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Ethics in Designing U IMPACTIFY

Ethically designing an e-learning and e-facilitation
platform for social innovation





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Executive Summary

Social Entrepreneurship is a medium through which humans can fulfil the objectives of sustainable development. With more people encouraged to take up entrepreneurship, the idea of helping the society should be met with wholesome knowledge and resources to achieve the task. Entrepreneurship, in the ground level, is about inculcating values. These values are nurtured by providing the right platform to gain knowledge, interact and excel in what the main goal is. U Impactify is the e-learning and e-facilitation platform that is going to provide educational resources for want to-be social entrepreneurs so that they can provide sustainability and make a social impact. Also, the platform helps social impact specialists develop their own course content that can help the budding social entrepreneurs.

Concentrating on educational content for social entrepreneurs, allows the organisation to prepare course structure in a full-fledged manner that helps them become successful. Being an online learning platform, the diversity of participants will be enormous. As such, there is tremendous diversity in social-entrepreneurs with research suggesting that 40% of all socio-enterprises in the UK are led by women. 31% consists of black, Asian, or minority ethnic directors and 40% of them are disabled.

This report highlights various ethical issues that an e-Learning platform such as U Impactify can face. Providing a finding on the ethical issues before development of the product allows the company to inculcate necessary steps to avoid issues later.

A gamified approach with participants allowed to choose an avatar of their own allows them some anonymity from other participants. The biggest ethical concern regards to how is data secured and handled. An online learning platform that incorporates AI and Machine learning will generate a lot of data, most of which will be confidential. Managing this collected data well enough, figuring out the ownership, securing it would be substantial topics that needs to be dealt with during the design of the platform. There are laws and principles such as Family Educational Rights and Privacy Act (FERPA), Personal Information Protection and Electronic Documents Act (PIPEDA), etc. that should be followed closely. An e-facilitation community where all the participants would interact with each other should provide necessary security to protect the information shared and also certain rules so as to not have people disrespect someone as it would be a diverse population.

Diversity and accessibility are another ethical aspect that has to be monitored and taken into consideration while developing the platform, course and the structure. Structuring the course and platform acknowledging participants with disabilities, different learning capacity and means has to be contemplated as well. Professionalism with which trainers, participants and technologists operate is another ethical issue. Trainers should be aware that the platform cannot be used to share their personal ideas on politics, religion etc. Participants need to be informed about any policies in prior to avoid plagiarism and disrespecting others knowingly or unknowingly. Algorithms and analytics bring a technical aspect to ethical issues. With enormous data, there are privacy concerns that need to be taken care of. Also, with adaptive assessments and other machine learning algorithms used, efficiency and accuracy of these algorithms need to be checked thoroughly. Data used should be finely checked so that they don't create bias. Providing an e-facilitation platform allows collectivism among individuals from varied ethnic and diverse groups. A gamified approach involving card and micro based learning, allows participants to increase their, if not maintain their attention span towards the course. A community for every individual to interact and meetup, provide like-minded people to share ideas and work on social aspects.

1. Introduction

Ethical values are meant to have a positive effect on human life. Achievement of any sorts without ethical behaviour is more criticised. With evolving technology, e-Learning platforms have grown tremendously over the last decade. There are social causes that people can work on. U Impactify is a platform which is being developed ethically that allows people who want to learn about entrepreneurship and make a social change. It is an e-learning and e-learning facilitation platform that will develop content relating to social entrepreneurs and also allow social impact specialists to develop their own education content. This platform would provide unlimited access to educational resources for the learners who need it regardless of their location, a collaborative learning with peers and experts worldwide, encouraging innovative research. Ethics plays a major role in any technology. More so in a field where data involved. This project sheds light to the various ethical issues U Impactify can face. To alleviate issues in the later part of development, designing the application keeping ethics as a priority is an optimal way forward. Ethics by design, and Privacy by design are the key concepts by which a platform like U Impactify will be able to resolve any ethical dilemma it can possibly face in the future.

2. Current Situation

Technology is evolving and Online Learning market is profiting from it. There are multiple platforms where people log in and gain knowledge about the field they like. “With greater power, comes great responsibilities”, this famous phrase is very relatable in the field of technology. People know technology has a lot of benefits and helps human in many ways, but there should be proper checks to regulate its power from being misused. Same is in the case of online learning platforms, there is a lot of confidential data which is generated that needs to be kept highly secured. There have been cases of data breach wherein personal information is exposed. One recent example is the data breach in Spanish e-learning platform, 8Belts [25]. Around 100,000s user details were compromised.

There are multiple platforms that fail due to lack of proper content and structure. There can be multiple technical reasons for an online learning industry not to work. When looked at an ethical perspective, key issues that should be addressed before developing are (i) Data Privacy, Accountability, Ownership and Management (ii) Accessibility, (iii) Diversity, and (iv) Professionalism. There are multiple policies and laws that can be adhered to in order to make the product ethically viable.

