Envisioning future innovative experimental ecosystems through foresight approach

- How Design Factory educates students/ change makers by year 20x6, $x = \{2, 3\}$.

Master Thesis at Aalto Design Factory
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Structure of the Presentation

- Introduction to the Topic
- Research Question and thesis scope
- Methodology
- Research - Future Drivers
- Future Drivers evaluation and testing
- Scenario building and testing
- Final scenarios
Aalto University!

"Aalto University is a multi-disciplinary community where Science and Art meet Technology and Business. We are committed to identifying and solving grand societal challenge and building an innovative Future"
Aalto Design Factory!

“Aalto Design Factory (ADF) is a non-hierarchical experimental learning platform for integrative interdisciplinary education, research, and industry collaboration, as well as a catalyst for a culture of experimental and problem-based education to promote better learning outcomes.”
500-year-old Innovation model

Renaissance Florence, a successfully model for Innovation.

Bottega - Innovative co-working spaces supporting the Renaissance ecosystem with their innovative practices.
Innovation Ecosystems - next 20 years...

• Anticipating future variables in Innovative experimental educational ecosystems using future foresight approach.

• Support learning of students in next 20 years
How Design Factory supports the Student by year, \( ax \in \{2, 3\} \).

**Methodology**

**Research**
- Conduct **pilot Interviews**.
- Research on **trends** and **Mega trends**.
- Identifying the **Drivers** from the research.

**Evaluating**
- Categorise the drivers with respect to areas of change.
- Primary **Sorting** of the **Drivers** through a **workshop**.
- **Online survey** to evaluate and test the Drivers.

**Ideation**
- Build **Preliminary scenarios** using the drivers.

**Testing**
- Testing and **Evaluating** scenarios through **workshop**.

**Final**
- Updating the **final scenarios**.

Based on Delphi Method

Scenario Planning
Pilot Interviews

- The Interviews were semi-structured with open ended questions.
- 10 participants that represent all the stakeholders where Interviewed.
- Insights from the interviews where summarized with respect to **Facts, Assumptions** and **Challenges**,
Research on Trends

Mega trends

Globalization 2.0
Climate Change
Demographic change - Urbanization, Immigration, family structure
Technological Convergence
Digital World - hyper-connected planet

Trends

Future Workspace
Future job / Title
Future Skills
Future Food
Science
Artificial intelligence
Education, learning
Future Generation / User
Future creative ways of working
36 - Drivers

Area 1: New methodologies

Virtual World
Online education (MOOC)
New methods in teaching vs old method
Interdisciplinary and T shaped people
Teacher role

Area 2: New Connected world:

Connected people
Co - working spaces
Modular and integrated labs
Big data and data gathering

Area 3: New operating model

Degree structure
New breed of entrepreneurship, start-ups

Area 4: Societal and Demography

Elderly population
Finding Good students
3D printed world
Personalized and customized services
Health/ wellbeing services

Area 5: Organizational

Moving to new Place
Change in Management
First prioritization of drivers

- Workshop with Core Design Factory team to evaluate the drivers based on their impact on the topic and the predictability.
19 - Picked drivers and wild-cards
Secondary evaluation of drivers - Online Survey

Hello there,

If you are here, there is something special about you that will help us in defining new ways to support and educate the future change makers.

The next few minutes that you will spend here will help us in visioning together the next 20 years.

Thank you.
Questions and scale

- A question was framed on the driver with perspective on its impact on Design Factory
- Participants opinion on Desirability, feasibility, experience with the Driver were measured.
- Open comments were welcomed.
Survey results

Evaluating How Design Factory supports the Student by year, 2016, x = \{2, 3\}.

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Master Thesis: Anticipating plausible futures for future innovative experimental ecosystems using the foresight approach

Delphi Study - online questionnaire results
Scenario building

- Trial and error method was to find the combination of drivers which make sensible cases.
- Drivers involving both of the Clusters were used to build a case.
- 8 preliminary scenarios were built.
8 Preliminary Scenarios

unREAL World
Virtual medium, Mixed Reality, New methods, Virtual Collaboration.

We also Love You
New Disciplines, New methods, Degree structure, Student centric.

Synergy
Industry and universality collaboration, New methods, Degree structure, Student centric.

Co-Creating Education
New model, New methods, Degree structure, Student centric.

Intuitive World
Generative Creative tools, New methods, Student centric.

Hyper-connected Humans and Devices
Connected World, Internet of Things, New methods, Degree structure.

Data Driven Experience
Data driven education, New methods, Student Centric.

Symbiotic World
Artificial intelligence, New methods, Human - teacher, Student centric education.

• The teaching and learning experience is enhanced by using Artificial intelligent tools.
• Teacher/human curates the content with the assistance of AI as per individual need of the student.
• Student are taught to work together with Robots, AI assisted tools to enhance their productivity.
• Students will have personalized and customized learning assisted by AI.

• People and Devices are connected from very remote parts of the world. There are 100 Connected Design Factories across the Earth and one on Mars :) .
• New digitally connected and collaborative teaching will be offered to the students across all the Design Factories.
• Teaching and learning methods are curated on working in the hyper connected philosophy and community.
• Teaching and learning experience is enhanced by with information available from the connect resources and devices.
• Connected thinking is used to experiment and develop new ways of working, learning, and teaching and curate curriculum.

• Students will have personalized and customized learning assisted by AI.

Note: Some of the picture used here are from various sources.

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Workshop - II

Warm up Exercise
Introduction to workshop - goal and objectives
Ideation session 1
Break / Warm up
Ideation session 2
Pitching and discussion
Voting for scenarios / End of the workshop
We also LOVE you

The Design Factory will be a place which brings and provides common language to students from new and emerging disciplines together to teach students, problem and passion based learning.
In this scenario, where human and AI tools work together to enhance teaching and learning experience and to give personalized student education.
Hyper connected humans and devices

In this scenario, people and devices are connected from very remote parts of the world. There are 100 Hyper connected Design Factory Global Network across the Earth and one on mars ;).

Student can now subscribe to any of the Design Factory Global Network and learn anywhere and have a flexible degree.
Data Natives

Data from humans, devices, and experiences can be collected to refine the education of a student. In principle, the data about future student, who is born today can be collected from now, so to optimise education.

Design factory will gather Data from the students and the inhouse Data expert helps the to refine the students education realtime.
The Education program is co-created with new actors like, city, Ngo, Starup, Industry or any organisation, and education is offered as a service.

Using its wide ecosystem, Design Factory will act as an enabler in co-creating this program.
How Design Factory supports the Student by year, 20x6, x = {2, 3}.

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Thank you!
Result of the workshop, and observation

- Top five Scenarios were picked, these scenarios on two factors - Technology and Community, the scenarios where updated based on workshop inputs.
Workshop - II

. A workshop was organized to test and evaluate these scenarios with the stakeholders of Design Factory.

. The participants were given a template and asked to ideate in the given scenario.