

Product Proposal

Design Organization: Robust Decisions

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Proposed Product Name: COMFORT BICYCLE PRODUCT LINE

Summary It is proposed that Bowflex produce and market a line of comfort bicycles. There is an extensive nascent market, Bowflex/Nautilus has manufacturing technologies in place, and the proposers have extensive experience in the development and sales of this type of product.

Background of the product: The proposers were active in the development and running of BikeE Corp, 1991-2002. The company was, during the late 1990s, the leader in sales of semi-recumbent bicycles. A semi-recumbent bicycle has the rider in seated position. This type of product is now categorized as a “comfort bicycle”

- Prior to 1992 recumbent bicycle sales less than 2000/yr world wide
- 1992 BikeE founded by David G. Ullman, Richard Rau and Paul Atwood. BikeE’s goal was to popularize “seated cycling” with the rider sitting in a comfortable position as in an office chair.
- Steady growth from 1992-2001
 - Over 25,000 bicycles sold
 - Over 6,000 bikes sold in 2001
 - \$5.2M sales in 2001
 - Designs win national awards and large following
- BikeE products
 - Weight of single rider products 28-31 lbs
 - Basic product, CT (no suspension)
 - Manufactured by Giant in Taiwan
 - List price \$750
 - Landed cost \$280
 - Giant estimated landed cost of \$150 if made in China
 - Most popular, AT with rear suspension
 - Manufactured by Giant in Taiwan
 - List price \$1000
 - Landed cost \$320
 - Giant estimated landed cost if made in China, \$200



- Mountain Bike, FX
 - Developed the first off-road seated bike
 - Made in USA
 - Fully suspended
 - List price \$1500



- FantaceE concept bike
 - Designed in 1994
 - Monocoque construction
 - Only one built



- Other models produced and sold
 - Tandem
 - Road bike

- BikeE transformed recumbent market
 - Introduced “seated cycling”, riding in a comfortable position like fitness recumbent bicycles
 - Introduced compact design, total length similar to traditional bicycle
 - Large popular following
 - Many websites devoted to BikeE’s (see <http://www.simplecom.net/poleary/> for one of the best)
 - Many BikeE customers customized their bikes similar to what Harley Davidson owners do
 - Many customers use BikeE for commuting
 - Others rode BikeEs across the USA

Market for the Product:

- Recumbent Market
 - The market for recumbents prior to 1992 was about 2000/year worldwide.
 - BikeE lead dramatic growth in 1990s.
 - BikeE increased population’s awareness of optional riding positions.
 - 2002 recumbent unit volume, estimated by Jay Townley, a leading bicycle industry analyst, at 50,000 units in North America and an equal number in the EU. We believe this number is high and is more like 25,000 in each market.
 - Average selling price at retail is estimated at >\$900

- A new breed of bike is the “Comfort bike”
 - Comfort - is still not clearly defined, but "comfort" has become the rallying cry of producers.
 - Grew out of mountain bikes made more comfortable for street riding as the mountain bike craze died out.
 - And out of BikeE’s introduction of “seated cycling”
 - US sales of comfort bikes in 2003, 2.8M units 20.6% of total adult bikes (source National Bicycle Dealer’s Assn.)
 - Growing segment, increase from 13.6% (2000) to 20.6% in 2003
- What is happening in the marketplace is well summed up by Jay Townley, *”Comfort, Recumbent, Electric and Folding bikes all address in their own ways the aging of the world population. The bicycle industry needs to hurry if it is going to be in a position to reap the reward for providing new innovative comfortable and easy to use bicycle products for the worlds Baby Boomers and seniors. All of these product segments are moving in the right direction. However, many of the innovations are being driven and introduced by non-traditional suppliers.”*
- At BikeE, for every bike sold, 11% additional in accessory sales
- In the last 10 years a majority of the stationary bicycles have changed from upright to seated as with the BikeE configuration. This popularity has not been transferred out of the gym to bicycles. A clear market opportunity.
- BikeE’s primary demographic was baby boomers. This population continues to grow. Many have turned to bicycling, but find traditional bike uncomfortable. The move to “comfort” bikes – modified mountain bikes - does not relieve the problems of neck, wrist and crotch discomfort. A seated position does. Ullman’s wife, at age 53, rode a BikeE across the country with 40 other women. She was the only one who did not hurt each evening.
- Bicycle Retailer News says “75% of potential buyers never set foot in a bicycle shop”. Infomercials can reach these customers in a way that shops can not.