The world is changing at an alarming rate. The ever-growing rise in technologies and innovations has remodelled the surrounding landscape and improved people's lifestyles. However, these innovations have also contributed significantly to the growth of social problems like inequality, poverty, education, social interaction, climate change. Social entrepreneurs will help resolve the issue.

Many people want to own personal businesses allowing entrepreneurship to boom. There are hardly any entrepreneurship-centric online platforms that provide specific information. With the growing range of social problems and unprecedented changes taking place in the social, economic, and political sectors, global interest is drawn towards social entrepreneurs [26]. Social entrepreneurs represent organizations, groups or people working towards building an accessible and sustainable solution for addressing a social or environmental issue. They can identify critical issues affecting a community or society as a whole and resolve it using an entrepreneurial approach. They are the unparalleled catalysts for social change, bringing forward the potential of all the people and driving for a fair and equal society [27]. Statistically, almost half of today's children will be working in entrepreneurial businesses [28]. Entrepreneurial skill is thus becoming vital as both revenue and outcome to social change are linked to having the ability and knowledge to perform creatively through problem solving and collaboration.

3. Analysis

a. Key Facts

E-Learning Industry has grown 900% since 2000. Research has found that students learn 5 times more material in an hour when using online learning platforms [1]. Average age of learners in the online medium is 34 [2]. Women make up 53% of online learning users as shown in figure 1 [3].

The concept of micro learning in which students are made to learn in stretches of 3-7 minutes has been found effective as it matches the working memory capacity and attention span of humans [4]. With evolving technology, the need for better ways to teach has become necessary. 83% of people who were involved in gamified approach felt motivated while 61% of those who didn't get gamified learning felt unproductive and bored [5].

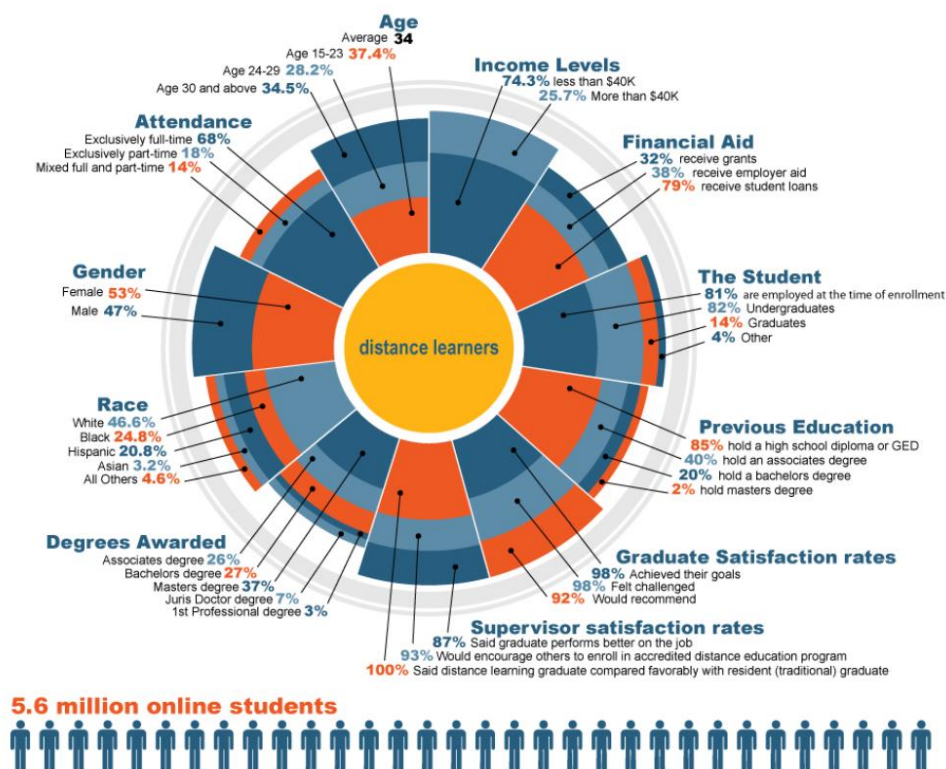


Fig 1: Online Student Demographic.

An open university research study reported that energy consumption is reduced by 90% when eLearning is used and, CO₂ emission is slashed by more than 85% [1].

26% of entrepreneurs browse the internet for anything business specific [6]. Market research conducted by Impactrio, found 60% of respondents felt networking is very important in entrepreneurship training. Social Entrepreneurs as such bring diversity as research reveals that 40% of the social enterprises in UK are led by women, out of which 31% comprise of black, Asian, or minority ethnic directors and 40% have directors with a disability [30].

b. Key Stakeholders

The ideation, creation and execution of an eLearning platform requires a very well-informed team of specialized individuals. The stakeholders can be divided into groups of technology experts, Trainers and subject matter experts, Students and the Upper management as shown in figure 2 and described below [7][8][9].

