other charges like installation charges, upfront charges and calibration charges. This strategy also employs psychological pricing of keeping the price below \$40 [20].

### **Positioning:**

Positioning is used as a communication tool to reach target customers. Positioning is a process of creating brand identity or product identity by the marketer in the mind of the target customers. The product Lifesafer FC100 would be positioned to cater to the needs of Teenager's parent segment. In terms of positioning the product Lifesafer FC100 the company is looking at creating an image of Lifesafer dealing with the problem of drunken driving which provides the benefit of saving teenager's life. And also get benefits of possible reduction in Insurance costs. The product by itself provides a sense of responsibility to the user and sense of contribution to a social cause [21] [22].

## **7.2 Differentiation**

Lifesafer FC100 is based on fuel cell technology giving reliability and accuracy to the product. The number of attempts for testing before drive can be preset which is customizable feature. Cost differentiation based on cost as Life FC100 is offering the lowest price of \$29.99 and \$39.99 for FC100 basic and FC100 advanced respectively available in the market. The cost includes cost of installation and other charges. Cost gives us a major advantage in launching the product and capturing major market share in a short period of time. Portability is one of the unique features of our product as the device is portable and small. We are

looking at offering the best after sales services including calibrations testing. One of the unique features of the product FC100 is the low startup time. Many of the devices available in the market have greater startup time as compared to our product FC100. Life saver has the authorized centers all over the country which makes it easier to get service across the country. The Product FC100 is programmable as per the user specification or requirement. Most of the products have agreement for 6 months and we are looking at the strategy to provide the device for voluntary user on no-commitment basis. So even if the customer wants to discontinue the service he can do that without any early termination fee. This gives an edge in customers wanting to try our product.

### **7.3 Promotion Plan**

The promotional plan for the LifeSafer FC100 breathalyzer is one of the most important parts of the marketing plan. By introducing this product to a new market segment, the product will start at the beginning of the technology life cycle again and need to cross the ‘Chasm’ before it will be widely accepted. Previously only used in the commercial or convicted DUI markets the FC100 breathalyzer will need to be positioned as a consumer product to succeed in this market.

#### **Promotion Objectives**

The promotion objectives for the LifeSafer breathalyzer are two-fold:

1. Demonstrate to parents that the LifeSafer FC100 Ignition Interlock is the best option for making their teenagers safe from drunk driving. Parents will be the buyers of this product so it is important to show the value.
2. Promote the product to teenagers to increase the acceptance of the device installed in their vehicles. Teenagers are very concerned with social images so the device needs to not appear “uncool”.

#### **Promotional Themes**

The overall theme of the product launch in this new market is family safety while still giving teenagers freedom to go out. LifeSafer Interlock has not invested in marketing themes or slogans to date but with this plan to enter a consumer market it will be important to get the right messaging. The message should convey the core values of the product – reliability, safety and cost value.

#### **Promotion Strategy**

There are several promotion strategies to accomplish the objectives. These strategies are:

1. Partnering with organizations to hold safety seminars and workshops at high schools, a type of safety road show for teens. Organizations such as ‘Above the Influence’ and ‘SADD’ already have presence in schools and would be ideal partners for school events.
2. Create a web site that explains the use of the product, installation and service locations. Linked from that site will be a portal to a site targeted at teenagers.
3. Work with insurance companies to offer lower premiums to teenage drivers with an ignition interlock installed. Just as including seat belts and airbags in a vehicle decrease the insurance premium, the ignition interlock should also decrease the premium.

#### **Advertising**

LifeSafer won’t directly advertise for the ignition interlock, instead they will work with Above the Influence, The Department of Transportation, and National Highway Traffic Safety Administration (NHTSA) to highlight their product. Advertising will include posters for schools and TV commercials. The goal of the ads is to remove the negative social stigma of having the breathalyzer installed in the vehicle. The tagline “Friends don’t let friends drive drunk” proved to be instrumental in the 30% decrease DUI fatalities in the 90s and will continue to raise awareness with future generations. (Ad Council)

Two types of ads will be created for television. The first will be simple testimonials from celebrities, athletes, or other performers that are widely known to the teenage demographic. Some of these testimonials

will include first hand stories of driving drunk without realizing how inhibited they were and how a breathalyzer device would have saved them.

The second type of ad will be a situation commercial. These could depict attractive teenagers leaving a party to get in a car. Once in the car the male driver uses the breathalyzer and fails the test. The female passenger would then suggest they take a walk instead. Another story could involve a group of friends getting into a car and the driver asks if someone else can blow into the breathalyzer because he's had too much to drink. His friends refuse and tell him to get in the back so one of them can drive.

### **Collateral**

LifeSafer will be able to leverage any existing collateral they have for the FC100 breathalyzer to inform families about the product itself but new collateral will be created to promote the benefits parents and teenagers specifically will get from installing this device. Separate brochures will be created for each of the following topics: Statistics discussing teenage DUIs resulting in fatalities, history of safety devices in cars and show breathalyzers are the next step, guide for parents how to discuss the breathalyzer with their teenagers, and a brief guide how to use the device and troubleshooting tips.

LifeSafer will also work with the Ad Council and Above the Influence to create poster ads that can be used in schools and other public places allowed by the ad council.

### **Public Relations**

LifeSafer is already involved in the court systems in 41 states as an approved option for DUI convictions. In states with the most DUI's and largest install base, LifeSafer can contact the local courts and talk to judges or police officers with experience with the ignition interlocks. LifeSafer can then contact the local PTAs and arrange for the court official to speak to the parents about the DUI cases brought before them and how the ignition interlock program helps individuals with drinking problems. Also, LifeSafer could look for individuals that have been convicted for DUI and were helped by the ignition interlock. Personal accounts will make these presentations more powerful.

### **Promotional Events**

Events will be held in high schools in the cities with the most DUI convictions to promote safety among teenagers. These events will be primary method of meeting the second objective. LifeSafer will talk to organizations focused on students making smart decisions such as "Above the Influence" and "SADD". These organizations already have a strong presence in the schools and would welcome the opportunity to deliver their message. By working with these organizations enough vendors/groups besides LifeSafer can be involved to make the event large enough to draw the attention of the local community.

At the events LifeSafer will have live demonstrations of the FC100, video testimonials from the web site and the handouts discussed in the collateral section.

### **Partnerships/Alliances**

Currently insurance companies ask a number of questions about the safety devices installed in the vehicles and the drinking habits of the drivers. LifeSafer will work with AAA and Liberty Mutual insurance companies initially to offer lower premiums to teenage drivers with an ignition interlock installed. If these insurance companies ask about breathalyzers when families sign up and recommend LifeSafer when asked for more information, families will visit the LifeSafer website for more information.

### **Sales Promotion**

To kickoff the launch of the LifeSafer FC100 into this new market, sales promotions will be offered to parents that get the device installed in the first year. Discounts will be offered at the safety workshops in schools and specials will be advertised on the website. LifeSafer will work with service providers to hold

different specials every couple months such as free installation, free calibration for a year, and discounts on the device itself. These sales will help keep the interest in the product during the early adopter phase. Exact details of the promotions will be determined by the finance department once pricing is finalized.

### **Research/Customer Satisfaction**

To demonstrate to potential customers, parents of teenagers, that LifeSafer can deliver the values they are promising some effort will be made to follow up with customers to gather feedback and testimonials. The desired feedback will center on the reliability of the product, the data logging features that enable parents to track their children's usage history and the cost savings of insurance premiums. These testimonials will go on collateral and the website targeted at parents. Little effort will go into getting testimonials aimed at the teenage drivers. It is believed that since the teenagers aren't the buyers of this product it is more important to increase their acceptance of the product and issue of driving drunk through TV ads and face-to-face interaction with other teenagers or celebrities that have teenagers respect.

### **Internet/Web**

The internet has become an important tool for businesses. The LifeSafer website currently has basic information about their product, a training video and some press releases about their product usage for DUI convictions. To enter as consumer market the website will be expanded to include a portal for families interested in purchasing an ignition interlock. This portal will include all the information previously discussed in the promotion plan. Since this product needs to be installed by a professional the product won't be sold directly from the website but it will direct people to distributors that can perform the install. When promotions are offered printable coupons will be available on the website that will be honored at all LifeSafer distributors.

### **Schedule and Time**

The timeline of the promotion plan will be to start showing TV ads and delivering collateral to high schools at the same time the website goes live. This is to raise awareness of the product and get the issue to the forefront of people's minds. After about a month LifeSafer will participate at the safety workshops held in high schools and offer discounts to parents that purchase the product at that time. After the workshops are complete the other promotions will be offered on the website occasionally. The expectation is that word-of-mouth network effects and our preferred insurance companies offering discounts to drive demand for this product.

### **Inference**

The promotion plan is a key part of entering this new consumer market. LifeSafer won't stop current promotional activities targeting the DUI and commercial markets but special effort will be made to enter the consumer market. The focus of the different promotional media will be on family safety and reliability of the product.

