

## The FlowJet Golf Aid Case

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### ABSTRACT

This case examines the commercialization and distribution of an innovative new golfing aid product - The FlowJet. The case charts the development of this product by Danny, a golf instructor, from conceptualization to near commercialization. It is at this latter stage that Danny encounters the critical decision of how to best distribute his product. Four distinct channels are available. Danny has collected the information necessary to perform a cost analysis for each option. This seemingly straightforward decision, however, must be contemplated within the broader context of all elements of the marketing mix. It is further complicated by considerations about the owner, the product, and the marketplace.

Information in the case was derived from interviews with the innovator himself and his research consultants. While the product and its attributes are real, both it and the innovator's name have been changed. Additionally, costs and sales projections have been approximated to protect future business endeavors. The central task for the case evaluator is the decision of channel selection, and specifically determining the best option considering the costs and benefits expected for the owner. Secondary issues include risk considerations for the owner and product/marketplace decisions that substantially impact this strategic channel decision. The case is appropriate for upper-level undergraduate or graduate courses in strategic management, strategic marketing, or supply chain management.

Keywords: distribution, channels, innovation, new product development, cost analysis, risk

## THE FLOWJET GOLF AID

Golf is more than a game. It is also a huge industry, which generates almost \$69 billion worth of goods and services, employs almost 2 million people, and involves more than 57 million golfers worldwide (SRI International, 2011). Although it is sometimes considered a “rich man’s game”, golf nonetheless maintains its place as the game of choice where business can be conducted as players complete 18 holes.

Danny is a successful golf pro who has run a pro shop at a country club for many years. One of the recurring problems that his clients face is learning to swing a golf club in a way that is consistent and replicable. To solve this problem, Danny designed and developed the FlowJet golf aid, a product that uses a proprietary construction to provide immediate feedback to golfers about the consistency of their golf swing, including its rhythm/timing and release. The design and development process required years of experimentation to arrive at a product that is now ready to commercialize. Danny thought that developing the FlowJet itself was the challenge; however, he now faces an even greater test – selecting the best distribution channel for his new product. Unexpectedly, this has become a complicated and far-reaching decision. His distribution channel decisions are heavily influenced by the financial resources required for each option, as well as the profit potential for Danny that could result from some options once the FlowJet is successful.

### PRODUCT DEVELOPMENT OF THE FLOWJET

The idea for the FlowJet came to Danny in a dream, inspired by an infomercial in which a chiropractor was selling a device to help strengthen stomach muscles. Danny thought that because he was a golf pro/instructor, he could create something to help golfers improve their swing. When he awakened, he sketched out the idea: a golf club with a liquid-filled canister inside a transparent, cylindrical shaft that would allow a golfer to evaluate the consistency of his/her golf swing. Later he tested the idea by putting colored water in a tube, taping it to a golf club, and evaluating its motion when he swung. It worked. The name FlowJet was suggested by his wife as a catchy brand name and a good descriptor of the product’s unique fluid component and motion.

Golfers have long developed tools to improve swing consistency, but many of these tools have not been very effective. Danny’s experience has allowed him to understand the actual needs of golfers. While Danny’s idea was conceptually simple, devising the actual product - particularly the fluid canister and the golf head - proved to be quite a challenge.

The fluid canister was incorporated into the golf club so the player could see the consistency of his/her swing. To function properly, the liquid in the canister needed some very specific physical and chemical properties. Danny identified seven. *Attractiveness* (1) and (2) *visibility* prompted the selection of a red-colored liquid. So the liquid would perform properly, additional properties included (3) *low viscosity*, to permit the fluid to move at the most appropriate speed, (4) *low adherence*, to prevent its sticking to the sides of the tube and reducing visibility, (5) *low surface tension*, to reduce the likelihood of bubbles, and (6) *non-toxicity*, to reduce danger should a canister accidentally break - a relevant consideration for a product that would potentially hit the ground repeatedly. *Stability* (7) was an essential property as well – it needed to retain these properties across time. He tested numerous water-based, alcohol-based, oil-based, and silicone-based liquids. (He even evaluated various liqueurs in a local liquor store

to examine their fluid motion. None flowed properly.) Eventually he found a liquid that met all these requirements, while learning a lot more chemistry than he had ever intended to.

