TSC

Cloud Technologies and Systems
Assignment / Certification

Carlos Coutinho

iscte INSTITUTO UNIVERSITÁRIO DE LISBOA

Topics

- TSC Assignment
- Cloud Certification

TSC Assignment / Cloud Certification

- Is worth **15%** of the TSC grade

- Assignment **OR** Cloud Certification (no extra for making <u>both</u>)

- **Deadline** (for any of both)**:**

  - Officially: Until the grades launch date (written test revision date)

  - Actually… until the 2nd period (or even Special period, if you are eligible):

    - You can (and should!) pass the test on the 1st (main) exam period

    - You then need to subscribe the 2nd period, to let the teacher launch your grade

    - You must ask EXPLICITLY by e-mail to your teacher to keep your grade

# Cloud Providers have a Certification Path – Evolution
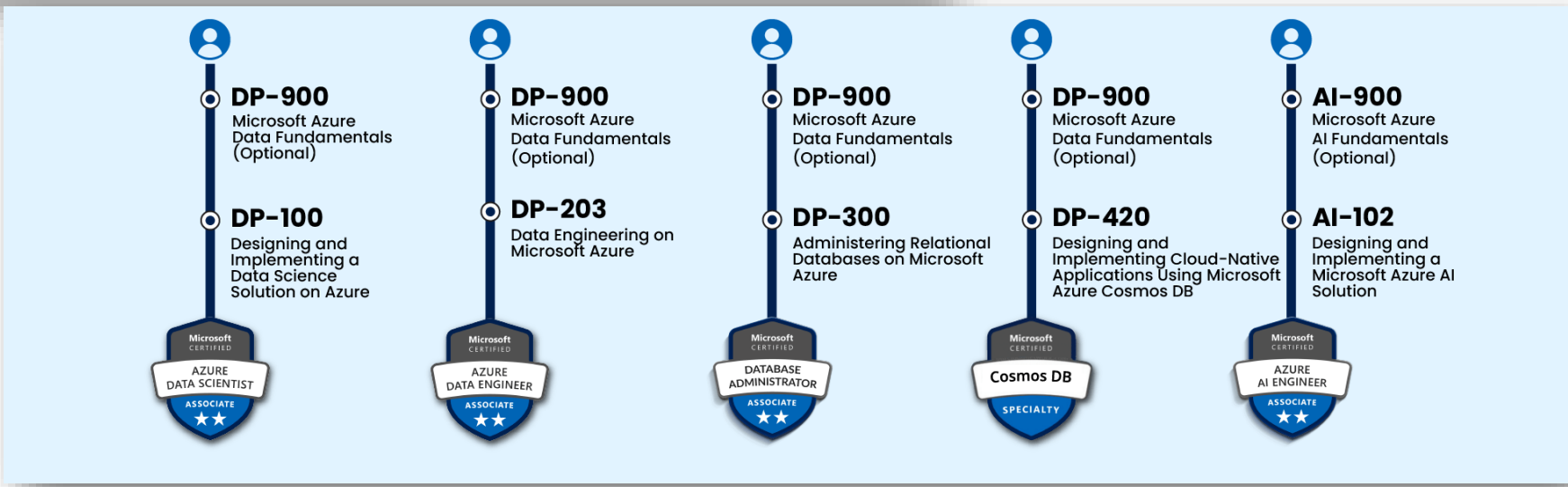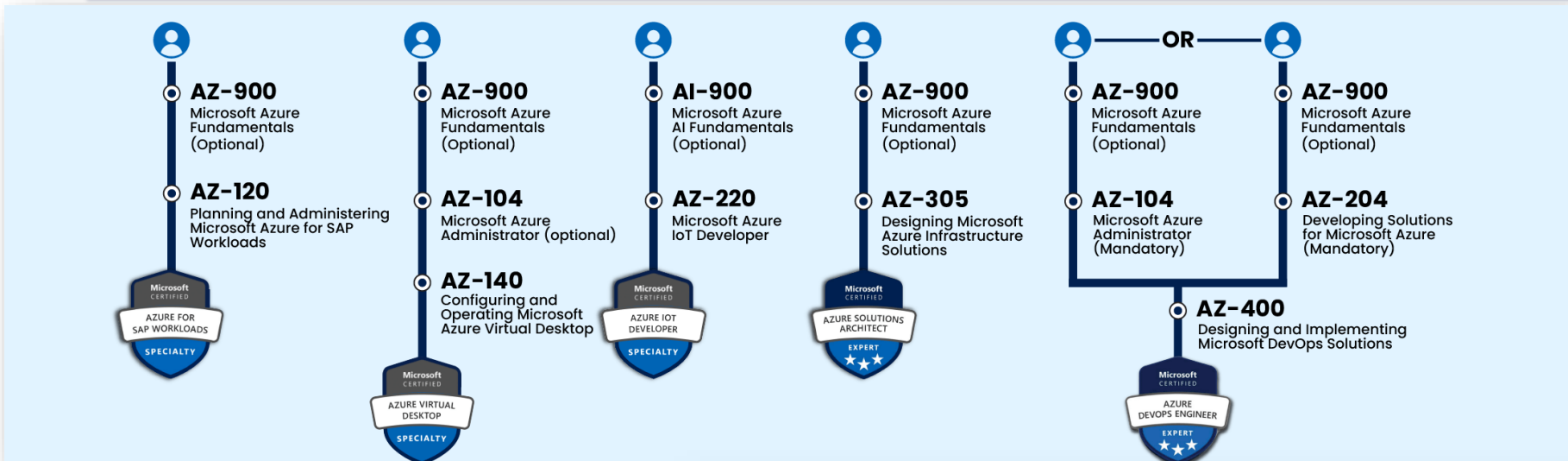
Most Cloud Providers provide online training