## **7.4 Future Growth**

### **New Markets**

The current marketing plan just targets parents of teenagers driving in the United States. As the product established stable growth in the US, LifeSafer will look at other countries to expand. LifeSafer's customer based is currently just in the US but with the lessons learned from all three markets – DUI convictions, commercial vehicles and family cars, LifeSafer will be equipped to enter international markets. Initially, LifeSafer will look at entering markets in Europe, specifically Holland and Sweden. Both these countries have plans to implement mandatory breathalyzer programs in 2010 so the expected increase in demand makes this the ideal entry point.

## Product Enhancements

There will also be opportunity to enhance the breathalyzer product itself. There have been several innovations in this market and as costs come down LifeSafer will examine the opportunity to incorporate these new technologies into their product. Some of these innovations include cordless breathalyzers, breathalyzers that can automatically send logs to an email address and breathalyzers that include GPS capabilities.

## 8 FINANCIAL ANALYSIS

In the Income and Expenditure tables below, we have tried factoring the growth in the adoption rates as well as the Sales revenues from the lease and services accompanying the use of the devices in the segment that is the parents of the teenagers. It is to be borne in mind that the overall strategy of Lifesafer is to lease out the device and earn revenue from the lease and service. That way, there is an option available to the parents of the teenagers in that they need not spend an upfront cost towards purchase of the device.

### 8.1 Income and Expenditure Table

No. of Households with Teen Drivers ~ 50 % of 9.9 million

Total Market ~ 4.95 million

#### **Basic Data**

Monthly Subscription - Basic \$29.99

Monthly Subscription - Advanced \$39.99

Our Purchase cost for the device \$600

Our Installation/Maintenance Expense per Unit per Year \$100

Life of the Equipment = 4 Years ( Taking Straight Line Depreciation Model)

Depreciation Cost/Year 600/4 \$150

Yearly Revenue/ Basic Device 12\*30 \$360

Yearly Revenue/ Advanced Device 12\*40 \$480

No. Basic Units Installed = 50 % of Total

No. of Advanced Units Installed = 50 % of Total

#### **Revenue Calculations**

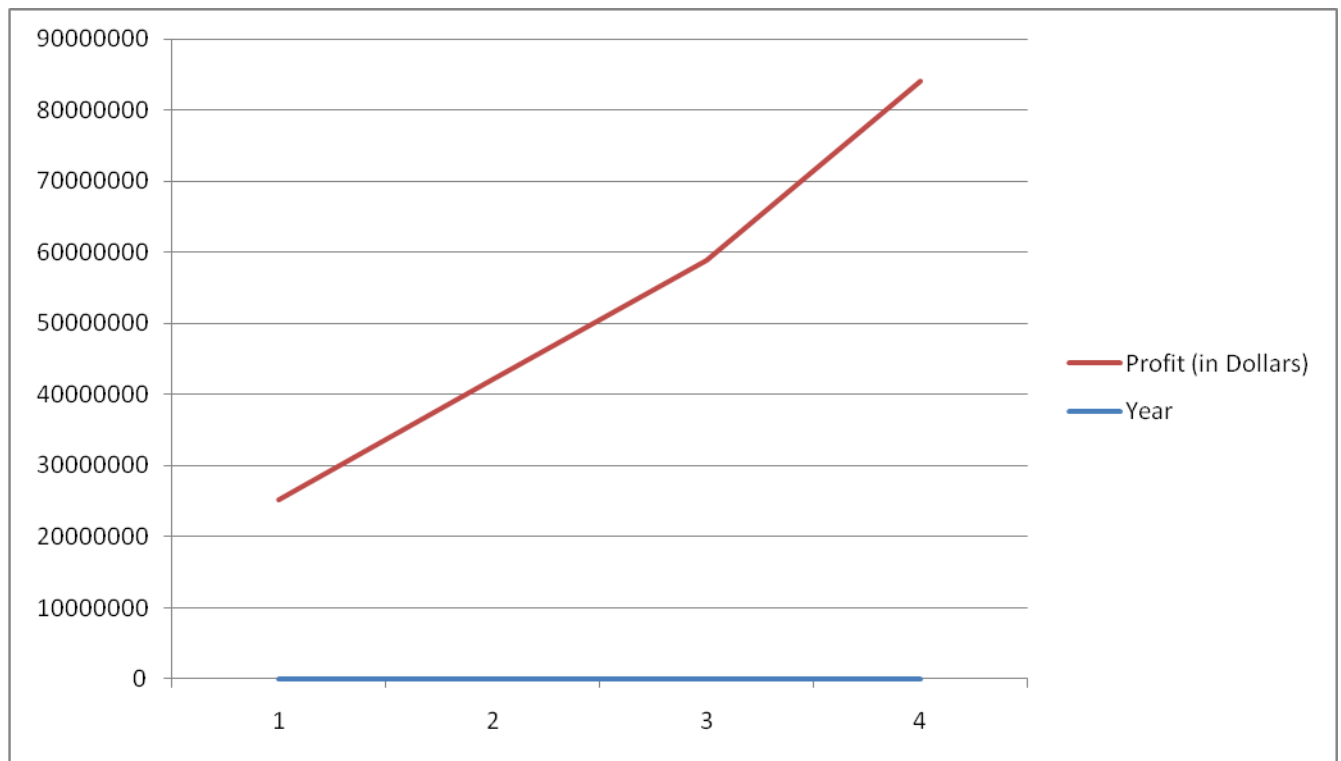
<b>Year</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Adoption Rate	3 % of Total Mkt	5 % of Total Mkt.	7 % of Total Mkt.	10 % of Total Mkt.
Total No. of units Installation	148500	247500	346500	495000
No. of Basic Units Installation	74250	123750	173250	247500
No. of Advanced Units Installation	74250	123750	173250	247500
Revenue/ Basic Unit per Year	360	360	360	360
Revenue/ Advanced Unit per Year	480	480	480	480
Revenue from Basic Units	26730000	44550000	62370000	89100000
Revenue from Advanced Units	35640000	59400000	83160000	118800000
<b>Total Revenue</b>	<b>62370000</b>	<b>103950000</b>	<b>145530000</b>	<b>207900000</b>

### Expense Calculations

Year	2010	2011	2012	2013
Depreciation Expenses	22275000	37125000	51975000	74250000
Misc Fixed Expenses (Admin, Salaries, Travel)	10000000	10000000	10000000	10000000
Installation/Maint/Training Expenses (100 Dollar per unit per year)	14850000	24750000	34650000	49500000
<b>Total Expenses</b>	<b>37125000</b>	<b>61875000</b>	<b>86625000</b>	<b>123750000</b>

<b>Profit Calculations</b>				
Year	2010	2011	2012	2013
<b>Total Revenue</b>	<b>62370000</b>	<b>103950000</b>	<b>145530000</b>	<b>207900000</b>
<b>Total Expenses</b>	<b>37125000</b>	<b>61875000</b>	<b>86625000</b>	<b>123750000</b>
<b>Profit (in Dollars)</b>	<b>25245000</b>	<b>42075000</b>	<b>58905000</b>	<b>84150000</b>

## 8.2 Profit Curve



X Axis

Year

Y Axis

Profit in Dollars

The profit curve has also been plotted and seems to promise a better market, rising with increased awareness from the marketing, advertisement and partnering efforts.



## 9. Conclusion

To help parents of new teenage drivers keep their children safe we are introducing the LifeSafer ignition interlock to this new market. The ignition interlock will be offered at a low price that is affordable to families and breaks down to about a dollar a day. Though there are some challenges in entering this new market, the customer research showed interest in this product. With a strong value proposition and key partnerships the ignition interlock will become an integral part of keeping teen drivers safe.

From our financial analysis, LifeSafer has a great opportunity to yield revenue of nearly \$207.9 million dollar over next 4 years. The net profit before tax is expected to be around \$84.15 million dollars in the fourth year after deducting the total expenses of \$123.75 million dollars. LifeSafer will be able to create and benefit from a blue ocean in the stable teenage driven cars interlock segment. This service based strategy will be able to make a positive impact in the society by keeping the teenage drivers safe and reducing the loss caused to potential drunk driving accident. This strategy will also lend itself to not mandating the purchase of the device for just a few years.

There will be a greater demand for the product consequent to the enactment of laws by the governing bodies, and due to the continuous marketing activities that would create a greater awareness about the beneficial use of the interlock. In the future the market will only grow and the integration of the device to different other motor vehicles would become much easier. Being already established in a segment of this market will enable the LifeSafer to easily capture the new market segments ahead of the others who may join the fray.

LifeSafer Interlock Inc., will continuously invest in newer technologies to make the Interlock more advanced and economical, providing a wider variety of features to attract more customers. The technologies so invested on would enable the devices to not only be able to detect alcohol, but also other substances whose use could affect the driving capability. Inventing further on the fuel-cell based technology and by looking at alternative advanced technologies the current FC100 or its successor can become more economical and accessible to the general public. LifeSafer will also look at integrating the FC100 with the wireless technologies such as Bluetooth and wifi for more comfortable and convenient use. These enhancements would be to reduce the operating cost which in turn will create bigger profit.

