



1649 Tippecanoe Street • Terre Haute, Indiana, USA 47807-2394
Tel: 812-234-1120 • 800-285-3761 • Fax: 877-640-8507
Web: neoterichovercraft.com • rescuehovercraft.com
Email: team@neoterichovercraft.com

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Facilitator: Chris Fitzgerald

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THE LIGHT HOVERCRAFT MARKET

Contents

A.	HISTORY	2
A.1.	INTRODUCTION	2
A.2.	EARLY YEARS	2
A.3.	FORMULA FOR SURVIVAL IN A NEW INDUSTRY	3
B.	MARKETING A PRODUCT	4
B.1.	PRODUCT	4
B.2.	PRODUCT NAME	5
B.3.	PROMOTION	6
C.	LIGHT HOVERCRAFT INDUSTRY	7
C.1.	FIRST GROUP	7
C.2.	SECOND GROUP	8
D.	LIGHT HOVERCRAFT INDUSTRY DIVISION	8
D.1.	RECREATION MARKET	8
D.2.	RESCUE MARKET	9
D.3.	COMMERCIAL MARKET	10
D.4.	MILITARY MARKET	11
E.	SELLING LIGHT HOVERCRAFT	11
F.	FUTURE CHALLENGES	14
G.	OBSERVATIONS	14
H.	CONCLUSION	15

THE LIGHT HOVERCRAFT MARKET

A. HISTORY:

A.1. INTRODUCTION:

This talk is about my understanding and experience in dealing with the market for Light Hovercraft. The market began in the early 1960's when news about Hovercraft first appeared.

A.2. EARLY YEARS:

My interest started in 1959 when the SRN.1 Hovercraft crossed the English Channel. Being extremely interested in all things aeronautical and as a youth who realized that flying was a risky business and dangerous, I saw this new concept as a form of 'flying' but with one foot on the ground, and if things went wrong you could safely step out!

My exposure to the market began in Melbourne, Australia around 1960 when together with a group of several friends we began to build small 'Light' Hovercraft, and in March of 1964 we participated in the World's first Hovercraft race in Canberra, Australia. As time progressed I went on to form a Light Hovercraft manufacturing company, which is still in business and is the primary source of my marketing experience and knowledge.

During the 60's it was not clear what sort of future existed for Light Hovercraft and many discussions and interviews with learned marketers only added to our uncertainty. Another concern that constantly surfaced was product liability insurance, but ultimately this never became an issue.

Even in the early days it was understood that the market could be divided into heavy and light, just as the aircraft industry is and it was generally accepted that light hovercraft were limited to a max payload of 2200 lbs. or 1000 kg.. This presentation is mostly dedicated to Light Hovercraft.

Since a market exists for 'EVERYTHING', it follows that there must be a market for light hovercraft... "BUT" how big is it?? When a big market is obvious competition and capital arrive to satisfy the demand. In the 60's and 70's many companies and individuals worldwide began developing and manufacturing Hovercraft. Everyone expected or imagined a large future market. Expectations were founded on speculation. As time passed few of these Hovercraft ventures survived.

A.3. FORMULA FOR SURVIVAL IN A NEW INDUSTRY:

Surviving the formative years of any new industry is a process that requires endless endurance, supreme tenacity and a system to capitalize your efforts so that when one marketing or product idea fails the entire enterprise is not brought down. This process must keep going so that new ideas can be invented, tested and evaluated until successful or not. Controlling expenses in such a process is a herculean task and sourcing capital an even bigger one. This mode of operation must be developed and organized in such a way that the organization can continue, for however long, until success appears. The best and preferred capital comes from every possible means, even from unrelated product sales. No matter how small or relevant such income or capital is, it must always be sufficient to cover expenses. In this boiling pot of effort and hardship, is borne a product or products that can be used to generate an income, an income which on average must always slightly exceed expenses. In this way the enterprise stays alive. It is a hard but fail-proof way of existing while a sustaining market is born.