The golf head needed specific properties as well. A key property was (1) *flexibility*. Since a golf swing needs to hit the ground slightly, a head was needed that would bend to some extent and diminish the force transferred up the club. Of particular importance was reducing the force experienced by the joints between the fluid canister and the shaft. Additional properties of the golf head included (2) *elasticity*, so it would return to its original shape rapidly, (3) *durability*, and, (4) *similarity in weight* to a real golf head. Attaining all these properties in one substance was proving a challenge until one morning when Danny noticed the pick at the base of his toothbrush. He pushed it over with his thumb. It returned to the original shape. Danny researched the patent and determined it was a thermoplastic elastomer. It had the other desired properties as well, and he learned it could be easily shaped to resemble a golf head.

Once the conceptual idea for the FlowJet was patented (see Appendices 1 and 2), and the product component materials were determined, Danny investigated options regarding manufacture. The FlowJet's components would be produced in China for cost considerations (approximately 50% less than in the U.S.), then final assembly and packaging would be completed in the United States. Danny's discussions with knowledgeable associates identified two primary challenges with manufacture in China: communication and shipping. While communication problems gradually dissipated after product particulars were finalized, shipping issues remained a constant. Shipment took approximately 4-6 weeks if all went well, but sometimes shipments were lost for months or never arrived at all. To help buffer some of these shipping issues, Danny decided to import the components and assemble the final product in the U.S. An additional consideration was the fact that the process for bonding the components together was both technologically advanced and vital to both the attractiveness and functioning of the product. Danny wanted those aspects of production to be directly under his supervision.

After an iterative process of molding, assembly, and trial usage, a refined design for the FlowJet was finalized. Prototypes were manufactured, and 30 of them were provided to golfers recruited at a Florida golf club by a marketing consulting firm Danny hired. The individuals that were selected for the study had been involved in the sport at some level for at least one year, and they were believed to represent "typical purchasers." The FlowJet was introduced to the group, and then individuals were given an opportunity to use it for an afternoon. Post-study comments were uniformly positive with regard to the FlowJet's effectiveness on improving the participants' golf swing.

## TARGET MARKET

Although the number of individuals participating in golf has declined in recent years, the total number of golfers is still over 24 million and exerts considerable buying power. The typical golfer is a married (68%), college-educated (67%), male (77.5%) with an average age of 46. The average golfer has a household income of \$95,000, \$2,776 of which is spent on the game annually (Golf Magazine, 2009).

In the United States, participation in golf has decreased over the last decade. A collaborative effort called Golf 20/20, which was launched in 2000 by the World Golf Foundation, has sought to address this deteriorating trend, but the effort has not yet been successful in reversing the decline (World Golf Foundation, 2016). See Table 1, Appendix.

Because the FlowJet helps golfers improve the consistency of their swing, it can benefit golfers at every level of proficiency. There are different segments of golfers, and they vary in terms of how easily they can be targeted by firms.

Avid golfers - those who play 25 rounds or more per year - represent only about 15% of all U.S. golfers, yet it is estimated that they account for approximately 70% of all golf equipment and gear spending (Acushnet Holdings Corp., 2016). They are more likely to be members of golfing clubs, to have golf magazine subscriptions, and/or regularly access media focused on the sport. These connections make them easier to target, since mailing lists can be purchased and promotional messages can be focused on the best channels and/or programming.

Novice golfers are those who enjoy the game but commit less time, effort, and money to their involvement. Novice golfers are less likely to subscribe to golf magazines or access media on golf. They are less likely to be a part of a golfing group. Membership to such groups is typically costly, so it is not a decision likely made on a whim. This segment of golfers is less likely to be on the promotional radar, and therefore more challenging to target.

Another potential target market to consider is the gift-giving market. It is composed of individuals who might consider the purchase of a golfing aid for a family member, friend, or associate. This segment would be challenging to distinguish (if it is hard to identify novice golfers, it is likely even harder to identify their family members, friends, and associates). Also, these individuals are less likely to encounter broadcast media or shop channels dedicated to an activity in which they do not participate. This market is worthy of consideration since the gift-giving market represents \$1 out of every \$10 spent in retail venues (Research and Markets, 2015). Danny believes avid and novice golfer segments hold the most potential for sales of the FlowJet, but he would like to retain the gift-giving market as a tertiary market to the degree that is possible.

## **PROMOTION**

In terms of message, promotional efforts should stress the specific benefits of the FlowJet's multifaceted training assistance, along with the simplicity of its use relative to competing products. Since effective usage of the FlowJet involves the golfer's regular swing, extensive demonstration is unnecessary. Communicating what the fluid's movement means is critical, however. A basic introduction to the product should explain when to examine the fluid in the canister before and after a swing, and what the fluid is indicating about the golfer's swing. Including testimonials by users who have experienced improvements in their golf swing would strengthen credibility of the promotional messages.