International markets also hold promise for the interlock products. There are already quite a few legislations in various countries that mandate the use of restraints like interlocks. The attainment of maturity in the US market would pave the way to tapping the markets worldwide and establish a worldwide brand identity.

## Appendices

### Appendix A

The statistics below show how these lives could have potentially been saved.

<b>ALL DRIVERS</b> <b>LIVES THAT WOULD BE SAVED BY</b> <b>REDUCING THEIR BACs TO:</b> less than 0.08% 8,916 lives less than 0.05% 11,100 lives zero BAC 13,452 lives <small>Note: zero BAC defined as less than 0.02%</small>	<b>DRIVERS WITH 1+ PRIOR</b> <b>CONVICTION</b> <b>LIVES THAT WOULD BE SAVED BY</b> <b>REDUCING THEIR BACs TO:</b> less than 0.08% 777 lives less than 0.05% 944 lives zero BAC 1,104 lives
---	--

## Appendix B: Teenagers in the household:

Source: <http://www.census.gov/>

### Characteristics of Teenagers 15 to 19 Years Old

Data Set: 2006-2008 American Community Survey 3-Year Estimates

Geographic Area: **United States**

NOTE: For information on confidentiality protection, sampling error, nonsampling error, and definitions, see [Survey Methodology](#).

Subject	Total	Margin of Error	White alone, not Hispanic or Latino	Margin of Error	Black or African American	Margin of Error	Hispanic or Latino origin (of any race)	Margin of Error
<b>Population 15 to 19 years</b>	<b>21,650,392</b>	<b>+/-15,332</b>	<b>13,020,324</b>	<b>+/-8,816</b>	<b>3,342,157</b>	<b>+/-8,973</b>	<b>3,747,258</b>	<b>+/-5,790</b>
<b>SCHOOL ENROLLMENT</b>								
Enrolled in school	18,730,611	+/-19,019	11,519,448	+/-12,176	2,811,882	+/-9,815	3,017,309	+/-9,292
Public	86.9%	+/-0.1	84.3%	+/-0.1	91.9%	+/-0.2	92.5%	+/-0.1
Private	13.1%	+/-0.1	15.7%	+/-0.1	8.1%	+/-0.2	7.5%	+/-0.1
Not enrolled in school	2,919,781	+/-21,632	1,500,876	+/-12,440	530,275	+/-7,818	729,949	+/-9,053
<b>MARITAL STATUS AND FERTILITY</b>								
Male	11,113,568	+/-10,981	6,691,599	+/-6,471	1,702,653	+/-7,255	1,935,492	+/-4,791
Ever married	1.3%	+/-0.1	1.0%	+/-0.1	1.4%	+/-0.1	2.0%	+/-0.1
Female	10,536,824	+/-11,859	6,328,725	+/-5,643	1,639,504	+/-6,563	1,811,766	+/-3,626
Ever married	2.2%	+/-0.1	1.9%	+/-0.1	1.5%	+/-0.1	4.3%	+/-0.1
Female with a birth in the past 12 months	2.7%	+/-0.1	1.7%	+/-0.1	4.5%	+/-0.1	4.8%	+/-0.2
<b>HOUSEHOLD TYPE</b>								
<b>Population 15 to 19 years in households</b>	<b>19,827,901</b>	<b>+/-21,699</b>	<b>11,786,293</b>	<b>+/-16,380</b>	<b>3,062,469</b>	<b>+/-11,080</b>	<b>3,588,761</b>	<b>+/-7,114</b>
In married-couple family households	62.2%	+/-0.2	69.8%	+/-0.2	34.8%	+/-0.3	58.9%	+/-0.3
In male householder, no wife present, family households	7.8%	+/-0.1	7.2%	+/-0.1	7.7%	+/-0.2	9.7%	+/-0.2
In female householder, no husband present, family households	26.2%	+/-0.1	18.6%	+/-0.1	54.7%	+/-0.3	28.4%	+/-0.3
In nonfamily households	3.9%	+/-0.1	4.4%	+/-0.1	2.8%	+/-0.1	3.0%	+/-0.1

## Appendix C: Estimates of the number of Households:

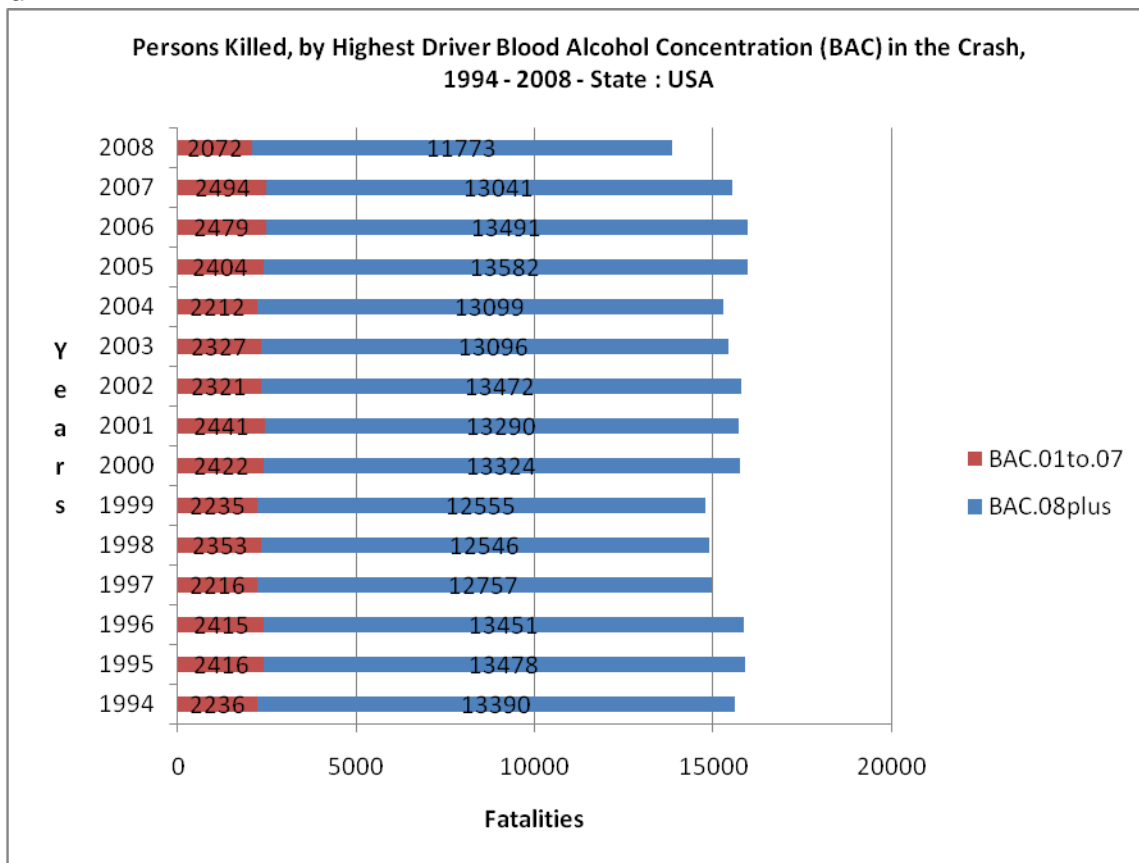
Source: U.S. Department of Commerce, Economics and Statistics Administration, BUREAU OF THE CENSUS

Table C. Number of Households and Average Annual Increase: 1940 to 2010

[Numbers in thousands. Reference date is July 1, except as noted]

Year	Number of households			Average annual increase over preceding period		
	Series 1	Series 2	Series 3	Series 1	Series 2	Series 3
<b>CENSUS ESTIMATES</b>						
1940*	34,949	(X)	(X)	(X)	(X)	(X)
1950*	43,468	(X)	(X)	852	(X)	(X)
1960*	52,610	(X)	(X)	914	(X)	(X)
1970*	63,450	(X)	(X)	1,084	(X)	(X)
1980*	80,390	(X)	(X)	1,694	(X)	(X)
1990*	91,947	(X)	(X)	1,156	(X)	(X)
<b>PROJECTIONS</b>						
1995	97,723	97,695	97,574	1,155	1,150	1,125
1996	98,857	98,801	98,641	1,134	1,106	1,067
1997	99,965	99,880	99,680	1,109	1,079	1,039
1998	101,043	100,924	100,684	1,078	1,045	1,004
1999	102,119	101,966	101,683	1,076	1,041	1,000
2000	103,246	103,058	102,734	1,127	1,092	1,051
2001	104,344	104,119	103,754	1,098	1,061	1,020
2002	105,456	105,190	104,784	1,112	1,071	1,030
2003	106,566	106,260	105,814	1,110	1,070	1,029
2004	107,673	107,324	106,835	1,107	1,064	1,022
2005	108,819	108,426	107,892	1,146	1,101	1,057
2006	109,982	109,543	108,963	1,163	1,117	1,071
2007	111,162	110,676	110,051	1,180	1,133	1,088
2008	112,363	111,833	111,161	1,201	1,157	1,110
2009	113,568	112,992	112,271	1,205	1,159	1,109
2010	114,825	114,200	113,426	1,257	1,208	1,155