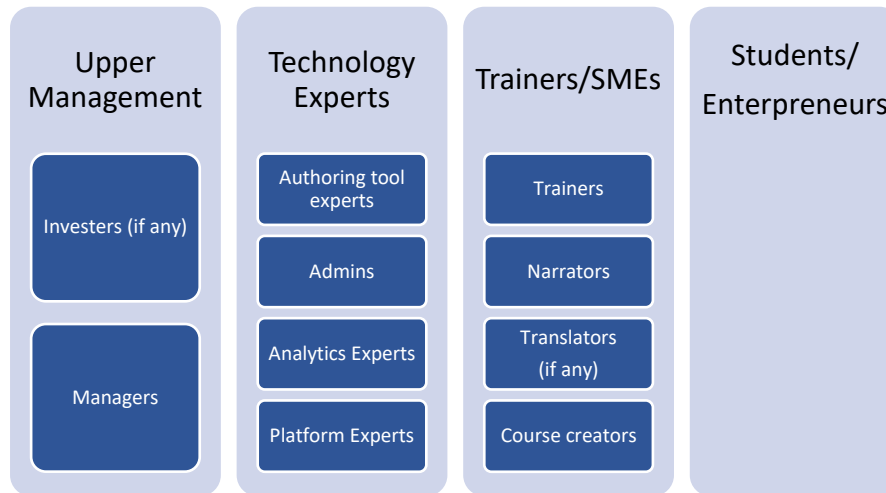


Fig 2: Key Stakeholders.

- *Upper Management* include investors, if any, and the managers who would be managing the different domain experts. Investors are essential part of the platform as they grant the resources that are required. They organise meetings to discuss benefits of the platform and come up with computable objectives. Upper management makes sure that the platform achieves desired outcomes and approves funding for the project at times if required.
- *Technology Experts* include Authoring tool experts who are aware of tools that create the course visually by editing audio and video components of it. These also include specialized people who are responsible for hosting the course content onto the eLearning platform and covert courses to comply with SCORM, AICC, xAPI, etc. Admins and experts manage analytics and make sure the course content is within regulations and standards. Also, Admins can analyse performance and effectiveness of the online platform.
- *Trainers/Subject Matter Experts* involve faculty who would be responsible for the course content, trainers will be the ones narrating the course and facilitating the online lectures. Translators might be used if there is a need to translate the content to another language or signs for disabled students.
- *Students* are the entrepreneurs, in the case of the U Impactify app, people who will enrol in the course to learn.

c. Economic Drivers

There are various factors that define a business model, its growth and sustainability. Few of the factors for an online learning platform like U Impactify could be [10]:

- *Technology:* This refers to the advancements in technology that the platform should use to provide the best experience to the students and thereby gaining competitive advantage over others.
- *People:* Every individual involved play important part in the economic growth of this platform and company. Entrepreneurs would like to join the platform to gain knowledge if they understand this platform is providing them the best tools and content. The company might be driven to serve other stakeholders that include course creators, technology experts, management team and members of the community.

- *Social cause:* The organization's goal might be driven by issues that run beyond product and services. In this case, the social cause is equality and sustainability and to help out the entrepreneurs and society in general.

d. Cultural values embedded in technology

Any technological platform that creates a gender and diversity guide, establishes clear instructions on how to prepare and provide the course materials, communicate appropriately, helps in avoiding some cultural issues. Beliefs, attitude, communication styles, and linguistic patterns of a culture influence the process of teaching and learning.

Clear instructions provided to the entrepreneurs before taking up the course will let them know about the diverse culture involved in the course. U Impactify following a gamified approach, people involved from diverse ethnicity, groups would have anonymity. This provides a much more collective approach. Openness to differing ideas and views of participants builds group dynamics. Collaborative platforms that would allow students to interact and support each other [11][12].

Using a facilitator, avoiding ambiguity, communicating expectations, providing timely feedback, building relationships and being sensitive to verbal nuances support s multi-cultural environment [13].

The platform encourages individualism as people would learn and provide assessments on their own. The community forums, facilities and meet ups would bring a sense of collectivism as well.

e. Cultural values pushing back on technology

The main concern will be providing the course content in various languages and dialects.

4. Ethical considerations

a. Perspective from Humane Design Guide

With an expansive range of skills to deliver online, improper planning of course material can dissuade the user from using the platform. Having multiple courses to select from, could overwhelm the learner and hinder decision making.

U Impactify is an e-learning and e-facilitation platform that aims towards all-round development of social-entrepreneurs. Having planned courses that can impact and help both the social entrepreneurs and the faculty would allow them to improve and make a considerable social change. Having a gamified approach towards eLearning, and involvement of card-based and micro-based learning will incorporate engagement and interaction, improving the attention span of the learners. Data will have to be anonymised and made sure that there are checks and orders in place for protecting the data. Artificial intelligence would be incorporated in the platform to provide meaningful and swift responses to participant queries as well as conducting assessments using the adaptive test models. Networking is an essential aspect of entrepreneurship and this is provided by allowing a collaborative platform to interact and organizing meet ups. Ideas shared would need to be secured. Discussion boards and e-facilitation forums would allow participants to interact, share ideas and come up with solutions to various socio-economic issues inculcating group dynamics and social reasoning. According to a research conducted on 1500 participants, as shown in figure 3, discussion boards were the most used platform while learning online [29].