Because of the number of golfers and their average buying power, numerous media are directed specifically at golfers. There are options available via television (e.g. the Golf Channel and aired golf broadcasts), print media (e.g. Golf Digest and Golfweek), and the Internet (e.g. Sport's Illustrated's golf.com). These would all have a strong appeal to golfers or potential golfers.

Trade shows are also an integral component of the golf industry. New golfing products are typically introduced to industry professionals at two annual trade shows - the PGA Merchandising Show in January and the Golf Industry Show in February. These national trade shows precede the big buying season for golf equipment in the early spring as golf season commences. In terms of additional promotional tools available in the golfing distribution channels, trade promotions are an appealing option. Generally, margins for golf hard goods such



as golf clubs are so small there is not a lot of extra money for spiffs. As a specialty product, however, the FlowJet's product margins are sufficient to provide spiffs to retail sales staff to encourage sales.

## **PRICING**

In trying to determine a Manufacturer's Suggested Retail Price (MSRP), Danny took into account a number of considerations. His manufacturing and shipping costs are about \$23 per unit. Marketing and sales costs vary by distribution channel. Besides covering these unit costs, Danny wants to recuperate his upfront development costs and realize a degree of profit. What that profit level might be must, at a minimum, compensate him for the risks incurred. According to Danny's marketing consultant, historical data for other golf aid products indicates that successful new products realize a majority of their sales in the first 18-36 months of distribution (Mabie, 2013). Such a trend suggests to Danny that he must maximize his sales as quickly as possible, suggesting that some margin might require sacrifice to meet the sales objective. In addition, he expects that prices for the FlowJet will decline gradually over 36 months, largely determined by how quickly sales materialize.

While it is easier for Danny to determine a price based on cost, he realizes that doing so takes into account neither competitors nor what customers would be willing to pay for the FlowJet's unique benefits. In terms of competing products, the closest are those that focus on the swing plane - the Medicus Dual Hinge Driver (~ \$120), the Kallassy's Swing Magic (~ \$50), and the Plane Sight Laser (~ \$40). These products provide feedback to the user using mechanical means (the hinges on the Medicus golf shaft separate), technical means (half the grip slides down the golf club shaft on the Swing Magic), or electronic means (the lasers of the Plane Sight Laser indicate the plane of the club shaft). Each of these approaches has the potential for some type of associated error. The characteristic of the FlowJet that makes it truly unique is that it lacks any electronic and/or mechanical gadgetry - its liquid movement provides feedback about the user's swing using a fluid that will have the same physical consistency every time.

In addition to its advantages over competitors that focus exclusively on the swing plane, only the FlowJet provides user feedback about additional aspects of the golf swing, including rhythm/timing and release. The ability to help golfers improve the consistency of multiple facets of their swing should translate into a greater level of perceived benefit to golfers. Focus groups with users of the prototype confirmed Danny's assessment. Using these data inputs yields an initial MSRP of between \$94 and \$134. This differential allows adequate flexibility to adjust margin for different sales objectives and/or different distribution channels.

## **DISTRIBUTION**

Because the FlowJet is now ready for commercialization, Danny faces the immediate question of distribution. His objective is to maximize his outcomes while minimizing his risks. Before making any distribution decisions, however, Danny has identified some major issues that need consideration. The first involves assessing the various distribution options in terms of (1) which channel has the most unit sales potential, (2) what the associated channel/promotional costs would be, and (3) what his potential earnings are from each channel option.

Some of Danny's personal preferences frame the channel decision. He wants a channel that reaches as many potential customers as possible. He desires the widest possible distribution

because he believes that his golf aid will be quite valuable to golfers at all levels of play. Next, Danny feels strongly that the initial channel selected should be one that focuses specifically on golfing products. In his experience, the sales representatives in general retailers or more generic sporting goods retailers are not familiar enough with either the sport of golf or golf equipment to understand and address the specific needs of golfers.

Additionally, Danny's personal financial assets are limited. The resources needed to develop the FlowJet to this point have diminished Danny's financial resources, and he has insufficient assets to pursue each distribution option. Additional funding is possible via borrowing (e.g. a secured personal loan) or through an interested venture capital firm, but both carry a different type of financial risk altogether. That said, such funds would mean Danny has the ability to pursue any of the options under consideration. He needs to think about this very carefully.