## Appendix D



Drivers in Fatal Crashes by Blood Alcohol Concentration (BAC) and Sex, 1994 - 2008 - State : USA						
	Male			Female		
Year	Total	BAC=.01+(Percent)	BAC=.08+(Percent)	Total	BAC=.01+(Percent)	BAC=.08+(Percent)
1994	40233	30	26	13567	17	14
1995	41235	30	25	14184	16	13
1996	41376	29	25	14850	16	13
1997	40954	28	24	14954	15	12
1998	40816	28	23	15089	15	12
1999	41012	28	23	14835	14	12
2000	41795	29	24	14790	16	13
2001	41901	29	24	14919	15	13
2002	42377	29	25	14999	15	12
2003	42586	28	24	15211	14	12
2004	42250	28	24	15384	15	12
2005	43282	28	24	15059	16	13
2006	42223	29	24	14753	18	15
2007	41053	29	24	14184	16	13
2008	36881	29	25	12568	16	13

## **Appendix E: Fast Facts on Teenaged Drinking:**

It would be worthwhile to see how teenagers are involved in the motor vehicle accidents:

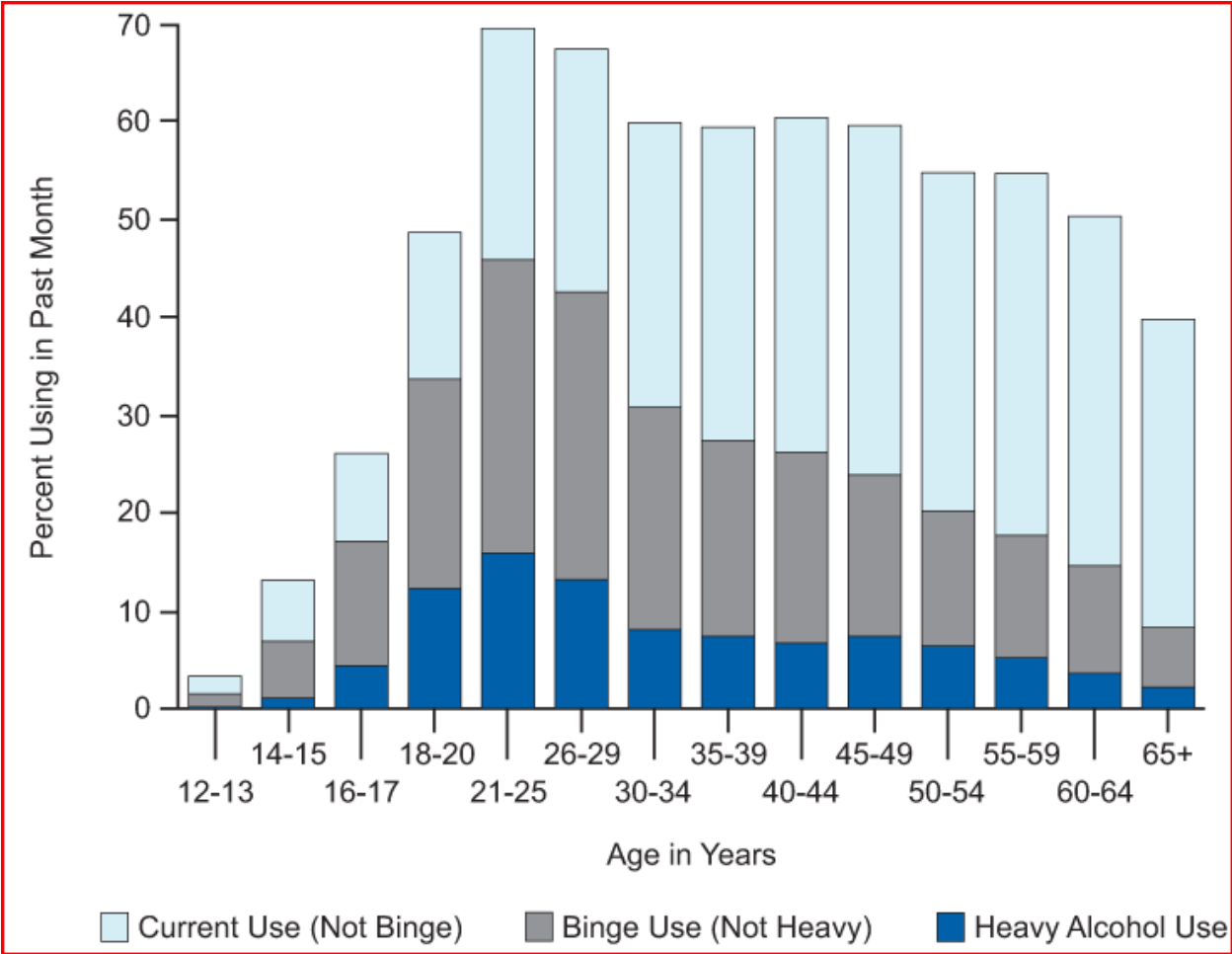
- A teenager is killed in a car crash every 64 1/2 minutes. (NHTSA),
- A teenager is injured in a car crash every 55 seconds (NHTSA),
- Teenagers make up 7% of licensed drivers, but suffer 14% of fatalities and 20% of all reported accidents,
- There are approximately 13,000,000 drivers between 16 and 20 years old today (US Census Bureau) That number is expected to grow to over 16,000,000 in just 10 years.
- The cost of police-reported crashes involving teen drivers in 2002 was \$40,800,000,000 (\$40.8 Billion) (National Highway Traffic Safety Administration)
- More than five million high school students binge drink (consume five or more alcoholic drinks in one sitting) at least once a month.
- Individuals who begin drinking before age 15 are four times more likely to become alcohol dependent than those who begin drinking at age 21.
- The prevalence of lifetime alcohol abuse is greatest for those who begin drinking at age 14.
- One-third of 6th and 9th graders obtain alcohol from their own homes.
- Four out of every five (80%) students have consumed alcohol (more than a few sips) by the end of high school.
- In 2000, there were 2,339 alcohol-related fatalities among youth ages 15-20.
- It is estimated that more than 20,000 lives have been saved by minimum drinking age laws since 1975.
- Eight young people die each day in alcohol-related crashes.
- The most abused drug in the United States is alcohol, but many people don't even think of alcohol as a drug.
- According to the National Highway Traffic Safety Administration, about two in every five Americans will be involved in an alcohol-related crash at some point in their lives, and 41% of all traffic fatalities in the U.S. are alcohol-related.
- Results of the 2000 National Household Survey on Drug Abuse (NHSDA) indicated that underage past month alcohol use was highest among whites (31%), followed by American Indians/Alaska Natives (28%), Hispanics (22-25%), and African Americans (19%).
- The 2000 NHSDA showed that among youth aged 12 to 17, rates of past month alcohol use were higher in rural areas than in large metropolitan areas.
- Greater parent involvement, setting driving rules and parental supervision are associated with less risky teen driving behavior. Crashes were one-seventh as likely to occur and traffic violations were one-fourth as likely to occur among teens with strong parental monitoring[14].
- Fifty-nine percent of teens who drive say their parents have the most influence on their driving, followed by 27% who say their friends are most influential [15].
- One in three high school students report they "want" or "need" to spend more time with their parents.

## Appendix F: Lives Saved from Minimum Driving Age Laws:

Year	Lives saved (age 18-20) by following Minimum Drinking Age Law
2004	927
2005	882
2006	888
2007	831
2008	714



**Appendix G: Alcohol Usage Classification for the lower age groups:**



## Appendix H: Young Drivers and Crashes:

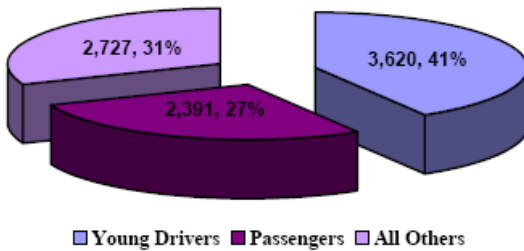
**Table 1**  
**Fatalities in Crashes Involving a 15- to 20-Year-Old Driver by Person Type and Year**

Year	Young Driver (Age 15-20)	Passenger of Young Driver, by Age					All Others	Total
		<15 (%)	15-20 (%)	>20+ (%)	Unk.	Total (%)		
2000	3,621	308 (12)	1,629 (64)	589 (23)	9	2,535 (100)	2,941	9,097
2001	3,617	284 (11)	1,615 (64)	623 (25)	7	2,529 (100)	2,918	9,064
2002	3,838	274 (11)	1,679 (65)	604 (24)	8	2,565 (100)	2,848	9,251
2003	3,675	297 (12)	1,522 (63)	576 (24)	4	2,399 (100)	2,653	8,727
2004	3,620	312 (13)	1,523 (64)	548 (23)	8	2,391 (100)	2,727	8,738