Competition: BikeE controlled 60% of the recumbent bike market in 2001 and helped transform this market toward comfort bikes. BikeE’s demise in 2002 left a hole in the market. The following companies produce products that are trying to fill the void and take advantage of the move toward “comfort” bikes.

Giant Revive

- Introduced in 2002
- Five different models
- Stylish, semi monocoque design
- Unstable going up hill
- Heavy – 50 lbs
- Cross between recumbent and upright



- Meant for riding around town
- List price \$1,200-\$1,700
- This bike used many BikeE engineering features (Giant was BikeE's prime manufacturer) and tilted the rider more upright. It is a true hybrid between upright and recumbent.
- It sells well in Europe and is being heavily marketed in the US.

Sun Bicycles

- Introduced in 1999 as the EZ-1 and refined over the last 4 years.
- Comes in 6 different models.
- Weight 35-40 lbs
- Basic tube construction
- List price \$550-\$950 (model shown \$950)
- Weight 29-39 lbs



Manufacturing Capability:

- Manufacturing methods for bicycles are traditionally stick and tube.
- Some BikeE models were manufactured in the US, others by Giant in Taiwan
- Bowflex/Nautilus has manufacturing capabilities that can enable the development of a bike superior and less costly than that produced by BikeE. Examples:
 - At BikeE we designed (but did not produce) monocoques like Schwinn Evolution SR bike. Can potentially reduce cost and improve styling with use of monocoque.
 - The most expensive component on a BikeE was the seat. Can reduce cost of seat using air cushions - the technology employed in Nautilus Sleep Systems. (Ullman and Atwood developed some prototype air cushion seats in 1998 and has ridden on them for 5 years)

Distribution Details:

- Traditionally, recumbents have been sold through bike shops. 800 shops carried BikeE in 2001.
- Some manufacturers have tried infomercials with limited success. These have been "fringe" products
 - Autobike, automatic shift bicycle
 - Rowbike, propel bike by rowing
- Bike shops make more profit on after sale and maintenance than on initial sale.

Proposal Details:

- There is a large and growing market for comfort bicycles
- The configuration of a comfort bicycle is still evolving
 - Began with a mountain bike with a wide seat and higher handle bar
 - BikeE produced a comfort bike in a seated position
 - Giant has merged the two in its Revive
- It is possible to design and market unique bicycles that:
 - Helps refine the comfort bike configuration
 - Have list price to landed price ratio in the 4-5 range.
 - Offer good opportunity for additional after-market sales
- There is much opportunity. Another quote from Jay Townley, *“There currently isn't enough economic power behind these product segments (recumbent, folding and electric) to develop new distribution models - but this may change depending on the acquisition and investment.*
- We can help Bowflex/Nautilus:
 - Define product requirements for a bicycle that matches its demographics and distribution channels.
 - Design, in cooperation with its engineers and manufactures, products that meet the requirements.
 - Produce a complete set of CAD part and assembly definitions, and manufacturing/assembly/packaging details.
- Team details
 - Paul Atwood has extensive experience designing bicycles and expertise in working with offshore manufacturing, primarily Taiwan. He is experienced in CAD and most common manufacturing methods.
 - David Ullman has extensive experience engineering and designing bicycles. He is expert in defining and designing products.

Team member: David Ullman	Prepared by:
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