Danny believes a decision regarding the marketing of the FlowJet must be made soon. The FlowJet's patent will expire in less than nine years, and Danny needs the legal protection afforded by the patent to help protect his device from being counterfeited. After introduction, the initial years are expected to produce the FlowJet's greatest earning potential.

Danny has identified four viable distribution channels that focus specifically on golfers: (1) direct-response television (DRTV) on the Golf Channel, (2) off-course golf retail specialty stores (i.e., Edwin Watts Golf, Golf Galaxy or Roger Dunn Golf Shops), (3) online golf retailers (i.e., golfwarehouse.com, or pinemeadowgolf.com), and, (4) on-course (green grass) golf shops (like pro shops at golf courses). Each of these options has unique pros and cons.

His marketing consultant has provided research information (Table 2, Appendix) for each of the FlowJet's four distribution options. These figures were based on historical data for other golf aid products, customer surveys, and industry averages. Unit sales were projected for two different levels of success: an optimistic level and a more modest level. A proposed MSRP was provided for each channel with a price point that historical data suggests customers of the channel expect. Finally, retailer mark-ups for the sporting goods industry were estimated by channel. These mark-ups were calculated as a discount off MSRP.

## **DIRECT-RESPONSE TELEVISION**

The first option is using direct-response television (DRTV), and specifically infomercials. These half-hour spots would give viewers an opportunity to purchase directly from the ad with a phone number. This approach would involve creating a 30-minute infomercial and broadcasting it on the Golf Channel (Finch, 2014). The infomercial would introduce the FlowJet and explain its usage and unique benefits. Interested individuals would then phone a call center to place their order. Purchase information would be transmitted to Danny, and he would fill the order via mail. Order fulfillment and transaction costs are estimated to be about 6% of MSRP.

An advantage of this distribution channel is that it allows Danny to completely control the message about the FlowJet, providing a full review of the product's benefits, a demonstration of its usage, and customer testimonials. The tremendous reach and flexibility of this channel also make it very attractive. DRTV programming can be broadcast to a national audience simultaneously or to different regional markets sequentially. A sequenced approach is preferable for the FlowJet as it allows introduction to be more paced. Using it, introduction would follow the golf season as it progresses north in the spring and recedes south in the fall. A sequenced regional approach is projected to cost about 7 million dollars for the first year. Budgeted costs

for the DRTV option include infomercial production (estimated at \$250,000), the provision of incentives (i.e., spiffs) to call center staff (\$250,000), and additional marketing expenses (\$50,000). The remaining money, and greatest cost, is directed toward regional channel airtime (estimated at \$7,500 per 30-minute slot) (Nathanson, 2013).

The expense of the DRTV option is the biggest hurdle, because it significantly exceeds Danny's personal financial resources and his ability to borrow. The only practical way to access the level of funds needed is via venture capital. While the use of venture capital is possible, Danny knows that venture capital funding comes with significant ownership strings attached. That loss of equity can be over 51%. Under such terms, Danny would lose the ability to control his company since outside directors would then dictate the direction of the firm. Because the FlowJet is a niche product, with greater marketplace risk, it could cost Danny an even greater percentage of ownership. He anticipates that investors would propose that Danny receive a negotiated profit percentage (e.g. 25% of profit, after manufacturing, fulfillment and marketing costs are satisfied and their initial investment monies are recovered). Danny understands that venture capitalists invest for ownership rights, expecting some investments to fail and others to result in large returns. The lack of downside risk should sales be poor is attractive to Danny. He questions whether it is worth the cost: a substantially diminished upside return and relinquishing control over his company.

## **OFF-COURSE RETAIL SALES**

Off-course retail stores are the second option. This option involves sales through retail golf store chains like Edwin Watts Golf, Golf Galaxy or Roger Dunn Golf Shops. The FlowJet would be promoted in stores with point-of-sale material and in-store signage. Additionally, in-store retail displays would show movement of the fluid to attract attention, along with a brief video clip demonstrating usage. Danny believes that seeing the fluid movement of the FlowJet would be eye-catching to potential customers.

Initiating sales in these retail channels would involve Danny visiting retail headquarters to discuss the deal. This can be a lengthy process and would require substantial salesmanship skills to demonstrate value for the retailer. Danny would need to support the FlowJet's introduction with media buys in some combination of print, broadcast, and/or Internet media. If a large media budget is committed to the product, it is expected that the retail chains would devote sufficient shelf space to the product. He expects that golf stores would want training for some of their sales staff, in-store events, and other promotions at key stores. Some of the training could be provided in person but it could also be provided via online instruction/demonstration videos.