■ Discussion Board ■ Course Content ■ Assignments ■ Organizer ■ Mail ■ Others

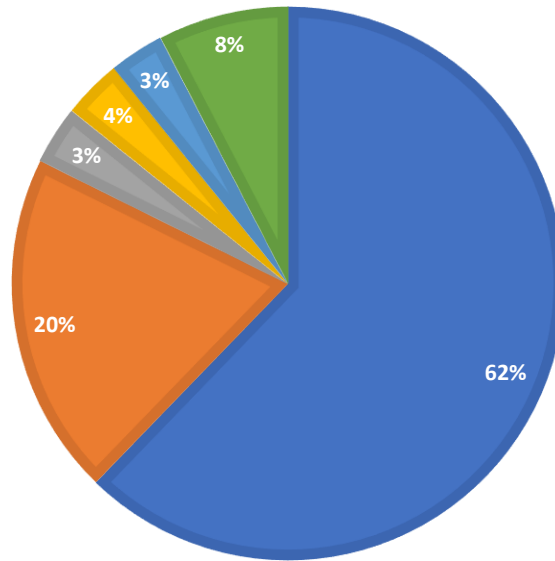


Fig 3: Time Spent Online (Total #20,376 Online Sessions).

I. How is traditional ethical thinking relevant to the product?

Deontological ethics when applied to the digital realm would make one consider that the rights of an individual are much more important than a societal impact of an activity. Privacy and freedom of expression are aspects that a deontologist would handle with importance [22]. Since the virtue ethics are more focused on subjective human conditions, it has fewer practical applications in this eLearning platform.

II. What professional ethics and codes of conducts are important to the product?

Rapid advancement in technology that has improved many practices and designs, has also given rise to several ethical issues. A few of them that relate to Online Learning are [14][15][19][20][24]:

- *Bias* – Content’s author might be biased on certain issues. Also, certain data that is fed to machine learning algorithms might contain bias in terms of not being diverse or not having all the relevant information. E-Learning designers should collaborate with content experts to avoid bias. Also, the author must be interviewed thoroughly. Machine Learning algorithms and data fed should be carefully regulated and checked.
- *Etiquette* – Participants making use of discussion forums, messages and mails might not be civil and could disrespect others. Proper policies and regulations should be defined and handed out to the participants and individuals involved in order to maintain proper etiquettes.
- *Privacy* – With rapid expansion in technology, there are ways confidential data is violated and abused. There are possibilities where user actions and personal data is tracked. Also, they are unaware of the amount of data being collected and what it is used for. Gamification approach that is proposed, could involve avatars for individuals, reducing the data absorption from other participants. Also, data collection, retention and its purpose should be disclosed to people to maintain honesty and transparency. Consent is to be taken before collecting and using the data. Secure measures should be taken in accordance to privacy and government laws such as Family Educational Rights and Privacy Act (FERPA), Personal Information Protection and Electronic Documents Act (PIPEDA), etc.
- *Accessibility* – Accessibility isn’t about geographic issues but about the product reachability and accessibility to disabled people. Transcript along with video content would encourage visually

impaired participants. ADA compliance and Universal design for Learning are some of the few regulations that can be kept in mind while designing the course content, structure and application.

- *Diversity (Cultural/Learner/Geographical)* – The course materials should be developed with diversity of participants. Ethical consideration is also about not stereotyping and discriminating against age/religion/gender/ethnicity. National and religious holidays could be a factor for geographically dispersed participants. Also, learners have different learning styles which should be well respected and kept in mind while developing the course structure. Sometimes, certain signs used could be inappropriate or people might not be aware of certain stories. Certain guidelines can be used to make sure that diversity of the participants is kept in mind. Instructors and course structure should be innovative and involve diverse learners.
- *Professionalism* – Professors/course presenters might use the platform to preach their religious/political ideas and beliefs. Participants can involve themselves in plagiarism and stealing of ideas. Course content must be verified before being presented and also, interview to ascertain characteristics of the presenters and course experts. The ideas shared on e-community will be recorded and could be used as proof if needed.
- *Digital Divide* – Many barriers of digital divide exist and are evident when individuals (i) can't afford internet access (ii) can't easily comprehend the e-learning content (iii) find relevance in e-learning content. There must be policies and checks conducted to have relevant information. Course content must be regularly updated so that it is in pace with changing needs of individuals and times. To minimize the digital gap, communities and government should develop policies that needs to be followed by providers of technology (infrastructure, software, internet service providers) in order to make equal access to resources available for a wider and diverse population.
- *Data management and security* – This relates to the concept of data storage, administration, access and measures of security provided to the data.
- *Data Ownership* – Ownership not only refers to the data collected, but also to the analytics output, outsourcing of data, transfer to third parties and liabilities that rise during that process.
- *Role of knowing/obligation to act* – Performing analytics and inferring certain insights raises the questions about should there be actions taken or not from the inferred information? There are multiple tools and policies such as, (Open University UK, LACE Delicate checklist, European Data Protection Regulations) that can be looked at and adhered to while using analytics so as to ensure fair and ethical practise.

