



INTRODUCTION OF ASTI

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- The Association of Science Technology and Innovation (ASTI) is an association of educators, scientists, industry representatives and individuals who are committed to advancing the role of the scientific community in inspiring the youth of the nation to join and excel in the world of science.

2

- ASTI also tries to use Science, Technology and Innovation for the advancement of mankind and protection of the environment that nourishes us all. ASTI also believes that STI are part of the wider realm of knowledge such as art, history, languages and others.

3

- ASTI was set up by the founders of Science Fair for Young Children (SFYC) on the 25 October 2012



YOUNG
TECHNOPRENEURS
CHALLENGE

YOUNG TECHNOPRENEURS CHALLENGE (YTC)

INTRODUCTION

Young Technopreneurs Challenge (YTC) is a business plan entrepreneurial competition based on ideas and inventions with commercialization potentials. YTC helps participants to develop entrepreneurial skills.

YTC will be conducted in 2 phases.
Phase 1 is the registration followed by briefing and business plan submission.

In Phase 2, shortlisted business plan teams will be invited for a half day online workshop followed by an online pitching session and the winners will be determined.

YOUNG TECHNOPRENEURS CHALLENGE (YTC)

OBJECTIVES

To create an awareness among students about business and entrepreneurship.

To improve presentation skills and introduce “business pitching”.

To introduce concepts like financial planning, value proposition and marketing planning to students.

To give student a real feel of the business world.

To help young people understand how to commercialise their ideas.

YOUNG TECHNOPRENEURS CHALLENGE (YTC)

TARGET GROUP

Category 1:

Secondary school students aged 14-17 years old

Category 2:

18-30 years old

The category will be determined by the oldest person in the team

The competition would target ASTI Alumni, particularly the YIC Alumni network. However, non-Alumnus can also participate.

Each team is to be made up of 3-5 students.

YOUNG TECHNOPRENEURS CHALLENGE (YTC)

PARTICIPATION PROCESS



YOUNG TECHNOPRENEURS CHALLENGE (YTC)

PRIZES

Top 5 winners for each category will be awarded as below:



Champion: RM 1000



1st Runner: RM 700



2nd Runner: RM 500



4th Place: RM 300



5th Place RM 200

“HOW TO WRITE A BUSINESS PLAN”

Learning Outcome

This is an educational project. Our main purpose is **not** only to create entrepreneurs but more **to introduce you** to entrepreneurship.

We hope by participating in this competition, you will be introduced to:

1. Business model
2. Marketing and Customer Segmentation
3. Revenue, Cost and Profit (or margin)
4. Intellectual property
5. Writing a Business plan
6. Preparing and Delivering a Business pitch

What is a Business Model?

Business is the activity of making money by producing products or services and then by buying and selling them in hopes of making a profit.

A **business model** describes how you will create, deliver, and capture value – which you “sell” to a customer.

In business, new product development (NPD) covers the complete process of bringing a new product to market.

A Business Plan (1)

For this program you have to write up a simple business plan report. Your report should not be more than 5 pages long. Please focus on developing these aspects in your report to us:

1. Product Description

Explain what is the problem your product or service is trying to solve? (Or is your product helping make things better). Describe your product and how it is solving the problem or making things better?

Give a simple description of your product with diagrams if needed.

2. Business model

What is your plan to implement your idea into a product or service for the market?. Are you going to sell this in a subscription model or upfront cash model or counter sales etc.?

Example: “Razor and Blade” model – Sell the razor at \$1 each and blades sells at \$1 which has to be replaced after use.

A Business Plan (2)

3. Identify the customer segment (who is going to buy your product)

The customer segment are the types of people who will need your product. Tell us why and how you drill down to that customer segment. Tell us how you going to market your product to them.

4. Revenue streams

What will generate money? Selling products? Selling services? Renting product?

What is the one-time revenue and recurring revenue (e.g. remember Razor Blade model)?

5. Cost Structure

What is the cost of development or producing or manufacturing your product/service?

What is your startup's fixed cost and variable cost? E.g. the equipment & cost. A simple estimate of this cost is sufficient for this program. So make an educated estimation which you can justify to the judges.

A Business Plan (3)

6. Selling Price

What is the selling price of your product?

Justify your price. Would people buy your product/service at this price. Is there other product/service similar to yours in the market. Who are your competitors or main competitor with similar product? Why would a customer buy your product instead of the competitor's?

7. Profit

What is your profit margin? Profit or Margin = Revenue – Cost. For this competition, you only need to show us the cost of producing and selling price. In business, this is called the “gross profit”.

8. Intellectual Property (IP)

What is your plan to protect your IP? A very simple explanation with 2-5 sentence on how you plan to protect your idea. For this competition, there is no need for a detailed explanation.

What is a Business Model Canvas?