TSC Assignment / Cloud Certification

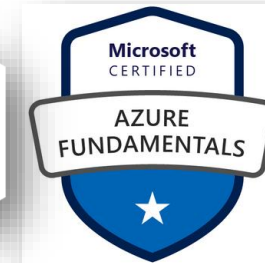- **Cloud Certification**:

  - Is aligned with the current market needs

  - You may select <u>any</u> Cloud certification

  - It is not sufficient to present a diploma (forgeable)
    - You need to send a certification **transcript ID** (most platforms) or **code** (Certiport)
    - The teacher <u>needs to validate</u> your certification with the certification provider
    - Verification instructions in this presentation
    - If you already did a certification previously, but <u>that is still valid</u>, you may use it

  - Progressive Classification is not possible (passed/failed):
    - You have a <u>valid</u> Cloud Certification that was <u>verified</u> by the teacher: **20**
    - Otherwise: **0**
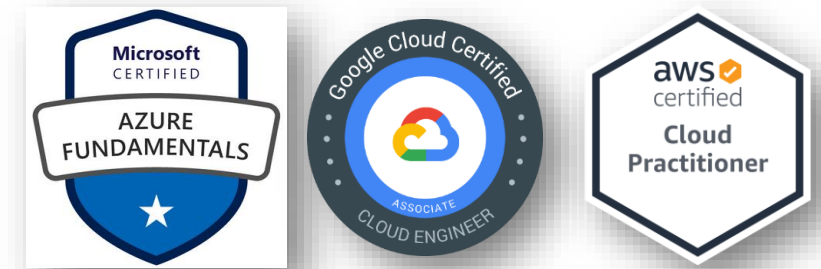
TSC Assignment / Cloud Certification

- **Cloud Certification**:

  - Is aligned with the current market needs

  - **May I (student) select <u>any</u> Cloud certification???**

    - Actually <u>no</u>. The market evolved to include profitable ($$$) businesses related to courses
    - A good hint is to follow <u>Digital Ocean's article on cloud certification</u>, and select:

      - **Amazon Web Services (AWS) <u>certification</u> <u>(31% MS)</u>:** Minimum – AWS <u>Certified Cloud Practitioner</u>

      - **Microsoft Azure <u>certification</u> <u>(25% MS)</u>:** Minimum – Microsoft Azure <u>AZ-900</u>

      - **Google Cloud (GCP) <u>certification</u> <u>(11% MS)</u>:** Minimum – Google <u>Cloud Digital Leader</u>

      - **IBM Cloud <u>certification</u> <u>(2% MS)</u>:** Minimum – IBM <u>Certified Advocate – Cloud</u>

      - **Oracle Cloud Infrastructure (OCI) <u>certification</u> <u>(2% MS)</u>:** Minimum – OCI <u>Developer Professional</u>

      - **Other:** CompTIA <u>Cloud+</u> (very expensive (>350$), but cloud provider agnostic)
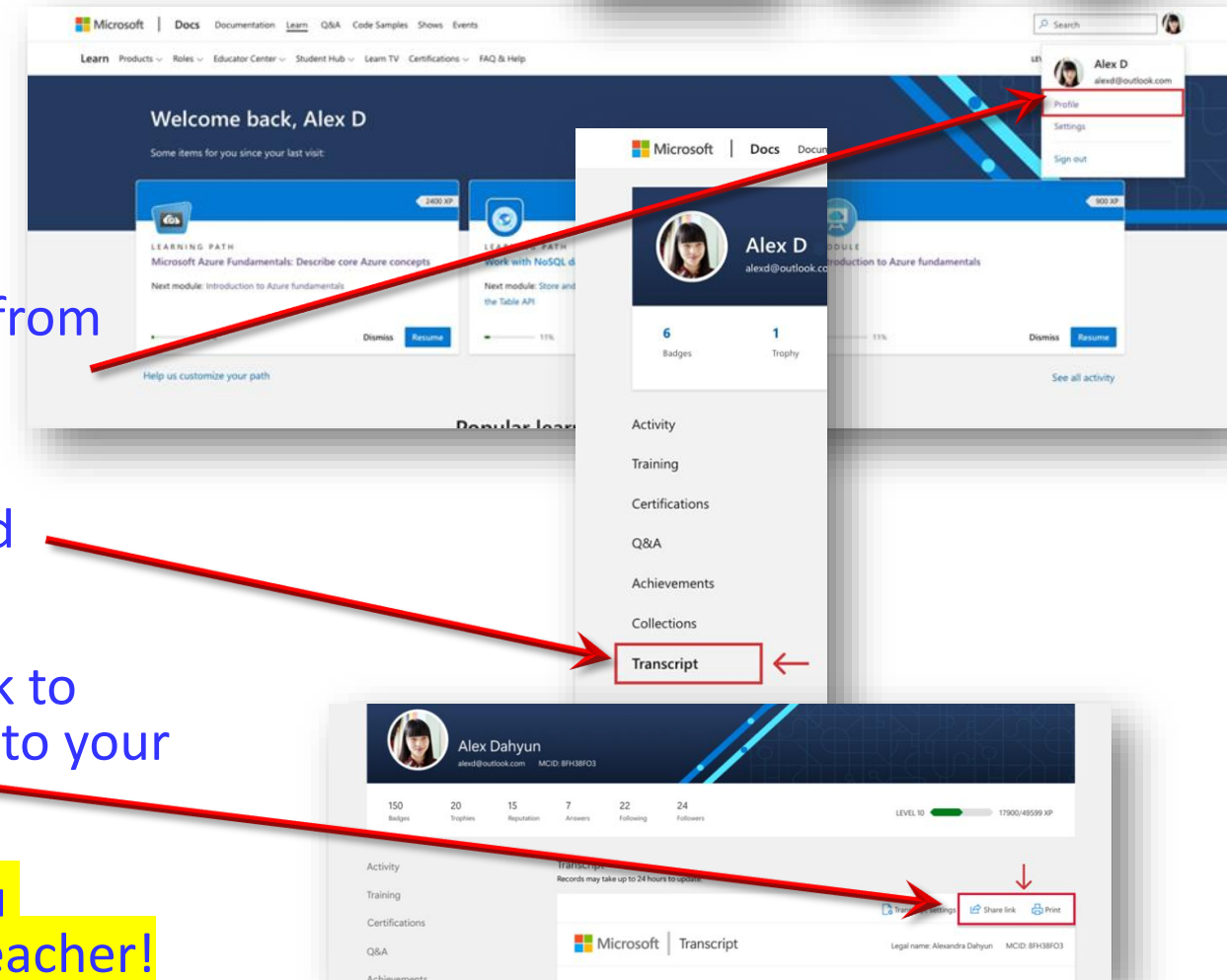
TSC Cloud Certification detail (1/4)

