

Space Careers Wayfinder

Identifying Your Market

The product developed by Ilana and the team at Quasar Satellite Technologies can definitely be considered innovative. But what is innovation?

There are many forms of innovation. Some relate to product, some to technology, others might be related to service or process.

Add a brief description to each of the four forms of innovation listed below. And where possible find an example of a service or product that fits with that form of innovation.



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Incremental Innovation

Often referred to as Continuous Improvement. This is when a company continually reviews a product/s making relatively small but regular improvements. This is often done so the company can charge a higher price and/or to gain or maintain a competitive advantage.

Smartphones are a good example where the likes of Samsung and Apple, release the latest upgrades on a yearly cycle to an existing device. The device hasn't necessarily gone through fundamental changes but might incorporate a faster processor or a sharper screen etc.

Radical Innovation

Sometimes referred to as Breakthrough Innovation. Here a product or service completely changes the way we do something. The innovation could come as a solution to a well-defined problem, conversely it may well be a new service or product which creates a new demand that did not exist before.

Boundless examples of radical innovation exist, many of which we now take for granted, washing machines and vacuum cleaners are 2 such innovations.

Recombinant Innovation

Take existing services/products and mash them together to make something new. Most of the world's innovation in the digital space probably comes from doing this. Many new services are already using the internet, open-source tools, even products like mobile phones, they are a package of other inventions. There are so many examples of this, but to give you one that might be familiar, think about internet services like YouTube, all these services use similar components, storage, fast internet connection, but the value they create is all quite different.

Disruptive Innovation

Often initiate chaos into the market by introducing an innovation that changes the already set values of an existing market or by creating a completely new market. Disruptive innovations are more likely to come from start-ups and has the potential to cut out the market-leading firms, products, and alliances. Examples of disruptive innovation include Netflix, Wikipedia, Spotify, digital cameras etc.

The misquoted phrase, “build it, and they will come” from the 1989 movie Field of Dreams has now become” a business mantra. Ilana uses the term and the well-known Seth Godin quote “Don’t find customers for your products, find products for your customers.” The misquoted phrase contradicts basic marketing principles, the need to determine a demand for your product or service before investing significant resources, time and funds.

How might you gauge the market and potential demand for your product, service or idea?

Students are likely to suggest a multitude of ways this might be done:

- Keyword research tool - such as Answer The Public or Keyword Generator
- Social media - a powerful and cost-effective tool. Identifying current trends and changes can be tracked using platforms like Facebook and Instagram. And the emergence of channels like TikTok have highlighted the magnitude of video as a research and marketing tool
- Researching the competition - essential if your product, service or idea will be launched into a market with established competition. This will inform your information gathering strategy with potential clients i.e. why should company X use your product or service when they already have identical products or services to choose from?
- Talking to potential clients - determining your clients pain points will give a clear indication of the viability of your product, service or idea and the potential market size.
- Etc.

There is an art to asking the right questions and in a way that will provide the information you are trying to get from a conversation. Some people have a natural ability to ask questions. These people tend to be inquisitive with the ability to read people and situations. However, even those among us who find effective questioning challenging can improve their questioning techniques. By asking more questions and following a few simple guidelines it is possible to gather the information you are seeking.

Watch the 2 videos – “The skill of asking questions” <https://youtu.be/2QVxg-QgmOU>

“The Power of Effective Questioning” https://www.youtube.com/watch?v=1dO0dO_wmE

Working with another student use the questioning techniques demonstrated in the videos to lead a conversation to gather as much relevant information as you can. Choose a topic your partner is not knowledgeable in or familiar with. For example, one partner might choose a hobby they have, while the other partner may have been to a recent event or activity.

For students that might be struggling with choosing an area to practice effective questioning. The video, “Asking open-ended questions about your last holiday” may help generate a few ideas. https://www.youtube.com/watch?v=_gjeTDH4XjU

Occasionally the stark reality begins to emerge as you continue your research – you have misread the market for your product. Or perhaps you have a product already, but the demand for your product is falling or not as healthy as you anticipated. If you are fortunate and are still at the development stage with your idea, product or service, you may be in a position to change tack with minimum effort. Or identify a new market not previously considered. In the world of business this is referred to as pivoting. The Royal Automobile Association (RAA) has been around for 120 years. For a company or organisation to exist as long as this it is likely they’ve gone through a number of transitional phases and possible pivots.

How does the RAA of today differ from the original organisation formed in 1903?