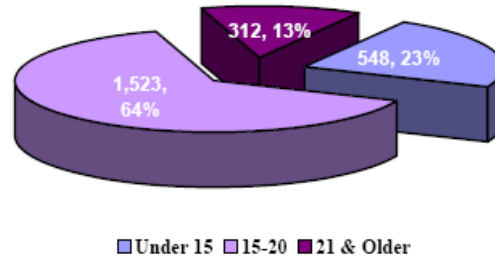
Source: NCSA, FARS 2000-2003 (Final), 2004 (ARF)

Unk. - Unknown

**Chart 1: People Killed in Crashes Involving a Young Driver in 2004**



**Chart 2: Passenger Fatalities in a Vehicle Driven by a Young Driver in 2004**



## Appendix I: Costs from Motor Vehicle Crashes 1994 compared with 2000:

Teenaged drivers had significantly higher MVC (Motor Vehicle Crash) fatal and non-fatal injury rates than did adult drivers. The death rate was 43.6 and 19.0 per 100 000 in 1994 improving slightly over the years due to various factors. Looking at the statistics from LA Goldstein's report with 1994's figures [10], "Cost estimates were calculated on a per person/vehicle basis. A single fatal injury was \$642700. A critical injury was \$563000. In general, unit costs rose with increasing levels of injury severity. For the total number of fatal injuries, costs exceeded \$91 million. For non-fatal injuries and property damage only crashes, total costs were \$318 million. Overall, the total cost estimate for MVCs involving teenaged drivers was nearly \$410 million." Alcohol is involved in crashes that account for 22 percent of all economic costs, with 75 percent of these costs involving crashes where a driver or non-occupant was legally intoxicated, defined as a Blood Alcohol Content (BAC) of  $>.10$ . The unit costs that are involved in alcohol related crashes can be seen from the table below:

Summary of Unit Costs for Alcohol-Involved Crashes, 2000 2000 Dollars								
	PDO	MAIS 0	MAIS 1	MAIS 2	MAIS 3	MAIS 4	MAIS 5	Fatal
<b>INJURY COMPONENTS</b>								
Medical	\$0	\$1	\$2,949	\$19,134	\$47,123	\$153,060	\$360,400	\$22,095
Emergency Services	\$31	\$22	\$97	\$212	\$368	\$830	\$852	\$833
Market Productivity	\$0	\$0	\$1,818	\$27,806	\$77,517	\$115,717	\$499,828	\$714,649
HH Productivity	\$47	\$33	\$572	\$7,696	\$22,111	\$30,089	\$169,023	\$202,693
Insurance Admin.	\$116	\$80	\$715	\$7,667	\$19,905	\$35,602	\$75,118	\$37,120
Workplace Cost	\$51	\$34	\$252	\$1,953	\$4,266	\$4,698	\$8,191	\$8,702
Legal Costs	\$0	\$0	\$172	\$6,023	\$17,223	\$37,464	\$88,753	\$102,138
<b>Subtotal</b>	<b>\$245</b>	<b>\$170</b>	<b>\$6,575</b>	<b>\$70,490</b>	<b>\$188,512</b>	<b>\$377,460</b>	<b>\$1,202,166</b>	<b>\$1,088,230</b>
<b>NON-INJURY COMPONENTS</b>								
Travel Delay	\$803	\$773	\$777	\$846	\$940	\$999	\$9,148	\$9,148
Property Damage	\$1,484	\$1,019	\$3,844	\$3,954	\$6,799	\$9,833	\$9,446	\$10,273
<b>Subtotal</b>	<b>\$2,287</b>	<b>\$1,792</b>	<b>\$4,621</b>	<b>\$4,800</b>	<b>\$7,739</b>	<b>\$10,832</b>	<b>\$18,594</b>	<b>\$19,421</b>
<b>Total</b>	<b>\$2,532</b>	<b>\$1,962</b>	<b>\$11,196</b>	<b>\$75,290</b>	<b>\$196,251</b>	<b>\$388,292</b>	<b>\$1,220,760</b>	<b>\$1,107,651</b>
<i>Note: Unit costs are on a per-person basis for all injury levels. PDO costs are on a per damaged vehicle basis.</i>								

## **Appendix J: Youth and Binge Drinking**

- Rates of binge alcohol use in 2008 were 1.5 percent among 12 or 13 year olds, 6.9 percent among 14 or 15 year olds, 17.2 percent among 16 or 17 year olds, 33.7 percent among persons aged 18 to 20, and peaked among those aged 21 to 25 at 46.0 percent. The 2008 binge drinking rate for 16 or 17 year olds showed a decrease from 2007, when it was 19.4 percent.
- The binge drinking rate decreased beyond young adulthood from 36.4 percent of 26 to 34 year olds to 18.8 percent of persons aged 35 or older.
- The rate of binge drinking was 41.0 percent for young adults aged 18 to 25. Heavy alcohol use was reported by 14.5 percent of persons aged 18 to 25. These rates are similar to the rates in 2007 (41.8 and 14.7 percent, respectively).

## Appendix K: Pride Survey on Teenage Drinking and Perception

PRIDE survey by professors at Georgia State University in Atlanta and Western Kentucky University in Bowling Green

**Percentage of Students Who Use Alcohol - Grades 9 to 12**

Year	2003-4	2004-5	2005-6	2006-7	2007-8	2008-9
Any alcohol	62.3	60.3	60.5	59.8	57.1	56.5

The frequency, perception of risk from alcohol consumption across parents, friends, and the ease of access to alcohol has been detailed in the Survey results:

Times Liquor Used in the last year	%	What Effect Do You Most Often Get When You Use	%	Do You Feel The Following Are Harmful To Your Health?	%	Perception of risk of harm if alcohol consumed daily	%	How wrong would your parents feel it would be for you to use alcohol	%	How wrong would your friends feel it would be for you to use alcohol?	%	Ease of Access to Alcohol	%
<i>Do not use</i>	53.2	<i>Do Not Use</i>	55	<i>No harm</i>	12.1	<i>No Risk</i>	9.6	<i>Not wrong at all</i>	9.2	<i>Not wrong at all</i>	41.2	<i>Don't Know/ Can't Get</i>	27.4
<i>Once/ year</i>	12.8	<i>No High</i>	9	<i>Some harm</i>	24.9	<i>Slight Risk</i>	20	<i>A little bit wrong</i>	16.8	<i>A little bit wrong</i>	23.7	<i>Very Difficult</i>	3.4
<i>6 times/ year</i>	8.5	<i>A Little High</i>	13	<i>Harmful</i>	27.5	<i>Moderate Risk</i>	34	<i>Wrong</i>	22	<i>Wrong</i>	15.2	<i>Fairly Difficult</i>	9.7
<i>Once/ month</i>	6.3	<i>Very High</i>	12	<i>Very harmful</i>	35.5	<i>Great Risk</i>	36	<i>Very wrong</i>	52	<i>Very wrong</i>	19.9	<i>Fairly Easy</i>	25.3
<i>Twice/ month</i>	7.2	<i>Bombed/ Stoned</i>	11									<i>Very Easy</i>	34.2
<i>Once/ week</i>	6.2												
<i>3 times/ week</i>	2.8												
<i>Every day</i>	2.9												