Several advantages exist for off-course retail sales. Chain stores are present in their respective markets year round, they have an existing customer base, their clientele expects the latest thing, and they carry a variety of other golfing merchandise that would attract the FlowJet's target market. In fact, such retailers need new products to fully engage their customers. Many chains support sales via mail order and the Internet. The dedicated and knowledgeable sales staff make off-course retailers a very attractive option. Promotional money can also be applied in a more focused manner in this channel with incentives (i.e., spiffs) being directed to effective sales staff members.

In terms of negatives, most retail golf store chains are either concentrated regionally or have very dispersed locations across numerous states. It is likely that multiple chains would

need to be enlisted in the distribution channel to have a true nation-wide reach. However, often retail specialty chains want exclusive rights to the distribution of a new product before they will carry it. Danny does not want to restrict his options in this manner, but he may have to consider it.

In addition, this channel would require Danny to negotiate with retailers over shelf space and placement of point-of-sale displays. Using off-course retail stores to market the FlowJet is the second most expensive distribution option, with an estimated cost of \$3 million. The majority of these funds would be used for media buys and trade promotions. Danny has the collateral to be able to borrow this quantity of money from the bank without outside investors. Off-course sales allow Danny to retain ownership and control over the product and message. Additionally, the option offers him an opportunity for the greatest potential profit. On the other hand, the risks inherent in this same distribution channel mean that it offers him the greatest potential loss as well.

## **ONLINE STORES**

Internet-based retailers such as [thegolfwarehouse.com](http://thegolfwarehouse.com) or [pinemeadowgolf.com](http://pinemeadowgolf.com) are another option. Similar to that in off-course retail stores, media buys would be needed to support the FlowJet's introduction. Video clips on the retailer's website can show movement of the fluid to attract attention and provide a demonstration of usage. Completed orders would be transmitted to Danny by the retailer, and he would fill them via mail. Order fulfillment and transaction costs are expected to be about 6% of MSRP.

Danny suspects the FlowJet will need an online presence, if for no other reason than to provide instructional resources. If Danny develops a website presence, he must then decide whether to sell the FlowJet clubs through the website as well. This decision is important and must be carefully considered. It introduces the potential for channel conflict between him and his distribution partners. Retailers do not like to compete for sales directly with one of their suppliers. The potential negative consequences are significant. It could deter an online merchant from carrying the FlowJet at all. It could also exert strong downward pressure on the FlowJet's price.

There are some clear-cut arguments for distributing through online stores. Relatively low cost, estimated at just \$600,000 for the first year, is a strong advantage. Promotional efforts would emphasize online media to a greater degree, which is a substantially less expensive promotional approach. Less inventory would be required because order fulfillment would originate from a single location. Danny could handle this option with the financial resources he has. He also has extensive personal experience with online sales and is very comfortable with this approach.

It is expected that sales via online retailers would likely increase at a much slower pace since golfers would be less likely to encounter the product than they might during retail shopping ventures or television viewing. As an impulse product, the FlowJet is more likely influenced by in-store demonstrations and positive word-of-mouth by testimonials and influential people. A slower adoption process would affect his sales projections, profit expectations, and patent concerns. It is also an important consideration for a product that has a relatively short life.



## **ON-COURSE SHOPS**

Retail sales via on-course pro shops (green grass accounts) are another option. These small retail stores are associated with golf courses or country clubs. Less in-store point of sale material and signage would be needed since these shops are generally smaller and have less traffic. Promotional efforts to this channel would focus more on the business trade rather than on the final golfing consumer. Spiffs would be a relevant tool in this context. These on-course shops are typically serviced by sales representatives for various product groupings. Some (negotiated) level of inventory would be maintained by the shop and replenished by an agent during his/her regular visits. Generally, sales agent commissions are about 15% of MSRP.

Pro shop staff are recognized as dedicated and competent golfing professionals. They often provide golf instruction to new golfers. Typically, pro shop staff have stronger relationships with their customers than would be expected in any other channel. Their recommendations would carry more weight and the pro's reputation would add to the image of the FlowJet brand. This option is the least expensive, estimated at \$300,000 annually.