III. What legal issues are relevant to the product?

- *Plagiarism* – Participants copying someone else's answers/ideas is an act of plagiarism and is a legal offence. Strict rules should be put in place and participants should be made aware of them before the course begins.
- *Copy right* – Digital Millennium Copyright Act of 1998 makes copyright a legal issue.
- *Algorithms* – Having algorithms and Artificial Intelligence to provide analytics, assessments and helpful tools need to be validated thoroughly for any issues/biases. Predictions and output from a Machine Learning algorithm could turn out to be highly devastating if not developed properly and lead to legal lawsuits. Questions such as (i) if the algorithm is error prone, would be responsible, the company who provided the algorithm or U Impactify.
- *Idea Stealing* – When entrepreneurs use the discussion boards and e-facilitation tools to interact with each other, ideas could be shared and stolen.
- *Privacy Laws* – U Impactify must adhere to legal laws governing privacy.

b. Cost and Benefits

I. How does our solution meet the needs of the current situation?

From the perspective of eLearning platform U Impactify could take a gamified approach allowing participants to choose avatars. This helps in keeping the confidential data secure from other people. Also, a gamified approach that involves card based and micro based learning, increases the attention span of learners and they feel motivated. By developing specialized educational content that targets the social entrepreneurs, the content would be specific and concise. Course redevelopment could take place frequently and participants can provide their feedbacks on design so that it is aligning with their needs as well. Private data that is collected should be secured and anonymised in an efficient manner. E-facilitation allows a sense of inclusiveness and bring collectivism among participants [21]. Dedicated learning coach and experience will help diverse learners excel in the way they feel best. Inclusiveness among like-minded people helps them to interact with each other and share knowledge on how to change the world for better. Community forum with proper guidelines and active management will allows a peaceful approach to interaction and investigation if there are any issues. Having an e-facilitation in means of discussion boards, peers can respond to other participant's queries and questions reducing, making sure that students don't have to wait for instructor's response. Artificial Intelligence will be used to make the course structure more interactive and adaptive assessments will reduce the chances of plagiarism and bias. Consent must be taken in prior to collecting data from users of the platform and also, they must be given an option to opt-out whenever they feel necessary. Users must be made aware of what happens with their data and how it is used in analytics.

Considering 26% of the entrepreneurs turn to the internet for business information, providing them with a platform to learn and collaborate with like-minded individuals seems to be the optimal solution in this era where people are confused on the varied and non-relatable course structures.

II. What are the costs involved?

Costs involved in the development and execution of this eLearning platform – U Impactify would include: Technological (AI, software, cloud, infrastructure), Experts (Course creators, presenters, technical specialists, upper management) and marketing.

Considering the components and resources involved, product would be somewhere in between a low-cost and an expensive solution.

III. Benefits

The benefits of U Impactify as shown in figure 4 can be classified into tangible and intangible as given below [23]:

Tangible

- *Cost Savings and Resource efficiency* – The most quantifiable saving in cost and resource would be in the area of e-assessments that makes use of artificial intelligence. Reduces time, cost and resources. Also, if it's an open source software, there will be reduced labour and cost in development [16][17][18].
- *Skills and employability* – As the courses would be social centric, entrepreneurs will be thoroughly aware of what is taught and will get the appropriate course that helps them in their future endeavours. Also, there is a direct relation to social impact as like-minded people collaborate to help the society in general.
- *Inclusion* – U Impactify will provide opportunities to disabled as well as the diverse population. Also, provide platforms to collaborate and meet other like-minded individuals.

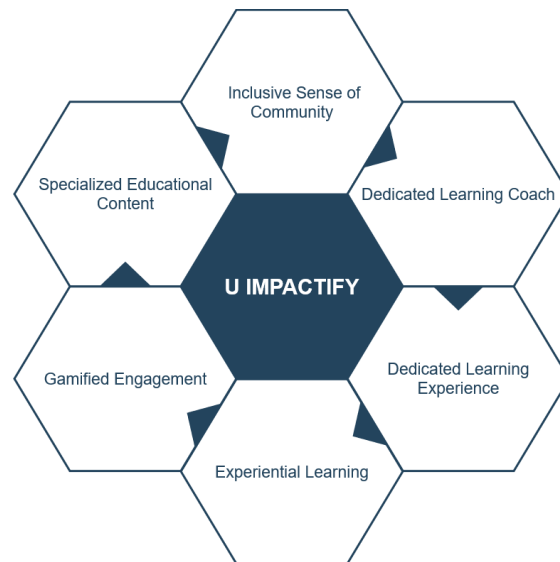


Fig 4: U Impactify Benefits.