- For more complex business plan, you can use the business model canvas. This is a tool to help you see the Big Picture in your business. There are also other tools like this available in the internet.
- The **Business Model Canvas**, was developed by Alexander Osterwalder.
- It is a visual representation of current or new business models, generally used by strategic managers.
- The Canvas provides a holistic view of the business as a whole and is especially useful in running a comparative analysis.
- The Business Model Canvas (see next Slide) gives people a common language through which they can evaluate traditional processes and bring innovation into their business models



Key partners



Key activities



Value proposition



Customer relationships



Customer segments



Key resources



Channels



Cost structure



Revenue streams

Business Model Canvas: Narrative Notes (1)

A business model canvas should have these things as described below:

KEY PARTNERS

Who are your key partners/suppliers to produce your product? i.e. where you buy your raw materials

What are the motivations for the partnerships? –e.g. if you get your product free – how you convinced them to give you for free.

KEY ACTIVITIES

What key activities does your value proposition require? i.e. what are the key activities that you have to do to produce your product?

What activities are important the most in distribution channels, customer relationships, and revenue stream...? Or how are you going to sell your product?

VALUE PROPOSITION

What core value do you deliver to the customer? In other words, why would they want to buy your product? How is your product or service solving a problem they have now? Or Which customer needs are you satisfying?

CUSTOMER RELATIONSHIP

What relationship that the target customer expects you to establish? Or how are you going to provide support for your product or service?

How can you integrate that into your business in terms of cost and format? So if you provide support for your customer – how are you going to pay for it?

CUSTOMER SEGMENT

Which classes are you creating values for? Or what kind of people are you selling your product or services to? Students? Young people? Families? Etc.

Who is your most important customer? Or who would be most interested to buy your product.

Business Model Canvas: Narrative Notes (2)

A business model canvas should have these things as described below:

KEY RESOURCES

What key resources does your value proposition require? In other words – to produce your product or service what types of stuff/experts or help you would need?

What resources are important the most in distribution channels, customer relationships, revenue stream...? What help you need sell your product?

DISTRIBUTION CHANNEL

Through which channels that your customers want to be reached? Or How and where would your customer buy your product or service?

Which channels work best? How much do they cost? Or What is the cost of using this method?

COST STRUCTURE

What are the largest cost in your business?

Which key resources/ activities are most expensive?

REVENUE STREAM

For what value are your customers willing to pay?

What and how do they recently pay? How would they prefer to pay? Maybe they pay monthly?

How much does every revenue stream contribute to the overall revenues?

Below is an example of a filled business plan canvas. This product is for car owners. It is a system that will identify problems in your car which would need repairing.

The Business Model Canvas is Just a Tool

- Do not worry too much of what and where you fill up stuff. For example, your supplier can be a partner or a key resource – depending on your business model.
- Remember this is just a tool to write up your business plan.
- We require you to submit your business model canvas BUT there is **no marks** for it. See next slides for a sample business pitch and a filled up canvas

Sample Business Case & Pitching (yours may be shorter)

Hi. I'm Rajini from MechDoc.

Picture this. You're driving at dusk. The day went well. But you've got miles to go before you sleep. As darkness falls the road turns up an isolated mountain pass. Suddenly a red warning light flashes on the dashboard. "Check Engine." What do you do?

In the past, you had two choices. Either pull over and call a breakdown service. Or continue driving.

With the last option, in the best case, you're stressed out. In the worst case, you could melt your drive train. You have no way of knowing whether the warning light means you need an oil change--or your head gasket is blown.

Now you have a third choice.

Introducing MECHDOC. Providing peace of mind for drivers and vehicle fleet owners.

At MechDoc we know a good mechanic is as important as a family doctor. What we've done in our prototype is to squeeze the mechanic down into the size of a matchbox, so he can ride with you.

MechDoc is proven technology to transmit vehicle error codes in real time to our cloud service. Our system then creates reports and empowers users to make informed choices.

Ever have a warning light come on, but when you take the car to the mechanic it's fine and the light's off? Real-time reporting allows a permanent timeline of diagnoses and maintenance to give owners and mechanics a more complete picture.

Sample Business Case & Pitching

(cont.)

Let me tell you who our potential customers are.

We have three key market segments:

- Auto Leasers and Fleet Owners
- Automobile Distributors and Dealers
- Warranty and finance companies

Market focus

You'll notice right away we're focussing on low-hanging fruit. That's because it's much easier to contact ten fleet owners for access to a market of 487K vehicles than it is to market to 2.2 million individual car owners.

Fleet Vehicle Market Strategy

We're targeting two companies for our first four years of growth: Jucy and Toyota NZ. Toyota has an established reputation for reliability. And Jucy has strong, attractive branding as a hip, innovative company.

We have three revenue streams

One-time device purchase \$69.

Subscription \$5 per month (\$60 per year)

Vehicle Data Analytics \$1 per month (\$12 per year)

Expected time frame

First year: product test launch

Second year: dashboard and data analytics - NZ and Australia

Third year: expansion into dealer network and the USA.

So thanks for taking our offer on a test drive.

By bringing piece of mind to fleet owners and drivers, MecDoc hopes to bring back the romance of the open road.