Such a time-consuming process can take many years. Looking at how nature works, in the case of plants, countless numbers of 'seeds' (for example) are produced; the best survive, grow, and reproduce. The crux of this process is to evaluate as large a number of ideas (seeds) and products with the resources at hand. Nature has infinite time but for humans there is a short useful limit. When a market is large resources flow from speculators. These resources shorten the time to develop both a product and a market. No sooner is something shown to succeed in any market place it will be copied and sometimes even improved.

After discovering Adam Smith's book, *The Wealth of Nations*, which was first published in 1776. I began to understand how things worked. Smith explained that the most fundamental reason for our prosperity and wealth derives from the advantages that accrue from the division of labor. This can be simplified as 'one man one job' and obviously is the most efficient way to work. The lack of the division of

labor explains why small businesses struggle. In a small business the division of labor is reversed ‘one man every job’ which is highly inefficient. Smith explained ‘When a market is small, no person can have any encouragement to dedicate himself entirely to one employment’. As the market grows the opportunity to divide labor and improve efficiency increases. This is a further explanation for why the Light Hovercraft market grows so slowly.

B. MARKETING A PRODUCT:

When selling a product there are three ‘Ps’ involved: product, product name and product promotion.

B.1. PRODUCT:

Since 1960 there have been at least a thousand different Hovercraft model designs built and sold throughout the world. Some of these models, such as the SCAT, have been manufactured and sold in the thousands, perhaps as many as 6,000 before the Scat Company disappeared in bankruptcy. There were manufacturers in almost every country but few are around today. Despite a great effort to find useful data on Light Hovercraft sales figures none exist. US Neoteric Hovercraft, has manufactured and sold around 800 units over a 46-year span. In 2017 Hovertechnics, Co., another U.S. manufacturer was acquired by Neoteric, and from Hovertechnics records a similar number of craft appear to have been built and sold but over a shorter time span from 1982 to 2017. These sales numbers are paltry when you realize that in the U.S., there are quite a few companies manufacturing 1000 4-passenger boats each and every day! At a guess, since the 1960’s the pooled total world production of light Hovercraft would not have exceeded 20,000 units. Compare this with 4 wheelers, jet skis, snowmobiles and airboats. These figures can be found by searching Google.

Sales	Location	Units & Unts/Year
4 Wheelers, ATV’s	U.S. and Canada	8 millions, forecast to increase to 13 million by 2028
Jet Skis	World Market	1.8 to 2.75 million by 2028
Snowmobiles	U.S. and Canada	101,000
Airboats	U.S. and Canada	1,000 to 2,000

B.2. PRODUCT NAME:

In the early sixties and even today Hovercraft have many different names. Surface Effect Ship (SES), Ground Effect Vehicle (GEV), Ground Effect Machine (GEM), Peripheral and Annular jet vehicles, Surface Skimmer, Hydroskimmer, Landing Craft Air Cushion, and recently Ship to Shore Connector, Wing in Ground Effect (WIG), RAM Wing, Air Cushion Vehicle, Side Wall Hovercraft, Air Cycle, Air Car, Flying Saucer and Magic carpet.

One sure way to escape from the law or make something difficult to find is to change its name or use multiple names for the same thing. When it comes to selling Hovercraft, with its slew of different names, it's confusing and increases the difficulty of selling them.

To confuse things further there are video games, ride on 2-wheel scooters, toys with wheels and even a Musical band called 'Hovercraft'. We must strive, as an industry, to correct this problem by making sure to all agree about the Hovercraft name and its derivation and definition.

Probably, Sir Christopher Cockrell's greatest contribution to our industry was his creation of the word 'Hovercraft' and his subsequent willingness and generosity, without copyright infringement, to make the word "Hovercraft" available for everyone's use.

In a 1980 UK Dept. of Industry Ship and Technical Requirements Board report on Stability and Control of Hovercraft "Notes for Commanders" defined Hovercraft as a vehicle which is designed to be supported when in motion wholly or partially by air expelled from the vehicle to form a cushion of which the boundaries include the ground, water or other surface beneath the vehicle.

Wikipedia defines a hovercraft, also known as an air-cushion vehicle or ACV, as an amphibious craft capable of travelling over land, water, ice, mud and other surfaces.