In terms of disadvantages, this channel is very fragmented. Sales arrangements would need to be established shop by shop and could be expected to take a lot of time, effort, and expense. Consequently, introducing the FlowJet at the two national trade shows would be key to this approach. On-course retail sales are also very small relative to other channels. About 80-90% of hard core golf sales (e.g. golf clubs) are presently made off-course, so total unit sales of the FlowJet in this channel are forecast to be low. Margins, however, could be higher. The FlowJet's relatively short product life is a concern with this approach. While golf professionals are likely to be trusted more, the speed with which the product would be introduced to customers into the marketplace is likely to be slower.

## **DANNY'S OPTIONS AND YOU**

Danny designed and developed the FlowJet to help golfers improve their golf swing. Selecting the best distribution channel for his new product has become a complicated and far-reaching decision. Each distribution channel has important considerations. There are notable differences in projected sales by channel. The financial resources needed to effectively use some options are substantially beyond what Danny has available and introduce an unfamiliar level of risk. There are also significant risks in marketing his product (e.g. salesmanship, media buys, message development, website maintenance). Finally, his time frame for market success is relatively short (18-36 months). He is left wondering which distribution channel will optimize his personal outcome in the first year.

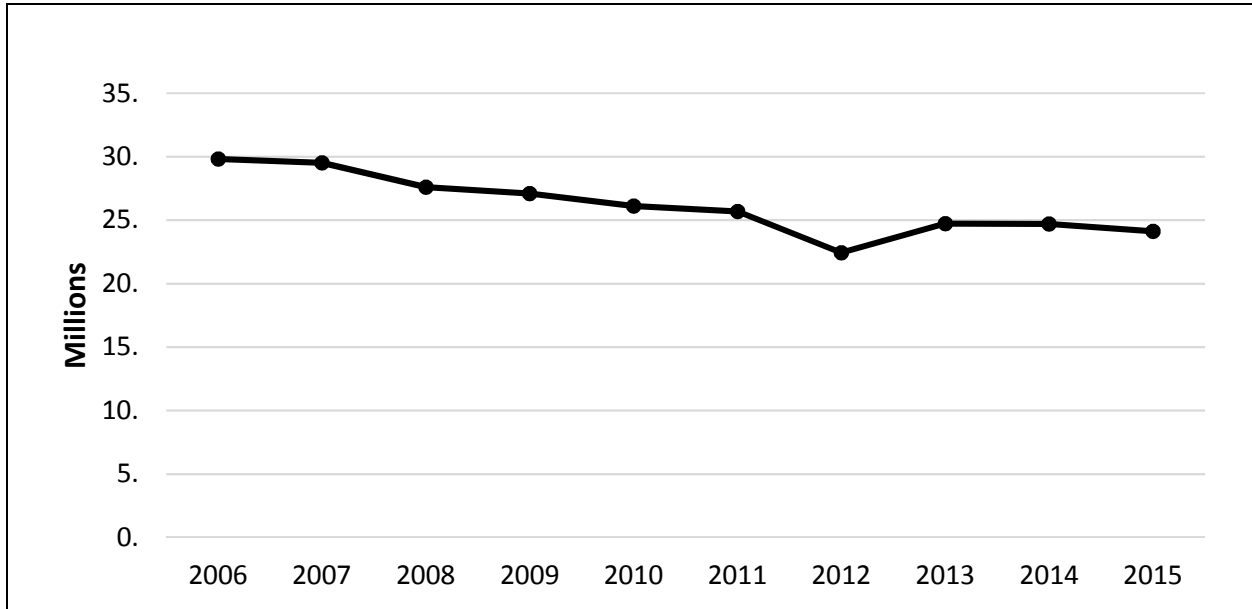
It is for this reason that your friend, Danny, has approached you and asked for your assistance. He is a competent businessman but he has been deeply involved in this endeavor for many years. He needs someone he trusts to provide a more objective perspective to talk through this decision with him. He knows the product can provide a significant benefit for golfers, but he is uncertain about the best path to realize success. He needs your insights to help identify and illuminate any matters that he may not be adequately considering.

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**APPENDIX**

Table 1  
U.S. Golf Participants: 2006 to 2015



Source: World Golf Foundation, 2016; Outdoor Foundation. (n.d.)