Microsoft Azure Certification completeness

Certification via Microsoft Learn account:

- Sign into your Microsoft Learn profile

- Click on the photo avatar and select Profile from the dropdown menu

- In the profile menu, select Transcript. Your transcript displays all successfully completed certifications and modules

- Select "Share link" to generate an online link to your transcript and send that link via e-mail to your teacher

- Your certification will only be valid upon you receiving a confirmation e-mail from your teacher!
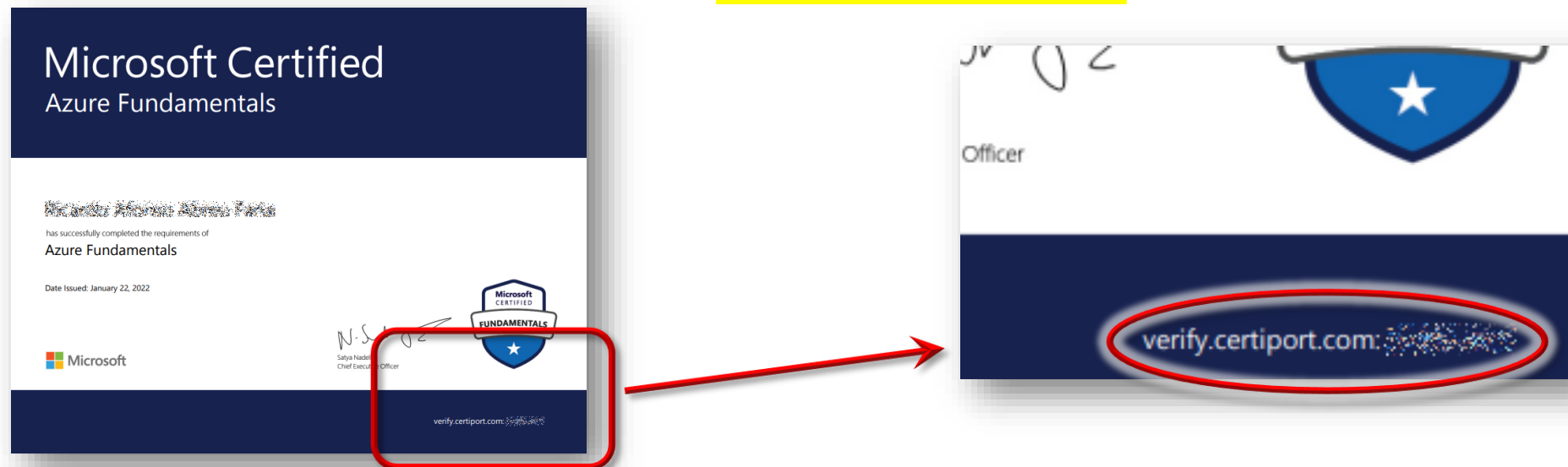
TSC Cloud Certification detail (2/4)

Microsoft Azure Certification completeness

Certification via Certiport:

- If you have certified using Certiport, then you should have received a diploma like the following, which on the bottom right has the text "verify.certiport.com:" <code>

- If that is your case, simply send the diploma (**including that code**) via e-mail to your teacher

- Your certification will only be valid upon you receiving a confirmation e-mail from your teacher!