From my understanding there is a family of vehicles, which are associated with air support, and the family name is Air Cushion Vehicle. One of the children of this family is amphibious and is called 'Hovercraft'. If this is correct then both definitions cited above should be changed, in the first the words 'or partially' should be dropped and the Wikipedia definition should be changed to 'A hovercraft is an amphibious

craft capable of travelling over land, water, ice, mud, and other surfaces and is a member of the Air Cushion Vehicle Family’.

It will be helpful for the Air Cushion Vehicle Industry if we could work toward correcting such confusion. By agreeing that the hovercraft is a child of the Air Cushion Vehicle Family then our Hovercraft Society’s name should rightly be ‘The Air Cushion Vehicle Society’ and not Hovercraft Society!

When the Hoverclub of America was incorporated I never understood this family arrangement. It follows that the Hoverclub of America should have been named The Hovercraft Club of America. We must look to correcting all confusion around the name Hovercraft. Getting the name right is fundamentally important to reduce confusion and to help the industry grow.

Also, Hydroplanes and Big Cats are partially supported by air and therefore are members of the Air Cushion Vehicle Family. Presently this side of the family is estranged and might not appreciate being classed as Air Cushion Vehicles.

B.3. PROMOTION:

In order to sell or exchange a product for cash, a customer must be aware that the product exists. The process of informing a customer is called marketing. Marketing is fundamentally education and there is no country where the cost of education/marketing is more expensive than in the U.S. The proverb ‘out of sight out of mind’ is fundamentally correct and no product can be sold until a customer knows of its existence and at the same time can understand and grasp its characteristics and benefits.

Education/promotion is massively expensive and this is again one of the fundamental reasons why light hovercrafting is not more popular. Unlike the music and entertainment industry, which unbelievably, has countless TV, radio, newspaper and social media channel outlets totally dedicated to round-the-clock promotion, for what appear to be no cost to the industry! Our industry, on the other hand, has to pay for all of its promotion/education.

With the advent of the Internet, things have improved slightly so that the cost of educating the potential market appears to have dropped.

Since our Australia Company started business in the U.S. in 1976, we have received about 30,000 inquiries. During our Australian years, about 2000 inquires were received between 1965 and 1976. The majority of all inquiries are maintained

in paper files with more than several sheets in each. Many files are 1 inch thick and 31,200 of these inquires have never resulted in any business.

Eight hundred paper sales files are dedicated to customers who purchased the 800 craft we manufactured and sold during the past 47 years. Many of the 31,200 inquiry files are ½ inch thick and some several inches thick. For the 800 customer files, these vary between ½ inch to many inches thick. Multi inch thick files are for customers who purchased more than a single craft. From the number and thickness of files it is easy to see how much sales resistance there is and every sale is like climbing Mount Everest. Our sales effort is like climbing a mountain and often involves months or even years of work. We use these files as a way of indicating the high cost of selling Light Hovercraft.

As a general rule, something like 40 - 45 inquires are processed for every sale. This ratio has not changed since the beginning of the company. In recent, after COVID times, this ratio has become worse. It's hard to get excited when a potential customer says they are planning to purchase a hovercraft because there is a 1 in 45 chance they will!

C. LIGHT HOVERCRAFT INDUSTRY:

There are two groups of customers.

C.1. FIRST GROUP:

First group has a need or a problem to solve and is not emotionally involved in the purchase decision. This group is extremely cautious and wants proof that the craft will solve the problem! Such caution creates a loop where no customer wants to be first. Consequently, the market limits itself to customers who are first adopters, market innovators or what we call Neoteric Spirits. People who are willing to give it a try when there is not much or any proof that the craft can do what the customer expects of it.

First group customer traits (commercial, rescue and military):

- Concerned about the suitability of the product.
- First adopter or a Neoteric Sprit. We call this person a Champion.

- Funding is usually not personal and is regulated by commercial or government involvement.
- Always seeking proof of concept.

C.2. SECOND GROUP:

The second group makes purchase for personal 'emotional' reasons. Because the purchase is not-socially accepted or common, this means that the customer must also be a first adopter or Neoteric Spirit. So, you can see 'most' customers are first adopters or Neoteric Spirits.