Table 2  
Year 1 Projections: Unit Sales, MSRP, and Retailer’s Markup by Channel

	DRTV	Off-Course	Online	On-Course
Unit Sales (optimistic)	150,000	100,000	25,000	15,000
Unit Sales (modest)	60,000	50,000	13,000	8,000
MSRP (\$)	99.99	119.99	94.99	134.99
Retailer’s Markup*	-	40%	20%	50%

\*Retailer’s Markup - calculated as discount off MSRP

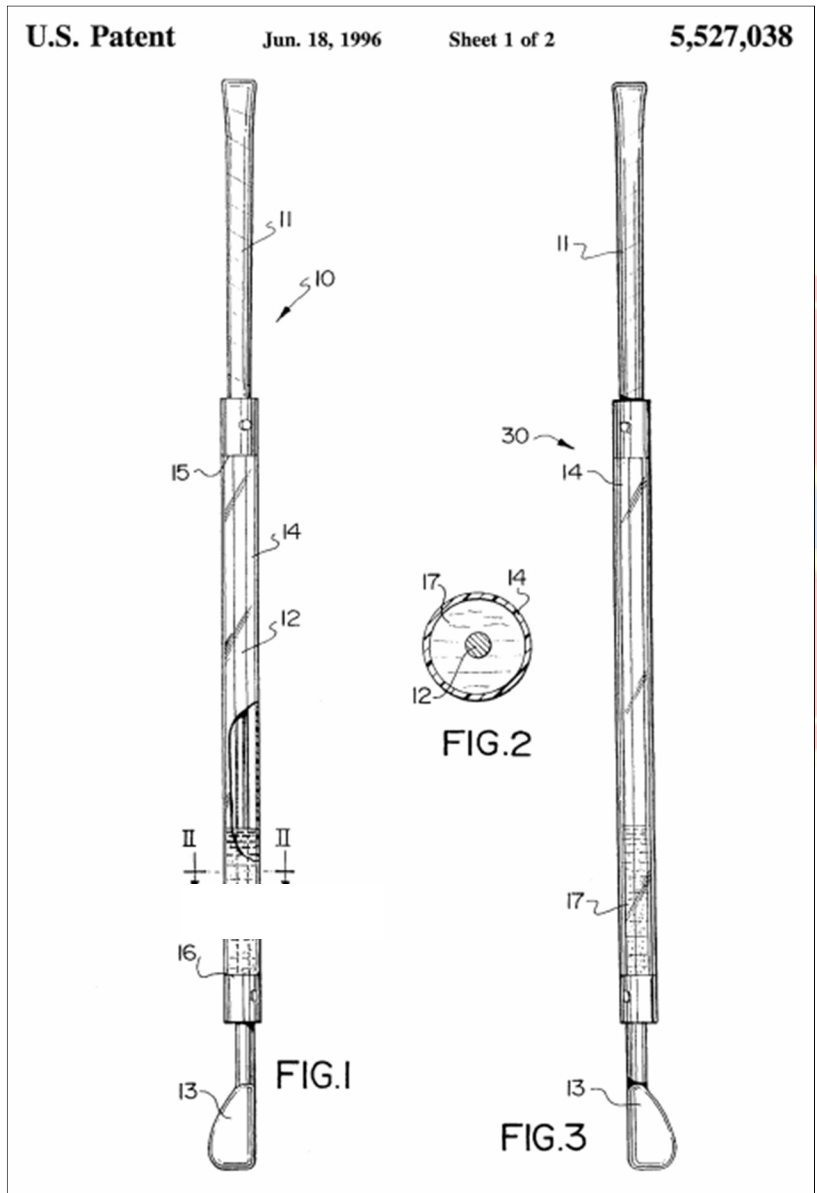
Description of U.S. Patent Figures (FIGs) 1, 2 and 3

The patent date has been changed to render the case more flexible. U.S. patent documentation for this product can be found at the web link below:

<http://pdfpiw.uspto.gov/.piw?Docid=05527038&homeurl=http%3A%2F%2Fpatft.uspto.gov%2Fnetacgi%2Fnph->

<Parser%3Fsect1%3DPTO2%2526sect2%3DHITOFF%2526u%3D%25252Fnethtml%25252FP TO%25252Fsearch->

<adv.htm%2526r%3D11%2526p%3D1%2526f%3DG%2526l%3D50%2526d%3DPTXT%2526S 1%3D5,527,038%2526OS%3D5,527,038%2526RS%3D5,527,038&PageNum=&Rtype=&Secti onNum=&idkey=NONE&Input=View+first+page>



As seen in FIG 1 and 2, the teaching aid golf club (10) includes a conventional grip (11), a conventional shaft (12) and a conventional head (13). To provide the present invention a transparent material, i.e., acrylic plastic, nylon, etc., cylinder (14) is secured concentrically around the shaft to be sealed at seals (15 and 16) to the grip (11) and club (12), respectively.