TSC Cloud Certification detail (3/4)

Google Cloud Certification completeness

- Sorry, no examples available yet

- If that is your case, we'll need to check how to obtain a verification code to send via e-mail to your teacher

- Your certification will only be valid upon you receiving a confirmation e-mail from your teacher!

# TSC Cloud Certification detail (4/4)

Amazon Web Services (AWS) Certification completeness

- You'll obtain a validation code, which you'll need to send **via e-mail** to your teacher

- Your certification will only be valid upon you receiving a confirmation e-mail from your teacher!

TSC Assignment / Cloud Certification

- **Assignment**:
    - Individual (no grouping)

    - You may select any topic, preferably one that gives you credits
        - At your job/activity
        - For your thesis research

    - You need to develop a project proposal

    - The proposal is subject to approval by the teacher

    - It needs to include some development in a (any) cloud platform PaaS

    - Assume that the teacher will need <u>one week</u> to correct and classify it

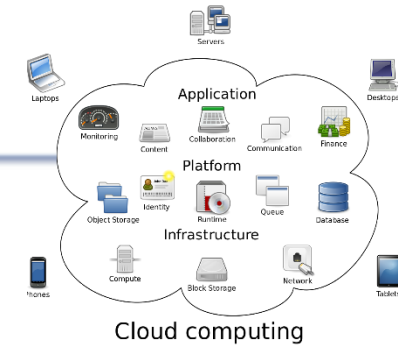   - Classification graded **between 0 and 20**
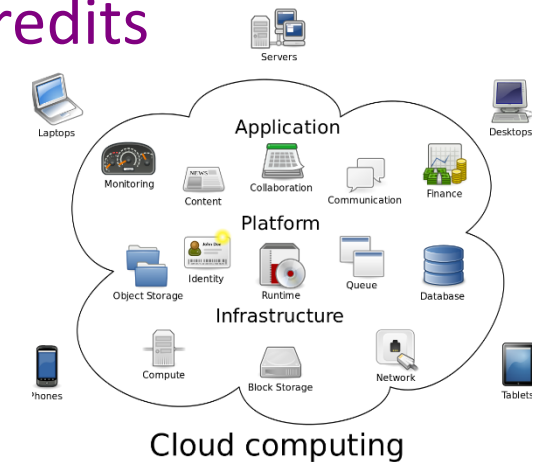
TSC Assignment detail (1/5)

- The whole assignment should include 5 sections

- Each section should be max 5 pages

- **Section 1 (20% of your grade):**

  - Define the chosen business model (SaaS, PaaS, IaaS)

  - Which are the revenue streams? What kind of licencing will it use to your customers?

  - Possible legal/regulatory limitations?

  - Competition analysis: Who already has the same type of business in the Cloud?

  - Develop a 5-year business plan

- Justify properly all chosen options

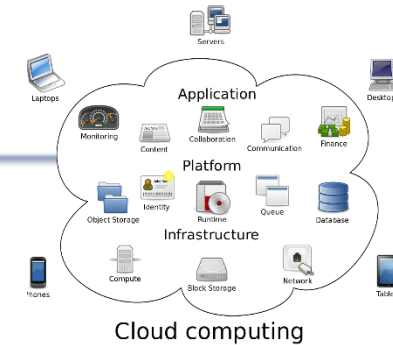- Suggested tool: https://en.wikipedia.org/wiki/Business_Model_Canvas
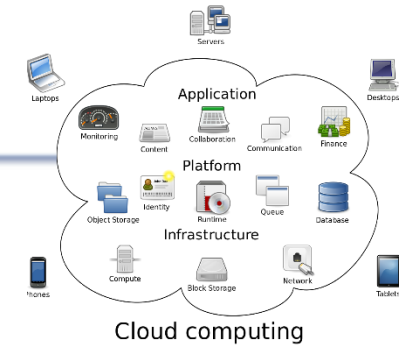
TSC Assignment detail (2/5)