Intangible

- *Accessibility* – Being an online learning platform and keeping in mind the diverse population that wants to gain knowledge about entrepreneurship, U Impactify platform will be designed in such a way that it is providing equal and fair opportunity for everyone to access.
- *Flexibility/Self-Paced* – It allows participants to work on their desired time and in a way they are comfortable in.
- *Professional development for instructors* – There are tools in place to help out the professional instructors.
- *Widening participation and social diversity* – Collaborative tools and meet ups allow people from diverse population to share their ideas, respect each other and participate with co-existence.

5. Conclusion

U Impactify is an eLearning and e-Facilitation platform developed with the sole idea of developing social entrepreneurs. It also a platform that allows social impact specialists to develop their course content and structure. U Impactify provides entrepreneurs with support, necessary courses, workshops and cohesive community to help them succeed. Also, the specialists would be provided training in order to provide quality educational content. Making use of a gamified approach provides users anonymity and also improves their attention span. Using AI and analytics, participants and trainers will be aware of how they are performing when compared to others improving their social reasoning. Adaptive assessments will encourage sensemaking in them. Making use of chatbots and other AI recommendation tools will elevate their emotional quotient. Group discussions and one-on-one interaction with the instructors helps them develop a sense of belonging and cooperation. Group dynamics and social reasoning are heightened while accessing collaborative platforms, interacting with diverse population during e-facilitations and meet ups.

There must be further research conducted on how the Analytic algorithms would be efficient enough to not go wrong ? Also, a decision must be taken on either open source or propriety software methodology. Is the data owned by the user or the company? For example, once a user completes his/her course and is not registered any more, would the personal data and discussions on the community board remain? What would the success criteria for a social entrepreneur be?

References

- [1] Pappas, Christopher. "Top 20 ELearning Statistics For 2019." *ELearning Industry*, 22 Apr. 2020, elearningindustry.com/top-elearning-statistics-2019.
- [2] Forbes, Malcolm. "Investigating the Online Student Body." *OnlineUniversities.com*, 11 Oct. 2016, www.onlineuniversities.com/articles/educators/investigating-the-online-student-body/#:~:text=Out%20of%20the%2056%20million,Asian%2C%20and%204.6%25%20others.
- [3] Hoffman, Jaimie. "Primary Menu." *Education and Careers*, 2018, blog.classesandcareers.com/education/infographics/student-demographics-infographic/.
- [4] Gutierrez, Karla. *Numbers Don't Lie: Why Microlearning Is Better for Your Learners (and You Too)*, 2020, www.shiftelearning.com/blog/numbers-dont-lie-why-bite-sized-learning-is-better-for-your-learners-and-you-too.
- [5] Zoe, Elenie. "Gamification at Work: The 2019 Survey Results." *TalentLMS Blog*, 15 Jan. 2020, www.talentlms.com/blog/gamification-survey-results/.
- [6] Simovic, Dragomir. "39 Entrepreneur Statistics You Need To Know In 2020." *SmallBizGenius*, 14 Jan. 2020, www.smallbizgenius.net/by-the-numbers/entrepreneur-statistics/#gref.
- [7] Pappas, Christopher. "The Nine Main Stakeholders to Keep in Mind in Online Training - EFront." *EFront Blog*, 8 Nov. 2019, www.efrontlearning.com/blog/2019/11/key-stakeholders-in-online-training.html.
- [8] Zaineb, Asma. "8 Key Players In ELearning Development." *ELearning Industry*, 4 Aug. 2017, elearningindustry.com/8-key-players-in-elearning-development.
- [9] Pappas, Christopher. "The Nine Main Stakeholders to Keep in Mind in Online Training - EFront." *EFront Blog*, 8 Nov. 2019, www.efrontlearning.com/blog/2019/11/key-stakeholders-in-online-training.html.
- [10] Moore, Eric. "Understanding Strategic Business Drivers." *Accounting Solutions Partners*, 2020, www.asp-nw.com/blog/understanding-strategic-business-drivers.
- [11] Porto, Stella. "The Effect of Cultural Awareness in Online Instruction: An International Perspective." *Quality Matters*, 2018, www.qualitymatters.org/qa-resources/resource-center/articles-resources/cultural-awareness-in-online-instruction.
- [12] Adams, John. "Cross-Cultural Issues in Online Learning (Distance Learning)." *Whatwhenhow RSS*, 2018, what-when-how.com/distance-learning/cross-cultural-issues-in-online-learning-distance-learning/.
- [13] Bates, Tony. "Tony Bates." *Online Learning and Distance Education Resources - Moderated by Tony Bates, Research Associate, Contact North*, 5 June 2016, www.tonybates.ca/2016/05/15/culture-and-effective-online-learning-environments/.
- [14] Lin, Hong, and Judith A. Kolb. "Ethical Issues Experienced by Learning Technology Practitioners in Design and Training Situations." *Online Submission* (2006).
- [15] Toprak, E., B. Ozkanal, S. Kaya, and S. Aydin. "What do learners and instructors of online learning environments think about ethics in e-learning?: A case study from Anadolu University." In *European Association of Distance Teaching Universities Conference*. 2007.
- [16] Solutions, Lambda. "Open Source vs Proprietary LMS: How Do I Choose?" *Build the Best ELearning and LMS Solution*, 2019, www.lambdasolutions.net/blog/open-source-vs-proprietary-lms-how-do-i-choose.
- [17] Admin. "Open Source Vs Closed Source LMS: Which One Is Better and Why?" *BizLMS*, 27 Feb. 2020, bizlms.net/open-source-vs-closed-source-lms-which-one-is-better-and-why/.
- [18] BasuMallick, Chiradeep. "What Is an Open Source LMS and Should You Opt for One?" *HR Technologist*, 2019, www.hrtechnologist.com/articles/learning-development/what-is-an-open-source-lms-and-should-you-opt-for-one/.
- [19] Khan, Badrul Huda, ed. *Managing e-learning: Design, delivery, implementation, and evaluation*. IGI Global, 2005.
- [20] Kilgore, Whitney. "Ethical Issues in Online Learning." *LinkedIn SlideShare*, 19 June 2017, www.slideshare.net/WhitneyKKilgore/ethical-issues-in-online-learning.
- [21] Charolette Nager. "Facilitation." *Shareweb, Shareweb*, 2015, www.shareweb.ch/site/Learning-and-Networking/home-sdc-networks/managing-and-supporting-networks2/e-facilitation.
- [22] McMenemy, David. "Digital Ethics: A UKeiG White Paper." (2016): 1-27.
- [23] Ferrell, Gill. *Exploring Tangible Benefits of E-learning: Does Investment Yield Interest?*. Northumbria University, 2008.
- [24] Griffiths, D., H. Drachsler, M. Kickmeier-Rust, C. Steiner, T. Hoel, and W. Greller. "Is privacy a showstopper for learning analytics? A review of current issues and solutions." *Learning Analytics Review* 6 (2016).