Key partners

- Technology alliance
 - Software developer
 - User Testing
- Legal
 - Legal team
 - Non-disclosure agreement
 - IP registration
- Sales Team
- Automotive Manufacturers
- Investors/ business angels



Key activities

Product Development

- Software developments
- Hardware sourcing
- Proof of concept preparation
- Intellectual Property

Sales and Marketing

- Marketing
- Deal Negotiations
- Contract / Legal management
- Pricing strategy



Key resources

- Manpower
 - Regional/Country teams
 - Software developers
- Facilities
 - Project Office
- Tools
 - Hardware
 - Software
- Capital
 - Software/ PoC development



Value proposition



Product

- The concept consists of MechDoc (On-board diagnostics link) and cloud software.
- The installed MechDoc device in the vehicle is a proven technology to transmit vehicle error codes to the cloud service. The system then looks up the error codes, creates a report for the driver and the fleet companies.

Pain Relievers

- This report will empower the driver with real time accurate information and be able to use this early detection diagnostic system to schedule for vehicle checking, reducing their vehicle downtime and thus saving money

Gain Creators

- Save cost (\$\$) by 5-10%
- Improve productivity



Customer relationships

- Networking and referral
- On-site support with specialist team
- Maintenance support and back up support



Channels

- Network and Co-creation
- Open tender bidding
- Proof of concept
- On site project team
- Trade shows
- Collaboration with Tech leaders



Customer segments

Focus on niche market - fleet market operation

The pain

•The "check engine" light illuminates when one of the many electronic control sensors within a vehicle locates a problem and sends an alert message to the vehicle's dashboard. The problem could be a major malfunction or any number of small faults that need adjustment; the issue is that the driver cannot tell if it is a minor or costly problem, and whether they need to stop immediately or get it checked at the next car servicing.

The need

•Fleet operator need real time insights to track and monitor vehicle health to avoid secondary damages

Market focus :

- Primary: Rental car fleets
- Secondary: Company fleets
- Tertiary: OEM and independent service stations



Cost structure

Fixed Costs/Overhead

- Rent
- Phone bills/communication costs
- Accounting/bookkeeping
- Legal/insurance/licensing fees
- Logistics
- Technology
- Advertising & marketing
- Salaries

Variable Costs

- Cost of Goods Sold
- Materials and supplies
 - Cost of customer acquisition

Direct Labor Costs

- Customer service
- Direct sales
- Direct marketing



Revenue streams

Potential revenue product sales:

One-off

- Device sales

Recurring

- Customized software solutions
- Data analytics

Exit Strategy

Potential buyers

- M3 Technology
- Co-venture with competitors to create software

To Participate:

- You are required to form a team of 2-5 persons
- Submit your registration via google form: shorturl.at/rzAFV by 31 March 2023
- You are required to prepare a Business Model Canvas and Business Plan Report
- Submit the Business Model Canvas and Business Plan Report to asti2510@gmail.com by 12 May 2023
- If you are shortlisted, you are required to attend the online workshop, and prepare a 7 business pitch that you will present to the judges during the online Business Plan Pitching Session. This is followed by 3-5 minutes of Q & A by the judges.

For further details on this ,
Kindly contact

Ms.Vanitha at

014-7124217 or

email us at asti2510@gmail.com

Finally - Do not worry to much about making mistakes. We love people who make mistakes. We learn the best from mistakes. Just try your best –

AND

make sure you make this a fun experience!

APPENDIX

- Below are more information if you want to learn more
- Remember that there are plenty of other resources also available on the internet. Happy exploring.

Reference for Business Model Canvas (Youtube Channel)

There are plenty of resources in YouTube. Here are some to get you started.

To understand what is business model and the concept:

<https://youtu.be/QoAOzMTLP5s>

<https://youtu.be/IP0cUBWTgpY>

Sample business model – Skype as a case study:

<https://youtu.be/MxgqrDv7g0l>

Some References for Your Start-Up Pitch

Sample pitching video:

<https://www.youtube.com/watch?v=i6O98o2FR>

[Hw](#)

Sample pitching video with Q&A*:

<https://www.youtube.com/watch?v=w0sJ0pMCr>

[JY](#)

*Note: for YES-CL, the Q&A will be shorter and much simpler.

Pitching canvas guidance:

<https://vimeo.com/album/5249530>

Glossary of Definitions*:

- What is Business?
- **Business** is the activity of making one's living or making money by producing or buying and selling products (such as goods and services).

- What is Entrepreneur?
- An **entrepreneur** is an individual who, rather than working as an employee, founds and runs a small business, assuming all the risks and rewards of the venture

*The definitions maybe different depending on your source.

Glossary of Definitions:

- What is IP?
- The term “intellectual property” generally refers to **intangible property**, which is distinct and separate from the physical property of tangible objects such as land, buildings, vehicles, jewelry, furniture, housewares and clothes.
- Market is defined as a regular gathering of people for the purchase and sale of product and services. The gathering can be physical or cyberspace.

Glossary of Definitions:

- What is customer segment?
- **Customer segmentation** is the practice of dividing a **customer** base into groups of individuals that are similar in specific ways relevant to marketing, such as age, gender, interests and spending habits.



*Thank You for
Your Valuable Time*

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