### Selected Contributing Factors by State

Metro name	Metro states	% crashes citing speeding as factor	% crashes citing alcohol as factor	% crashes citing drugs as factor	% of crashes citing lack of seatbelt use as factor
Atlanta-Sandy Springs-Marietta	GA	24.8%	6.3%	1.3%	25.0%
Austin-Round Rock	TX	40.6%	16.8%	4.0%	21.3%
Baltimore-Towson	MD	35.0%	15.3%	1.1%	21.5%
Birmingham-Hoover	AL	43.7%	5.8%	0.5%	39.3%
Boston-Cambridge-Quincy	MA-NH	48.3%	11.3%	3.1%	46.2%
Buffalo-Niagara Falls	NY	25.0%	6.3%	3.1%	27.1%
Charlotte-Gastonia-Concord	NC-SC	42.4%	13.6%	1.5%	37.9%
Chicago-Naperville-Joliet	IL-IN-WI	37.8%	12.7%	2.7%	30.5%
Cincinnati-Middletown	OH-KY-IN	23.5%	12.4%	4.8%	45.8%
Cleveland-Elyria-Mentor	OH	25.6%	10.1%	4.7%	41.9%
Columbus	OH	16.3%	10.0%	3.7%	36.9%
Dallas-Fort Worth-Arlington	TX	42.2%	11.9%	4.7%	24.8%
Denver-Aurora	CO	42.5%	21.2%	10.6%	38.1%
Detroit-Warren-Livonia	MI	15.3%	8.0%	2.2%	18.2%
Hartford-West Hartford-East Hartford	CT	46.5%	16.7%	7.0%	33.3%
Houston-Sugar Land-Baytown	TX	36.9%	18.0%	3.7%	27.7%
Indianapolis	IN	31.8%	7.7%	4.6%	36.4%
Jacksonville	FL	20.5%	7.4%	4.7%	43.7%
Kansas City	MO-KS	46.9%	12.9%	3.8%	48.7%
Las Vegas-Paradise	NV	42.0%	14.0%	9.8%	32.6%
Los Angeles-Long Beach-Santa Ana	CA	42.3%	12.8%	3.6%	13.1%
Louisville	KY-IN	27.1%	10.6%	1.8%	37.6%
Memphis	TN-MS-AR	18.2%	6.4%	0.5%	38.5%
Miami-Fort Lauderdale-Miami Beach	FL	18.4%	4.5%	3.8%	40.6%
Milwaukee-Waukesha-West Allis	WI	40.5%	11.2%	0.0%	44.8%
Minneapolis-St. Paul-Bloomington	MN-WI	24.4%	7.2%	0.0%	33.4%
Nashville-Davidson-Murfreesboro	TN	30.4%	13.9%	2.6%	46.2%
New Orleans-Metairie-Kenner	LA	24.7%	12.3%	3.4%	30.8%
New York-Northern New Jersey-LI	NY-NJ-PA	29.2%	6.3%	0.9%	26.2%
Oklahoma City	OK	36.6%	9.3%	1.2%	41.3%
Orlando-Kissimmee	FL	24.0%	5.3%	5.3%	32.1%
Philadelphia-Camden-Wilmington	PA-NJ-DE-MD	35.9%	12.1%	4.0%	38.6%
Phoenix-Mesa-Scottsdale	AZ	38.5%	14.7%	3.5%	34.8%
Pittsburgh	PA	48.6%	11.5%	2.9%	41.8%
Portland-Vancouver-Beaverton	OR-WA	38.8%	9.4%	2.5%	18.8%
Providence-New Bedford-Fall River	RI-MA	51.0%	13.2%	1.3%	44.4%
Richmond	VA	24.5%	14.1%	0.0%	54.6%
Riverside-San Bernardino-Ontario	CA	34.5%	14.2%	4.1%	19.5%
Rochester	NY	40.5%	14.9%	0.8%	26.4%
Sacramento-Arden-Arcade-Roseville	CA	38.2%	15.3%	4.4%	13.1%
St. Louis	MO-IL	48.3%	12.3%	1.5%	45.3%
Salt Lake City	UT	19.2%	5.8%	3.8%	38.5%
San Antonio	TX	41.6%	14.4%	3.3%	23.9%
San Diego-Carlsbad-San Marcos	CA	39.3%	15.8%	3.7%	17.4%
San Francisco-Oakland-Fremont	CA	48.3%	18.2%	2.4%	14.8%
San Jose-Sunnyvale-Santa Clara	CA	30.3%	17.2%	2.0%	7.1%
Seattle-Tacoma-Bellevue	WA	49.0%	20.2%	2.8%	27.7%
Tampa-St. Petersburg-Clearwater	FL	26.8%	6.8%	3.5%	40.9%
Virginia Beach-Norfolk-Newport News	VA-NC	27.6%	12.4%	0.7%	42.1%
Washington-Arlington-Alexandria	DC-VA-MD-WV	38.1%	14.8%	0.9%	35.8%

## References:

- [1] <http://www2.potsdam.edu/hansondj/controversies/1114796842.html>
- [2] Status Report Vol 42, No. 10, Oct 13, 2007 from the Insurance Institute For Highway Safety
- [3] Improved methods for estimating relative crash risk in a case-control study of blood alcohol levels - R.C. Peck et al. presented at a meeting of the International Council on Alcohol, Drugs, and Traffic Safety, held in Seattle in August 2007
- [4] FARS 2007 (Final), 2008 Annual Report File (ARF), Published by NHTSA's National Center for Statistics and Analysis in August 2007
- [5] <http://www-nrd.nhtsa.dot.gov/Pubs/809820.PDF>
- [6] <http://www-nrd.nhtsa.dot.gov/Pubs/810644.PDF>
- [7] <http://www-nrd.nhtsa.dot.gov/Pubs/811153.PDF>
- [8] <http://www.oas.samhsa.gov/2k8/2k8nsduh/2k8Results.cfm#3.1>
- [9] <http://www-nrd.nhtsa.dot.gov/Pubs/810597.PDF>
- [10] <http://www.pridesurveys.com/customercenter/us02ns.pdf>
- [11] <http://www.iihs.org/externaldata/srdata/docs/sr3606.pdf>
- [12] National Highway Traffic Safety Administration,  
<http://www-nrd.nhtsa.dot.gov/Cats/index.aspx>
- [13] National Highway Traffic Safety Administration
- [14] [http://www.rmiaa.org/Auto/Teens/Buying\\_Auto\\_Insurance.htm](http://www.rmiaa.org/Auto/Teens/Buying_Auto_Insurance.htm)
- [15] Simons-Morton, Bruce and Hartos, Jessica, Journal of Safety Research, "How Well Do Parents Manage Young Driver Crash Risks?" (34: 91-97), 2003.
- [16] [http://www.rachelelliott.org/Drunk\\_Driving\\_Statistics.html](http://www.rachelelliott.org/Drunk_Driving_Statistics.html)
- [17] [http://www.smartstartoforegon.com/Volunteer\\_Program.html](http://www.smartstartoforegon.com/Volunteer_Program.html)
- [18] <http://www.lifesafer.com>
- [19] <http://www.websitemarketingplan.com/techniques/pricing2.htm>
- [20] [http://www.marketingteacher.com/Lessons/lesson\\_pricing.htm](http://www.marketingteacher.com/Lessons/lesson_pricing.htm)
- [21] [http://en.wikipedia.org/wiki/Positioning\\_\(marketing\)](http://en.wikipedia.org/wiki/Positioning_(marketing))
- [22] <http://www.quickmba.com/marketing/ries-trout/positioning/>





**Submitted To:**  
**Submitted By:**  
**Members:**

**Dr. Antonie J. Jetter**  
**Team 1**  
**Ashok, Neelu, Naresh, Ganesh, Mukundan,**  
**Shoaib & Matthew**

**Term:**  
**Course:**  
**Date:**

**Fall 09'**  
**Technology Marketing (EMGT: 555)**  
**12/10/09**

**10/03/2009**

- **Brainstorm session**
  - Each team member brought ideas for potential products to market
  - Ganesh
    - Emerging countries - sensor based controller for energy savings
    - Lithium storage - battery
    - Hybrid cars - for developing countries
    - Kindle for kids
    - Chuck-e-cheese
  - Mukundan
    - Breathalyzer enabled controller for cars - presentation of DUI
    - Solar powered home appliances - lamps etc. for energy savings - developing nations
    - Tech review - centrifugal for developing countries - medical benefits
  - Ashok
    - Software to control devices like game controllers, operate computers, cell phones, TV etc.
  - Matthew
    - Charging stations. Plugging at gas stations
    - RFIDs for shopping carts - read items that go into cart
  - Neelu/Naresh
    - Sixth Sense
    - [http://www.ted.com/talks/pattie\\_maes\\_demos\\_the\\_sixth\\_sense.html](http://www.ted.com/talks/pattie_maes_demos_the_sixth_sense.html)

**Our group reduced the list to 6 by vote**

- Sensor based controller for energy savings
  - Hybrid Motor Cycles for India instead of Cars.
  - One Kindle per kid in India.
  - Breathalyzer enabled controller for cars - presentation of DUI
  - RFIDs for shopping carts - read items that go into cart
  - Sixth Sense
- After another vote the group settled on the breathalyzer (ignition interlock)

**10/08/2009**

**Group Data mining with Google search on breathalyzers to come up to speed on the current state of breathalyzers in the industry**

**Toyota testing breathalyzer unit on 30 commercial vehicles**

<http://www.autoweek.com/article/20090908/CARNEWS/909089998>

## Breathalyzers Vs. Teen Drunk Driving

<http://www.cbsnews.com/stories/2006/05/17/earlyshow/living/parenting/main1623159.shtml>

But critics claim breathalyzers can easily be defeated.

John Doyle of the [American Beverage Institute](#) explains that, "They can be overridden with air compressors. You can get someone else to blow in 'em."