Second group customer traits (recreation):

- Mostly male
- Age between 20 and 90 year of age
- Have a history or interest in one or more all-terrain vehicles, light aircraft, motorcycles, jet skis, snowmobiles, boats, etc.
- Have available uncommitted or discretionary funds
- Demonstrate a willingness to try something new, first adopter, Neoteric Spirit
- The product must fit their 'concept of self'
- Many customers are lonely and look for contact, want to reinforce their sense of belonging, which is reinforced, with the purchase of a Hovercraft. This entitles the customer to belong to this small family of hovercraft owners. They become a clan member.

D. LIGHT HOVERCRAFT INDUSTRY DIVISIONS:

It wasn't until the nineties that the Light Hovercraft industry recognized four categories:

- **Recreation**
- **Rescue**
- **Commercial**
- **Military**

These categories can be further divided as follows:

D.1. RECREATION MARKET:

- 1) Do-It-Yourself hovercraft kits, plans and components. A number of companies have survived, including Neoteric, by selling such products or a combination of similar products.
- 2) Racing and cruising Hovercraft. A small number of individuals produce parts and craft for this market.
- 3) There is also an educational component involving schools, clubs of all sorts, church groups and individuals interested in building small craft.
- 4) The world of toy hovercraft is probably the largest market. If I were to guess it could be hundreds of thousands of small models, electric and combustion powered craft of every shape and size.
- 5) Clubs or groups have been formed where individual enthusiasts, with an interest in Hovercraft, have joined together to form associations, societies and clubs.
- 6) The recreational market is by far the larger light hovercraft market since there are more individuals than there are emergency or military clients. However, the recreational market is more difficult and expensive to find and reach. It includes:
 - Ice fishing
 - Duck hunting
 - Exploring
 - Photographing nature (accessing difficult to reach remote locations)
 - Fishing in hard to reach locations
 - Owning a unique vehicle for pleasure and enjoyment to enhance self-concept
- 7) Hovercraft used in advertising example is YouTube's "Bubber's Hover".
- 8) Year-round island transportation/access.

D.2. RESCUE MARKET:

- 1) Police Department applications such as ice rescue and patrolling
- 2) Emergency management applications
- 3) Fire Department applications
- 4) Security applications
- 5) Airport rescue applications

6) Border control

These market applications are similar and utilize similar Hovercraft sizes and types and are mostly Government controlled, but not always as some companies provide their own private security and rescue services. This market is prominent and more easily found and reached than is recreational customers. With a changing environment, the Rescue market will see increasing demand. Hovercraft are useful in floods for surveillance work, for transporting people and animals, for searching for victims and for surveying the situation or reconnoitering. When it comes to thin ice rescue conditions there is really no better tool than a Light Hovercraft. It's extremely safe, economic and most importantly 'Fast'. These craft also perform well in swift water where they can be useful for rescue and body recovery. When not needed for rescue work, they can be used after fire for building ventilation as they can move a lot of air.

D.3. COMMERCIAL MARKET:

- 1) Applications where most other vehicles cannot perform economically, safely and effectively as a Hovercraft.
- 2) Scientific Research data gathering in tidal regions or shallow waters.
- 3) Surveying/data collection.
- 4) Spraying for Pest Control.
- 5) Spraying for dust control.
- 6) Advertising other products using the Hovercraft's novelty value.
- 7) Movies, video, TV shows such as 'Junk Yard Wars', Aaron Needs a Job, NOS sales video, Red Bull action video and so on.
- 8) Viral Videos such as 'Bubba's Hover' on YouTube for selling other products.
- 9) Detecting unexploded ordinances underwater or in mud.
- 10) Oyster fishing.
- 11) Seeding wetlands.
- 12) Lake weed spraying.
- 13) Tourism transport, sightseeing, joyriding, experience a unique vehicle ride into usually inaccessible locations.
- 14) Team building events.
- 15) Mapping riverbeds or measuring river flow rates.
- 16) Gold mining in shallow rivers.

