

# Facility planning essay sample

[Finance](#), [Market](#)



The Window kayak is a relatively new product on the market. It is a sit-on-top kayak with a difference. Our Kayak allows the user to view the majestic beauty not only around them but below them. This is done by incorporating an acrylic glass window between the user's legs so that they can view the world below.

Sit-on-top kayaks were developed in the past for lower end recreational users. However have now evolved into one of the highest selling personal non powered water craft. In fact 7 out of 10 kayaks sold are sit-on-tops. The growth in popularity is owed too many factors. The following is a list of key factors;

**Price:** These crafts are much cheaper as made from plastics in mass numbers

**Ease of Use:** If the user falls out of the craft it is very simple to jump back on, unlike with conventional kayaks were this is an impossible feat. This is why sit-on-tops are popular with fishing and SCUBA diving users. This is because these users require to leave and enter the craft constantly, change seating position, and access storage hatches.

**Functionality:** Sit-on-tops may be used for a variety of applications. In rapids, the bay, rivers, cave exploring, lakes, surf, almost any application thinkable. They are also very easy to use, but are still fun for the professional user.

**Storage:** Sit-on-tops are typically shorter and a little wider than their conventional kayaks. This reduction in size allows for easy storage in almost any garage or shed.

Transport Transportation is easy on roof racks, or even within some large cars. As a typical sit-on-top only weighs around 15-20Kg a single person can load and unload from the roof of a car.

Life: As these products are made from plastic they are very durable, and can be knocked around a lot more than fiberglass kayaks. Also these products are quite easy to repair if they are damaged.

Materials:

Plastic type:

For a superior construction the vessels must be neither too flexible or too stiff. A flexible material does not work as well however is much harder to crack. On the other hand a stiffer material creates a more efficient hull, but will crack easily. Abrasion is also an issue with users often hitting objects in the water, and dragging the vessel to and from the water. The best plastic product that meets all of these characteristics is a linear, medium-Density, Polyethylene compound. This has the correct stiffness when used with a good hull design, and will give enough on normal impacts not to crack. Also it holds very good abrasion-resistant characteristics, and is UV resistant which is important for the long-life of our product.

Safety Rope:

Nylon rope will be used as a safety rail as it will not hold water, and stay true to its structural properties even when wet.

Glass window:

Acrylic glass is the number one pick to be used for both our actual window, and our window protector. This is as it is relatively feasible with price, but more importantly it can withstand much greater impact than glass without breaking. This was a very big safety concern when first designing our kayak. As Acrylic glass does not shatter, it is much safer than glass. One downfall is that it is more prone to scratches, however there is a scratch resistant coating which may be applied.

#### Fittings Clip:

These will all be made of injected plastic products as they are relatively cheap, have a long life, and work well in water based applications.

#### Screws & Rivets

All screws and rivets will be stainless steel to prevent corrosion and failure of their duty.

#### Market research

Same size and class sit-on-top's already in the market minus a viewing window Retail for around \$500 to \$800. Our product will be of a superior make plus have a major benefit, a window into the world below. For this reason our crafts will be priced at \$750 Retail including paddle, and \$650 including paddle wholesale and for bulk orders.

Our product will be sold to the general public in retail stores such as Rays outdoors, Capacity Sports, and Rebel Sports. However a large number of

sales will be direct to sporting clubs, tour group companies, tourism companies, and other recreational water user groups.

From market research of a local manufacturer ' Wave dance Kayaks' a yearly average of stock turnover is around 10 Units a week. This number varies significantly to season.

Within Victoria there are around 980, 050 residents living along the coast. If we were to sell to just 1% of this population over the next 10 years it would result in the requirement of 18 kayaks per week. Assumptions that only 1% of costal residence would want a kayak and that of these many would wait until they are due for a new product.

Ocean View kayaks will also look into expanding to selling overseas, firstly to New Zealand, and then marketing in the USA, Europe, and Asia depending on market requirements.

It can be seen that there is a need for this product, with vast amount of market growth available. Also it was found that there are only 3 Sit-on-top kayak manufacturers currently in Victoria.

From This information Ocean View K&A have set a target manufacturing rate of 19 units per week.

N. B. Population figures obtained from [www.vcc.vic.gov.au/stratergy.fut-demo.html](http://www.vcc.vic.gov.au/stratergy.fut-demo.html)

Cost Estimates

The following is an estimation on cost of materials per Unit, and Labor Costs

Fig 1. 1

Labor based on 19 Units per week (38hour working week)

Operating costs based on 20% of labor & materials cost. This is an industrial rule of thumb. Operating costs include things such as gas, electricity, phone, consumables etc.

Set up Cost (equipment) is based on \$250, 000 over 10 years, per unit. A large amount of this set-up cost is from plant machinery. For more information regarding machine costs please see Fig 3. 1 on page

From this we find we have a profit of around \$310. This will include funds to cover any other unexpected costs.