- The whole assignment should include 5 sections

- Each section should be max 5 pages

- **Section 2 (20% of your grade):**

  - Elicit the requirements

  - Design the architecture and infrastructure of servers, network, public/private Clouds

  - Define the used Operating System and Technological stack to be used

  - Define the database engines to be used

  - Plan the infrastructure evolution in 5 years

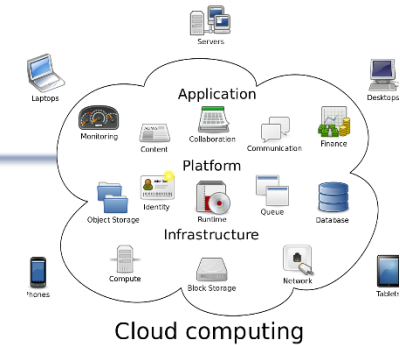- Justify properly all chosen options

- Suggested tool: https://www.diagrams.net

TSC Assignment detail (3/5)

- The whole assignment should include 5 sections

- Each section should be max 5 pages

- **Section 3 (20% of your grade):**

  - Design the application GUI, if any

  - Design the APIs (REST, JSON, XML, etc.), if any

  - If you are reusing already existing software/platforms, show screenshots of the reused screens and how they will be used (e.g., authentication/payment platforms)

- Justify properly all chosen options

- Suggested tool: https://www.figma.com (or even hand-drawn mockups)

TSC Assignment detail (4/5)

- The whole assignment should include 5 sections

- Each section should be max 5 pages

- **Section 4 (20% of your grade):**

  - Create a financial plan:

    - Capital Costs (CAPEX), e.g., Servers and other equipments, Buildings and Hosting of equipments
    - Costs with your software licencing
    - Costs with direct development personnel
    - Operational Costs (OPEX), e.g., Electricity, Refrigeration, Maintenance, etc.

- Justify properly all chosen options

- Suggested tool: Spreadsheet (e.g., Ms Excel, LibreOffice Calc)

TSC Assignment detail (5/5)

- The whole assignment should include 5 sections

- Each section should be max 5 pages

- **Section 5 (20% of your grade):**

  - Implement a prototype which can implement totally or partially the proposed solution (POC)

  - Present an end-to-end use-case scenario usage of the solution, with screenshots and explanation of the steps (this may pass the 5 pages max limit)

  - If possible, provide an online link to the Proof-of-Concept (POC)

- Justify properly all chosen options
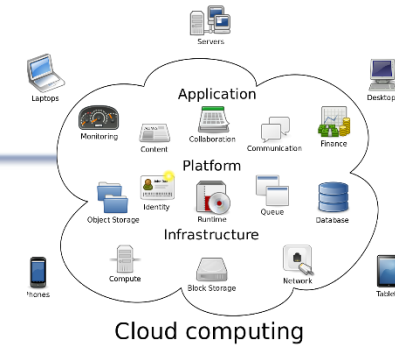
TSC Assignment / Cloud Certification

- Which one should you choose?

  - **Cloud Certification is selected by <u>the majority</u> of students:**

    - It will be more rewarding for your career and resume

    - It will mean a lot of work studying

    - It is recognised by the market

    - If you get the certification, you'll get graded 20 in this section

  - **Assignment is selected by <u>far less</u> students:**

    - You don't have to spend money on doing certifications

    - You have a genuine interest in entrepreneurship and creating your own business

    - It will mean a lot of work researching the business and doing the report

    - Depending on your work, you will be graded a value somewhere between 0 to 20 in this section