<http://www.alcohol-breathalyzers.com/als21.asp>

<http://www.testsymptomsathome.com/ALS21.asp>

[http://www.ehow.com/how\\_5141711\\_purchase-car-breathalyzer-ignition-interlock.html](http://www.ehow.com/how_5141711_purchase-car-breathalyzer-ignition-interlock.html)

[http://www.usatoday.com/money/autos/2006-04-24-breathalyzer-usat\\_x.htm](http://www.usatoday.com/money/autos/2006-04-24-breathalyzer-usat_x.htm)

<http://www.strangenewproducts.com/2005/08/volvos-multi-lock-system-prevents.html>

- read the comments from readers to get a feel for the market

<http://www.gizmag.com/go/7956/>

<http://www.drivingtelevision.tv/?cid=187>

[http://www.infobarrel.com/About\\_Car\\_Breathalyzers\\_and\\_Ignition\\_Interlock\\_Systems](http://www.infobarrel.com/About_Car_Breathalyzers_and_Ignition_Interlock_Systems)

[http://www.cdc.gov/MotorVehicleSafety/Impaired\\_Driving/impaired-driv\\_factsheet.html](http://www.cdc.gov/MotorVehicleSafety/Impaired_Driving/impaired-driv_factsheet.html)

---

### 10/10/2009 - 2nd Team meeting

- Created a rough outline of the information that will go into the report based on the Market Plan book and Marketing for High Tech Products textbook
- Markets
  - Market economics
  - Market size
  - Growth
  - Margins
  - Price sensitivity
  - Distribution costs
  - Regulatory exposure
  - Decided to stay in US market

- **Customers**
  - Demographics within in the markets
  - US
  - Age
  - Gender
  - %'s
- **Segments**
  - Teenagers
  - Insurance companies
  - Repeat offenders
  - Car rental agencies
  - Vehicle grade
    - Passenger vehicles
    - SUVs
    - trucks
- **Value Drivers**
  - Safety
    - Your children
    - Others on the road
  - Lower insurance costs
- **Position on Tech Adoption Life Cycle**
  - Initial resistance to adopt (car owners, users)
  - Initial ready acceptance by teenagers (first time drivers)
- **Initial Interview**
  - Car Manufacturers
  - Dealers
  - Teenagers
  - Homes
  - Students
  - Parents
  - Spare parts Shops
  - Car Rental Agencies
  - Senators / DMV
  - NGO's
  - Insurance organizations
  - Tri-met

**We decided to divide the research and interviews by Market Segments and report back our findings next week**

- **#1 - Neelu**
  - Car manufacturers
  - Dealers
- **#2 - Naresh**
  - Teenagers

- Families
    - Parents
  - #3 - Ganesh
    - Insurance Agencies
  - #4 - Ashok
    - Car Rental Agencies
  - #5 - Shoaib
    - DMVs
    - Sentators
    - Police/Courts
  - #6 - Mukundan
    - Certified Installers
    - Commercial Transportation
  - #7 - Matthew
    - N.G.O's
      - <http://www.aa.org/?Media=PlayFlash>
      - <http://www.madd.org/>
- <http://www.youtube.com/watch?v=kflnOvU5oTs>  
<http://www.youtube.com/watch?v=n2RdWAXhX9E>

**10/17/2009**

The focus this week is to compile our findings into a presentation for the progress presentation and set deliverables for missing pieces.

For mid-term presentation:

- Need basic interviews done
- Presentation Outline:
  - Slide 1 - Current breathalyzers on the market?
    - Add video
  - Slide 2 - Statistics on # of DUI's
  - Slide 3 - 7 - What are the target markets?
    - Who are the customers?
  - Slide 8 - survey results
  - Slide 9 - value drivers derived from survey results?
  - Technology adoption life cycle

After the outline was created we brainstormed questions for each market segment. The market segment owner is responsible to choose questions applicable to their segment.

**General questions to ask:**

1. Do you have any safeguards in place to prevent people from driving drunk?
2. Have you ever heard of an auto breathalyzer (alcohol ignition interlock)?
3. Have you ever been affected by someone driving drunk?
4. Would you like measures to prevent people from driving drunk?

5. How willing would you be to install a breathalyzer in your car?
6. How willing would you be to install a breathalyzer in your teenager's car?
7. Would you be willing to buy a breathalyzer if it is not mandatory?
8. Do you see any value in an auto breathalyzer (alcohol ignition interlock)?
9. What cost would you be willing to pay to install a breathalyzer?

### **Dealers**

10. Do you offer this as an option on your cars?
11. Do you get any requests/inquiries for this accessory?
12. Do you see a value in offering a breathalyzer as an option?

### **Insurance Agencies**

13. Do you currently offer any incentive if the breathalyzer is installed in the car?
14. Would you reduce the insurance premiums if a breathalyzer is installed on their car?

### **Car Rental Agencies**

15. Do you have any safeguards in place to prevent people from driving drunk?
16. Do you see a value in offering a breathalyzer as an option?
17. Do you lose money when a rental driver is in an accident due to a DUI?
18. If breathalyzers are installed would the cost be passed on to the customer?
19. If breathalyzers are installed would it reduce the costs of insurance?
20. What percentages of accidents in your cars are due to DUI?

### **DMVs, Senators, Police/Courts**

21. Are there any laws in place to install breathalyzers in cars of repeat offenders of DUI?
22. Is there any proposed legislation to install breathalyzers?
23. Would there be any kind of rebates to install a breathalyzer in your car?

### **Commercial Transportation**

24. Do you see a value in installing breathalyzers in your fleet?
25. Would you preference to 3rd party carriers if they had breathalyzers installed on their trucks?
26. Would you support a mandate to install breathalyzers on all commercial vehicles?

### **N.G.O's**

27. Are you currently lobbying any legislation to mandate breathalyzers in all cars?
28. Are you currently lobbying any legislation to mandate breathalyzers in repeat DUIs?
29. Are you working with any companies that are developing these products?

## Teenagers:

30. Would you have one installed on your car?
31. Have you ever been affected by someone driving drunk?
32. Do you see people driving after drinking?

Based on these general questions, attached below is the formal questionnaire, which further helped the team to finalize the target market.

**10/22/2009**

Dr. Jetter told the class to answer these questions in our report:

- What will be our chasm?
- Will we go with a beachhead strategy and what will be our beachhead?

### Feedback from the Project Progress Report

- Focus on families for voluntary installs
- Explain challenges and stopping friends from blowing.
- Look into foreign market potential

More search results when looking for competing products and their markets

<http://www.monitechnc.com/index.html>

<http://www.intoxalock.com/index.cfm>

<http://www.smartstartofcalifornia.com/home.html>

[http://www.mass.gov/rmv/rmvnews/2006/ignition\\_interlock\\_brochure.pdf](http://www.mass.gov/rmv/rmvnews/2006/ignition_interlock_brochure.pdf)

**11/02/2009:**

Group started to look at possible future enhancements for the product but realized later that this isn't necessary for the assignment to write a marketing plan.

- Semiconductor or Fuel cell based technology
- Data Logger
- Power Failure or battery backup
- Wifi Calibration
- eAlert

**11/04/2009**

Started to look for a good product name that could appeal to families. The possible ones identified as:

- iBreathe

- iSafe

Check out the following link for product: iBreath..... (Already existing)<http://www.engadget.com/2006/09/12/ibreathe-your-ipod-powered-breathalyzer/>

**11/05/2009**

Found lots of past workshop presentations from the Ignition Interlock Symposium. They might be useful in our report.

[http://www.interlocksymposium.com/index.cfm?pagepath=Past\\_Symposia&id=9752](http://www.interlocksymposium.com/index.cfm?pagepath=Past_Symposia&id=9752)

**11/14/2009**

After looking at all the research and competition the group realized adding another breathalyzer product to the market would be very challenging and there weren't many areas for us to differentiate. We decided to approach an established breathalyzer company with our marketing plan to help increase their market share. Out of all the competition, Life Safer was most in line with our image and would benefit from the markets we could bring them.

**11/19/2009**

We had a conference call discussing the flow of our report and presentation. Ashok took the responsibility for the draft of final presentation. Mukundan's wife, Lata also joined in between the conference, as she was the one who gave us the idea about this product, as her uncle suffered a lot of damage due to drunken driving by a teenager. So got nice feedback from her as well.

**11/21/2009**

Since the work for the final report and the presentation was already assigned two days back, everything was discussed in detail face to face the following weekend. Everyone was asked to post the rough drafts before the next group meeting, so that the required changes may be discussed.

**11/29/2009**

As discussed in the last group meeting, everyone's part was shared and discussed during the group meeting. Since final presentation was the due deliverable, everyone agreed to submit their part of presentation to Ashok by 11/30/2009. Since it was final presentation the following week, everyone decided to meet again on Wednesday to decide upon to give the final touches to the presentation on Wednesday, 12/03/2009.

**12/02/2009**

Since time was less, so we decided to have conference call on Tuesday, 12/02/2009 at 9pm. By now, everyone had already sent their slides to Ashok, and he had compiled them



all. The number of slides were coming out to be 32, a lot more then specified, so each and every slide was discussed in detail and after two hour discussion they were brought down to 20, with quality stuff still in there.

**12/03/2009**

Again we decided to meet virtually at 9:00pm to discuss the flow of the final presentation the next day. We did actually rehearse for the presentation to keep a check on the length of time. Our meeting went on till 1hr 15mins.

**12/05/2009**

After the presentation, we decided to meet again on Saturday at 3:00pm to give final shape to our report and include all the feedback that we received on our presentation from the class and professor.