- [25] Henderson, Tag. "150,000s Of e-Learning Students Exposed in 8Belts Data Breach." *Security Magazine RSS, Security Magazine*, 1 June 2020, www.securitymagazine.com/articles/92494-000s-of-e-learning-students-exposed-in-8belts-data-breach.
- [26] Pacut, Agnieszka. "Drivers toward Social Entrepreneurs Engagement in Poland: An Institutional Approach." *Administrative Sciences* 10, no. 1 (2020): 5.
- [27] Zimmer, Kyle. "Social Entrepreneurs Can Change the World - but These 6 Things Are Holding Us Back." *World Economic Forum*, 2018, www.weforum.org/agenda/2018/08/six-challenges-social-entrepreneurs-need-to-overcome/.
- [28] Kourilsky, Marilyn L., William B. Walstad, and Andrew Thomas. *The entrepreneur in youth: An untapped resource for economic growth, social entrepreneurship, and education*. Edward Elgar Publishing, 2007.
- [29] Swierczek, Fredric William, and Clemens Bechter. "Cultural features of e-learning." In *Learning and instruction in the digital age*, pp. 291-308. Springer, Boston, MA, 2010.
- [30] Sillis, Ben. "6 mindblowing social enterprise stats you need to know" *Red Bull Gives You Wings - RedBull.com, Redbull*, 2018, www.redbull.com/ca-en/social-enterprise-stats.

Appendix

a. Human Sensitivity Definitions

Human Sensitivities are instincts that are often vulnerable to new technologies.

- **Emotional sensitivity** emphasizes emotional response induced in an individual while using technology or service. Coming across offensive content when using the technology can create negative emotions.
- **Attention sensitivity** centres on the attention span or focus of an individual. Having unrelated or fearful information or constant context switching can reduce the attention.
- **Sensemaking** is related to understanding. It is impacted when the user of the technology or service cannot form an opinion presented facts or data. This can happen when the data is out of context, or its credibility is in question.
- **Decision making** focus on the competence of an individual or a group to arrive at a decision. It is mainly troublesome to make decision-making within a group due to conflict in values or ideas.
- **Social Reasoning** is the ability to read people in a social environment and then act accordingly. The inability to analyse others may hinder one's own action.
- **Group Dynamics** is measured by the performance and working of a group.

b. Centre for Humane Technology – Humane Design Guide

Product	U Impactify
Value Proposition	Providing Social Entrepreneurs with necessary content and support through inclusivity. Also, providing members a platform to create content.
Measure of Success	Providing an ethical platform to help like-minded people to become social entrepreneurs and create social impact.

Humane Design Guide

Use this worksheet to identify opportunities for Humane Technology.			What are Human Sensitivities?	
Product or feature:	U Impactify		<i>Human Sensitivities</i> are instincts that are often vulnerable to new technologies.	
Value proposition:	Providing Social Entrepreneurs with necessary content and support through inclusivity. Also, providing members platform to create content.			
Measure of success:	Providing an ethical platform to help out like-minded people to become successful social-entrepreneurs and create social impact.			