Before sealing, colored liquid of low viscosity (17), e.g., water containing red dye #1, is placed inside the cylinder. Thus, as the golf club (10) is swung the colored liquid is free to move unimpeded along the entire length of the transparent cylinder (14).

In a variation (30) thereof shown in FIG 3, the conventional shaft (12) is omitted, and the cylinder (14) is directly attached to the grip (11) and the club (13).

Source: United States Patent and Trademark Office



Description of U.S. Patent Figures (FIGs) 4, 5, 6, and 7

The operation of the invention in teaching a pupil the proper golf swing is shown in FIGS 4 to 7 in the following terms:

As seen in FIG 4, the proper angle (8) for addressing the golf ball (41) is shown. This angle is marked by a line (42) on the transparent cylinder (14) so that, at all time of addressing the ball, the golfer inclines his golf club (10) at the proper angle.

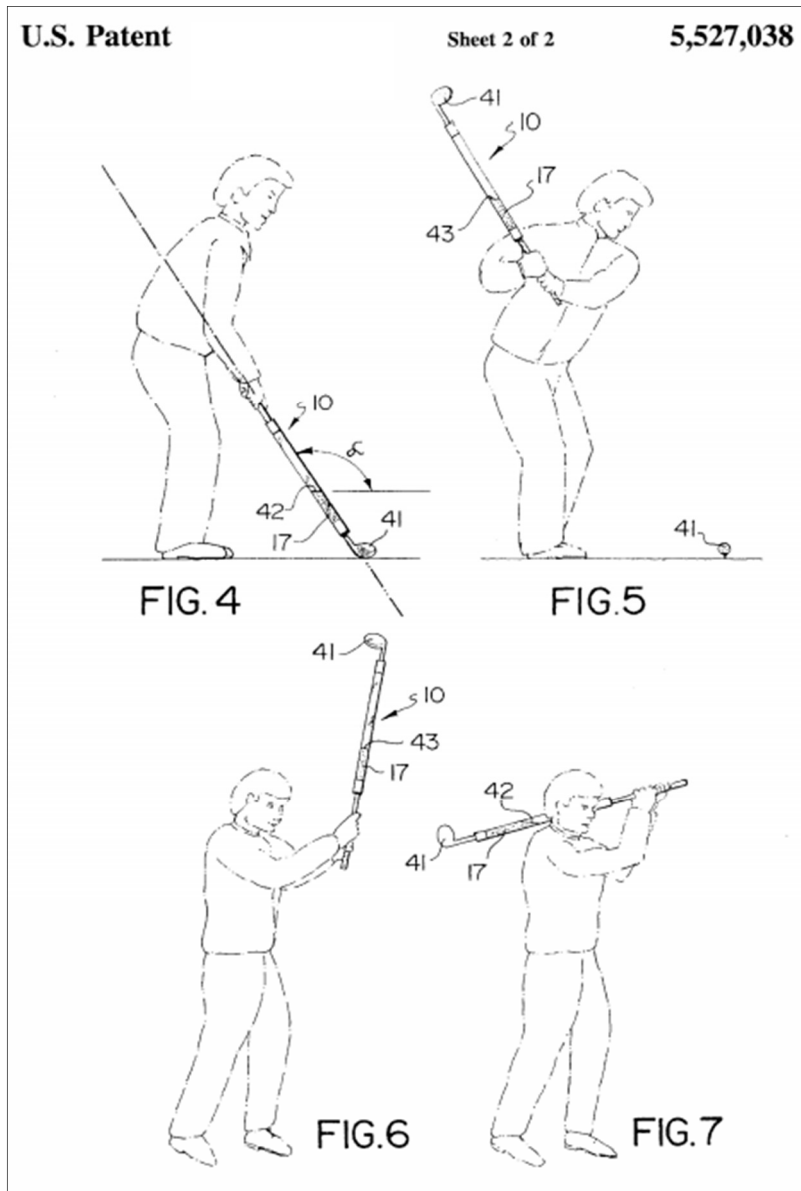


FIG 5 shows the pro swing at the limit of swing. The golfer can determine if his back swing is correct by merely glancing over his shoulder to see that the marker liquid (17) is at a second marker line (43), adjacent his hand.

FIG 6 shows the attitude of the golf club (10) between the time of impact of the golf club with the golf ball (41). Again, it is seen that marker liquid (17) is at the second marker line (43) adjacent his hand.

FIG 7 shows the attitude of the golf club at its follow through position. It is noted that the position of the marker liquid is again at its first marker line (42).

Source: United States Patent and Trademark Office