**Team Meetings Schedule:**

<b>Date</b>	<b>Time</b>	<b>Place</b>
10/3/2009	4:00-6:00pm	Intel Corp (Amberglen)
10/10/2009	3:00-5:00pm	Intel Corp (Amberglen)
10/17/2009	3:00-4:00pm	Intel Corp (Amberglen)
10/23/2009	3:00-4:45pm	Intel Corp (Amberglen)
10/31/2009	3:00-4:45pm	Barnes and Noble
11/14/2009	2:30-4:00pm	Intel Corp (Amberglen)
11/19/2009	9:00-10:00pm	Conference Call
11/21/2009	3:00-6:00pm	Intel Corp (Amberglen)
11/29/2009	3:00-5:45pm	Intel Corp (Amberglen)
12/2/2009	9:00-10:45pm	Conference Call
12/3/2009	9:00-10:15pm	Conference Call
12/5/2009	3:00-5:00pm	Intel Corp (Amberglen)

**Team Members' Attendance Schedule:**

<b>Team Members</b>	<b>Attendance (%)</b>	<b>No of meetings missed</b>	<b>Reason</b>
Ashok	100%	0	NA
Neelu	100%	0	NA
Ganesh	100%	0	NA
Mukundan	100%	0	NA
Naresh	100%	1	NA
Matthews	75%	3	Business Trip
Shoaib	92%	1	Joined late

## INITIAL QUESTIONNAIRE FOR INITIAL MARKET SEGMENTS

ETM 555 – Technology Marketing Project Survey

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Job role: \_\_\_\_\_

Please mark your level of agreement with the following statements:

#	General Questions	Strongly Disagree			Strongly Agree	
1.	Do you have any safeguards in place to prevent people from driving drunk?	1	2	3	4	5
2.	Have you ever heard of an auto breathalyzer (alcohol ignition interlock)?	1	2	3	4	5
3.	Have you ever been affected by someone driving drunk?	1	2	3	4	5
4.	Would you like measures to prevent people from driving drunk?	1	2	3	4	5
5.	How willing would you be to install a breathalyzer in your car?	1	2	3	4	5
6.	How willing would you be to install a breathalyzer in your teenager's car?	1	2	3	4	5
7.	Would you be willing to buy a breathalyzer if it is not mandatory?	1	2	3	4	5
8.	Do you see any value in an auto breathalyzer (alcohol ignition interlock)?	1	2	3	4	5
9.	What cost would you be willing to pay to install a breathalyzer	1	2	3	4	5

#	Dealer Questions	Strongly Disagree			Strongly Agree	
1.	Do you offer this as an option on your cars?	1	2	3	4	5
2.	Do you get any requests/inquiries for this accessory	1	2	3	4	5
3.	Do you see a value in offering a breathalyzer as an option?	1	2	3	4	5

#	Insurance Questions	Strongly Disagree			Strongly Agree	
1.	Do you currently offer any incentive if the breathalyzer is installed in the car?	1	2	3	4	5
2.	Would you reduce the insurance premiums if a breathalyzer is installed on their car?	1	2	3	4	5
		1	2	3	4	5

#	Senators, Courts Questions	Strongly Disagree			Strongly Agree	

1.	Are there any laws in place to install breathalyzers in cars of repeat offenders of DUI?	1	2	3	4	5
2.	Are there any proposed legislation to install breathalyzers?	1	2	3	4	5
3.	Would there be any kind of rebates to install a breathalyzer in your car?	1	2	3	4	5

#	Car Dealers Questions	Strongly Disagree			Strongly Agree	
1.	Do you have any safeguards in place to prevent people from driving drunk?	1	2	3	4	5
2.	Do you see a value in offering a breathalyzer as an option?	1	2	3	4	5
3.	Do you lose money when a rental driver is in an accident due to a DUI?	1	2	3	4	5
4.	If breathalyzers are installed would the cost be passed on to the customer?	1	2	3	4	5
5.	If breathalyzers are installed would it reduce the costs of insurance?	1	2	3	4	5
6.	What percentage of accidents in your cars are due to DUI?	1	2	3	4	5
7.	Would you be willing to buy a breathalyzer if it is not mandatory?	1	2	3	4	5
8.	Do you see any value in an auto breathalyzer (alcohol ignition interlock)?	1	2	3	4	5
9.	What cost would you be willing to pay to install a breathalyzer	1	2	3	4	5

#	Commercial Transportation	Strongly Disagree			Strongly Agree	
1.	Do you see a value in installing breathalyzers in your fleet?	1	2	3	4	5
2.	Would you preference to 3rd party carriers if they had breathalyzers installed on their trucks?	1	2	3	4	5
3.	Would you support a mandate to install breathalyzers on all commercial vehicles?	1	2	3	4	5

#	N.G.O's	Strongly Disagree			Strongly Agree	
1.	Are you currently lobbying any legislation to mandate breathalyzers in all cars?	1	2	3	4	5
2.	Are you currently lobbying any legislation to mandate breathalyzers in repeat DUIs?	1	2	3	4	5
3.	Are you working with any companies that are developing these products?	1	2	3	4	5

#	Teenagers	Strongly Disagree			Strongly Agree	
1.	Would you have one installed on your car?	1	2	3	4	5
2.	Have you ever been affected by someone driving drunk?	1	2	3	4	5
3.	Do you see people driving after drinking?	1	2	3	4	5

## FINAL QUESTIONNAIRE FOR SELECTED SEGMENTS WITH RESULTS:



### Response Summary

Total Started Survey: 18  
Total Completed Survey: 18 (100%)

Page: Default Section

1. Are you aware of a breathalyzer enabled automatic ignition lock device for cars?

[Create Chart](#) [Download](#)

		Response Percent	Response Count
1. Yes	<div></div>	66.7%	12
2. No	<div></div>	33.3%	6
answered question			18
skipped question			0

2. Would you be willing to install a breathalyzer enabled ignition interlock for preventing DUI ignoring the price?

[Create Chart](#) [Download](#)

		Response Percent	Response Count
1. Yes	<div></div>	22.2%	4
2. No	<div></div>	77.8%	14
answered question			18
skipped question			0

3. Do you have teenagers at home			<a href="#">Create Chart</a>	<a href="#">Download</a>
		Response Percent	Response Count	
1. Yes	<div><div></div></div>	22.2%	4	
2. No	<div><div></div></div>	77.8%	14	
answered question				18
skipped question				0

4. How much would you prefer teenagers to use the ignition locks on the car before and while driving?			<a href="#">Create Chart</a>	<a href="#">Download</a>
		Response Percent	Response Count	
1. Would require its use	<div><div></div></div>	22.2%	4	
2. Somewhat emphasize its use	<div><div></div></div>	11.1%	2	
3. Would require its use only with Government mandates	<div><div></div></div>	11.1%	2	
4. Would not require its use at all	<div><div></div></div>	50.0%	9	
5. Would voice against its use	<div><div></div></div>	5.6%	1	
answered question				18
skipped question				0

5. If you are okay with the use of the interlock, would you prefer a purchase or a lease?			<a href="#">Create Chart</a>	<a href="#">Download</a>
		Response Percent	Response Count	
1. Purchase (approx \$200 tri monthly recalibration for \$30)	<div><div></div></div>	40.0%	4	
2. Lease (approx \$30 per month with no fee for recalibration)	<div><div></div></div>	60.0%	6	
answered question				10
skipped question				8

6. Would you be interested in having the interlock added by which one of the following?			<a href="#">Create Chart</a>	<a href="#">Download</a>
		Response Percent	Response Count	
1. Manufacturer	<div><div></div></div>	30.8%	4	
2. Dealer	<div><div></div></div>	30.8%	4	
3. Agencies like AAA, Costco	<div><div></div></div>	23.1%	3	
4. Other retailers like car gadget outlets	<div><div></div></div>	15.4%	2	
answered question				13
skipped question				5

7. Would you be willing to have the installation if there is a decrease in the insurance premiums for either self/teenaged child, if any?			<a href="#">Create Chart</a>	<a href="#">Download</a>
		Response Percent	Response Count	
1. Yes	<div><div></div></div>	66.7%	12	
2. No	<div><div></div></div>	33.3%	6	
answered question			18	
skipped question			0	

8. Would you be able and willing to reiterate to the Government related agencies to consider mandating the need for safety interlocks?			<a href="#">Create Chart</a>	<a href="#">Download</a>
		Response Percent	Response Count	
1. Yes	<div><div></div></div>	35.3%	6	
2. No	<div><div></div></div>	64.7%	11	
answered question			17	
skipped question			1	

9. Would your answer on purchase/lease differ if you would have to browse the log from the interlock data recorder every three months?			<a href="#">Create Chart</a>	<a href="#">Download</a>
		Response Percent	Response Count	
1. Yes	<div><div></div></div>	21.4%	3	
2. No	<div><div></div></div>	78.6%	11	
answered question			14	
skipped question			4	

10. What frequency would you like to have for a view of the data log for the child's driving?			<a href="#">Create Chart</a>	<a href="#">Download</a>
		Response Percent	Response Count	
1. Monthly	<div><div></div></div>	29.4%	5	
2. Bi-Monthly		0.0%	0	
3. Quarterly		0.0%	0	
4. Annually	<div><div></div></div>	5.9%	1	
5. No monitoring needed	<div><div></div></div>	64.7%	11	
answered question			17	
skipped question			1	