The original business offered services only in the state of South Australia. The RAA now offers a nationwide service. Established initially as a social motoring club, the club grew its membership and became an association taking up the rights of motorists and offering practical help for members. Up until the late 90's the RAA business model focused primarily on roadside assistance to members of the association. Travel and insurance have featured in the RAA's product line since the early 60's, but of late the range of services and products offered by the association has increased as the general reliability of newer vehicles has improved.

Quasar Satellite Technologies were awarded the Tech23 Greatest Potential Award for 2021 (<https://tech23.com.au/2021/quasar/>). Tech23 brings together the Australian innovation ecosystem to celebrate young companies creating great things with deep tech. To get to this stage demands hard work, strategic planning, effective communication and a clear understanding of your market.



What is the problem or challenge the team at Quasar Satellite Technologies are looking to solve?

Currently ground stations are only capable of communicating with a single satellite at a time. As the number of satellites in earth orbit increases, the bottleneck in satellite downlink and uplink will be at ground station level. The technology developed by Quasar has the potential to revolutionise satellite communication.

Imagine you are a partner in Quasar in the early stages of establishing the business. You believe you have an idea which could lead to a ground-breaking product, a ground-based station which will have the capability of communicating with hundreds of satellites simultaneously.

What might the open questions, probing questions, and closed questions have looked like when Ilana and the Quasar team were investigating the viability of their idea during conversations with existing ground station owners and managers?

- How do you currently recover your data from satellites
- Generally speaking, how often would you be downloading data
- What impact does your current arrangement have on your capacity to collect satellite data
- How does your current set up affect your business in terms of revenue and potential growth
- What might a solution addressing your pain points look like
- Have you had the opportunity to investigate possible solutions
- Would you be interested in a product that could help
- So, If I came to you with a setup which could increase your revenue stream, you'd be interested
- Etc.

Start-up businesses like Quasar satellite Technologies are crucial to the economy. In a CSIRO media release¹ compiled by Simon Hanson, Director SME Connect. The article identifies Small and Medium Enterprises (SMEs) as Australia's largest employer. Contributing more than half of Australia's GDP (57%) and making up 99.8% of all business.

In monetary terms what is the estimated value of SMEs to the Australian economy in 2021 (assuming the figure above has remained unchanged since 2021)?

Australia's GDP in 2021 is typically listed at \$2.067 trillion AUD. SMEs contribute around 57% of Australia's GDP. Their value to the economy is around \$1.178 trillion AUD.

¹ <https://www.csiro.au/en/news/news-releases/2022/small-and-medium-businesses-key-to-driving-growth-in-australia>

In a review of the Australian Space Industry provided to the Department of Industry, Innovation and Science by ACIL Allen Consulting, the authors of the review concluded that an estimate of \$3 billion to \$4 billion in revenue and around 10 000 full time equivalent staff (FTE)² was a reasonable estimate for the size of the space industry in 2015. With the establishment of the Australian Space Agency in 2018 the government set the agency goals to triple revenue to \$12 billion and create a further 20 000 jobs by 2030.

Using the information below develop an infographic which compares the Australian Space Industry around the year 2015 and the industry in 2020.

NOTE Values and figures listed are estimates and approximations based on information from several online sources.

2015	2020
Global share 0.8%	Global share 1.2%
Revenue \$3 bn-\$4 bn	Revenue \$5.7 bn
FTE staff 10 000	FTE staff 15 200
Number of companies 388	Number of companies 829
14 satellites in orbit	28 satellites in orbit

Risk taking activity!

In the video Ilana mentions that some people naturally gravitate towards change because their risk appetite is a little higher. This activity evaluates the ‘risk appetite’ of participants.

- Here several envelopes are given out to students, one envelope per group and each envelope contains fake money but one of the fake notes has BOMB printed on it. The students decide how many notes they will remove from the envelope and when they will stop removing the fake money. The idea is to illustrate risk taking and the fact that it is difficult to agree on the level of risk we’re prepared to take.

² https://www.industry.gov.au/sites/default/files/2019-03/australian_space_industry_capability_-_a_review.pdf

Australian Curriculum

Economics and Business

Processes that businesses use to create and maintain competitive advantage, including the role of entrepreneurs (AC9HE9K04)

Processes that businesses use to manage the workforce and improve productivity, including the role of entrepreneurs (AC9HE10K05)

Locate, select and analyse information and data from a range of sources (AC9HE9S02), (AC9HE10S02)

Create descriptions, explanations and arguments, using economic and business knowledge, concepts and terms that incorporate and acknowledge research findings (AC9HE9S05), (AC9HE10S05)