- 17) Commercial advertising projects such as for Canadian Labatt's Beer, Lord Extra Cigarettes and many more.
- 18) Construction transportation around difficult sites and as a safety standby vehicle.
- 19) Rice Planting.
- 20) Crop sanding for Cranberries.
- 21) Transporting heavy loads across factory rooftops.
- 22) Worker transportation in swamps for example pipeline laying and inspection/repair, or in eco sensitive areas.
- 23) Transportation and rescue in sludge and silt retention ponds at mining and power plant sites.
- 24) Transportation for management and inspection at Reservoirs and sewage plants.
- 25) Bird control on bodies of water close to airports.
- 26) Environmental survey works in mud and tidal flats.
- 27) Pilot and maintenance training craft.

D.4. MILITARY MARKET:

1. Rescue applications of downed pilots.
2. Limited Transport of soldiers across tidal flats.
3. Training craft.
4. Military policing work.
5. Autonomous craft for mine detection and disposal.
6. Patrolling pipelines in swamplands.
7. Intercepting smugglers and terrorists in tidal marshlands.

The military market is largely undeveloped. Light Hovercraft have a role as inexpensive and effective training craft and can be useful in other military situations.

E. SELLING LIGHT HOVERCRAFT:

Before anything can be sold the buyer has to be aware it exists.

Because the majority of customers are uncertain about purchasing a Hovercraft, they seek assurances. This often takes the form of wanting to become a "Dealer" or a "Distributor" and this assurance, insurance or backup plan is all too

common. A great percentage of customers, both recreational and commercial, ask about a dealership not only as an assurance but also as a means of obtaining a discount. The dealership approach is thought by the buyer to be a way to recover costs should the craft prove undesirable.

When a company sells a product, especially a product having a large market, a system of distribution can be easily established. Very large markets such as for automobiles have many hundreds of distributors and the distributors have even more dealers. The distributor appoints dealers and sometimes the dealer appoints agents. None of this works for the Hovercraft market, yet in many instances, in order to garner a sale, the Hovercraft manufacture is forced to go along with the customer's demand to be appointed a "dealer" or to be completely ridiculous "a distributor" and the hovercraft manufacturer will agree to go along with an appointment.

The customer is primarily looking for a discount and to lower their risk. Everyone knows that dealers/distributors purchase goods from the manufacture, at a discount, and always below retail price. Because dealers or distributors purchase goods for less than retail price the appointed dealer expects product at a discount.

As soon as a Hovercraft manufacturer embarks on this course of selling, they are no longer selling Hovercraft but instead are selling distributorships and dealerships. Such "products" are far more complex than selling a Hovercraft since they involve, among other things:

- Insurance
- Distribution/shipping
- Financing/floor planning
- Warranty programs
- Training programs
- Warehousing
- Advertising budgets, sales support and so on
- Territories
- Exclusivity
- Buy-back programs

Many light Hovercraft companies have been sucked into this dealer vortex and are no longer around. A few of many come to mind:

Skim air	Scat	MHV Spectra
Air Cycle	Air Lift Hovercraft	Eglen Hovercraft
Hovertechnics	Hover Hawk	Hover Pod
Hover Cat	Hover shuttle	Air Commander

During the Zoom presentation a series of old flyers, brochures and letters were displayed in order to convey the extent of light hovercraft manufacturing activity. The collection displayed was only a portion of what are in our records. From this it is clear that many attempts, by many individuals and companies, were made to enter this market, few have survived. To view the collection, click on this [link](#).

In its simplest form, selling dealerships is pyramid selling. Companies like Shaklee, Tupperware and many others are successful pyramid sellers because they sell products, which can be marked up more than 100% and still find customers. They have sufficient margin for each dealer/agent/distributor to garner a commission. This does not work for expensive products like Hovercraft. The dealer margin or discount cannot be built in. Since the light hovercraft is hand built there is no room for discounts. Failure of the majority of hovercraft companies drawn into the dealer market is evident. Since the hovercraft market is small, there is no existing demand. There is nothing for a dealer to fulfill. The dealer, in effect, is expected to create the market and for many reasons they cannot. The Hovercraft manufacture rarely seeks dealers but they tolerate them in order to make a sale. As such, the so-called dealer is usually unqualified or inexperienced in selling, and so failure follows.

Selling a light hovercraft can be thought of as selling one leg of a three-legged stool. The other two legs are piloting/operating protocol and maintenance.

Each leg can be considered to have equal value. This is an unstable product dynamic when a leg is left out. Most hovercraft are pretty useless when the piloting and maintenance is not included in a sale. A rescue hovercraft, for example, becomes a hovercraft that has to be rescued.

Selling light hovercraft is similar to selling light aircraft. Most light aircraft customers learn to fly before they buy. It is rare for any customer to purchase a craft sight unseen. They prefer to experience the vehicle operating and to be able to study its features first hand. This is only possible when proper dealerships are in

place. As previously explained the market demand is presently too small to support a dealership network so the potential customer must either take the risk and purchase or visit the factory. This requirement seriously limits sales. Any potential customer will seek out customers who have a hovercraft close to them. When this happens it is fraught with issues for example the owner will often try to sell the potential new customer their craft! There are many other problems but one thing is clear the market for light hovercraft will not expand until a dealer system can be established. A dealer system however first requires that marketing exists in order to establish a demand, which the dealer can then fulfill.

So far light hovercraft have been unregulated except they must meet pretty rudimentary marine safety requirements. Unlike Motorbikes, Automobiles, Helicopters, airplanes and certain boats, which are intensely regulated, the light hovercraft is free of such restrictions. Since customers are not forced to take training they don't. This leaves many customers dissatisfied because they struggle to operate their machine properly and in the end most light hovercraft end up languishing until their eventual disposal.

F. FUTURE CHALLENGES:

There are always a constant barrage of new requirements from customers and governments that the manufacture must fulfill.

For example: A product 'end of life' requirement. Hong Kong is moving away from fiberglass marine craft because of end of life environmental disposal issues. This means future craft must be built from renewable materials or bought back by the manufacturer for disposal.

The trend toward electric powered vehicles has given customers the idea of electric powered light hovercraft. Similar problems have existed in the past when the trend was away from 2 cycle and toward 4 cycle engine powered craft. Such changes all demand considerable capital investment for which the size of the market cannot support. In addition, these changes can cause marginal hovercraft performance to be further sacrificed.

G. OBSERVATIONS:

Light Hovercraft suffer from being

- Noisy
- Dirty and wet
- Directionally challenging to control

Such characteristics limit the demand, especially for recreational craft sales.

Since the light hovercraft market is very small, their manufacture involves considerable handwork and as a consequence, they are expensive to build. Construction times can easily exceed 250 man-hours per passenger seat.

For many reasons, a light hovercraft is expensive to operate. They are equivalent to the same cost as operating a small helicopter. From experience, maintenance is the biggest cost, approaching between 1-3 man-hours for every hour of operation. Hardly anyone can appreciate this, but it is quickly realized as soon as the hovercraft begins operations.

As an additional consequence of their high operating cost a majority of light Hovercraft end up languishing and are rarely used once the novelty of first-use wears off. Most light hovercraft operates for an average of 20 hours per year.

Many sales of light Hovercraft are made through quasi agents or dealers, which are often founded, on kickback schemes. Such schemes can be complicated and difficult to divine. Once the deal is consummated the hovercraft becomes irrelevant and is often hidden in a warehouse where it languishes until disposal.

H. CONCLUSIONS:

1. The light hovercraft market is well established and nothing suggests it will not continue to exist and continue to grow albeit slowly. Based on our sales experience and assuming there are about 10 similar sized hovercraft companies in existence, at any one time, I would estimate annual world-wide sales to remain at an estimate of 200 units per year until real marketing is undertaken at which time it will be accompanied by real production.

2. Light hovercraft offer safe and economic solutions to difficult transportation problems.

3. They can be are pleasurable and joyful to operate.

4. They are responsible for saving many lives and reducing the level of hardship in certain catastrophes.

5. Applications are limited by imagination.
6. Establishing pilot and maintenance programs is the path to sustainable light hovercraft sales and growth. I have always envisioned a market for many thousands of units. Given the right organization this will happen.
7. Limiting the use of the dealer sales model will safe guard the industries future.
8. For successful rescue/commercial applications there has to be a champion or a stakeholder involved.