Human Sensitivity	We are inhibited when	What inhibits	We are supported when	Opportunity to improve
Emotional What we feel in our body and in our physical health.	We are stressed, low on sleep, afraid or emotionally exhausted.	<ul style="list-style-type: none"> Artificial scarcity Urgency signalling Constant monitoring Optimizing for screentime 	Design engenders calm, balance, safety, pauses and supports circadian rhythms.	High Low
Attention How and where we focus our attention.	Attention is physiologically drawn, overwhelmed or fragmented.	<ul style="list-style-type: none"> Constant context switching Many undifferentiated choices Fearful information No stopping cues (e.g. infinite scroll) Unnecessary movement 	Enabled to bring more focus and mindfulness.	
Sensemaking How we integrate what we sense with what we know.	Information is fear-based, out of context, confusing, or manipulative.	<ul style="list-style-type: none"> Facts out of context Over-personalized filters Equating virality with credibility Deceptive authority (ads vs. content) 	Enabled to consider, learn, express and feel grounded.	
Decisionmaking How we align our actions with our intentions.	Intentions and agency are not solicited nor supported.	<ul style="list-style-type: none"> Avatars to convey authority Stalking ads and messages Push content models Serving preference over intent 	Enabled to gain agency, purpose, and mobilization of intent.	
Social Reasoning How we understand and navigate our personal relationships.	Status, relationships and self-image are manipulated.	<ul style="list-style-type: none"> Quantified social status Viral sharing Implied obligation Enabling impersonation 	Enabled to connect more safely and authentically with others.	
Group Dynamics How we navigate larger groups, status, and shared understanding.	Excluded, divided and mobilized through fear.	<ul style="list-style-type: none"> Suppressing views and nuance Enabling ad hominem or hate speech Enabling viral outrage Lack of agreed-upon norms 	Enabled to develop a sense of belonging and cooperation.	

Now rank the sensitivities 1-6 based on what you now see as the largest opportunities for Humane Design. Then use the second sheet to develop an action statement.

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Fig 5: Humane Design Guide Page 1.

Humane Design Guide

Now develop an action statement for Humane Technology using your evaluation and prioritization from the previous sheet.

1. In what ways does your product/feature currently engage Human Sensitivities? <ul style="list-style-type: none"> Which sensitivities are engaged with which feature? How is the value proposition delivered? Which specific elements might warrant redesign? Are the success criteria in tension with any sensitivities? 	2. How might your product/feature support or elevate human sensitivities? <ul style="list-style-type: none"> Where are humans naturally brilliant at manifesting the value proposition? How might a design element change to better support that brilliance? With social sensitivities, could the design encourage people to meet the goal in real life? Do any success criteria need to shift to support human sensitivities?
3. Action Statement <ul style="list-style-type: none"> What is one thing you want to learn more about? What would you like to discuss with your team? What would you like to design or prototype? Are there any new design principles you might employ? Use extra space for text, diagram, wireframes...	

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Fig 6: Humane Design Guide Page 2.

I. In what ways does your product/feature currently engage Human Sensitivities?

With an expansive range of skills to deliver online, improper planning of course material can dissuade the user from using the platform. Having multiple courses to select from could overwhelm the learner and hinder decision making.

The absence of engaging and interacting learning can reduce the attention span of the learner. Creating such educational content can also make the instructor nervous about the impression of their content and feedback from the learners. Ambiguous information about the course content and prerequisite can make it troublesome for the learners to make proper sense of the course and skills to learn.

Test modules involve scenario-based problems that require subjective thinking; thus, if a detailed explanation for the solutions is missing sensemaking would be difficult. Additionally, the continuous monitoring and data collection of an entrepreneur's activity can cause stress.

Entrepreneurs can have emotional turmoil by sharing their ideas on the community forum. Having questions regarding the protection of their ideas on the forum can inhibit their social-reasoning and group dynamics. The cultural and background differences between members of the community can amplify this problem, leading to conflicts of ideas and an inability to arrive at a decision. The community's passive members also must be encouraged and drawn in for contribution to the group.

II. How might your product/feature support or elevate human sensitivities?

The platform must be easy for users to navigate and use the different features. This can be done by introducing extensive explanations through detailed tutorials.

Planned courses should assist the entrepreneurs in learning skills and apply them in the real world. The course description must clearly answer the question "what's in it for me?" to motivate the learner. Following a gamified approach, people involved in diverse ethnic groups would have anonymity. This provides a much more collective approach.

Deliver specialized learning to support decision making and focused learning. Verify content by experts to ensure sensemaking and that the instructor does not misguide the learner. Assess the learner in situations simulating the real-world.

Discussion forums and one-on-one interaction with the instructor can help to grow and develop a sense of belonging and cooperation. Promoting controlled and secured group collaboration would improve learners' social skills and help them make informed decisions about what to share and disclose. Knowing what data is secured and private, the emotional part of human sensitivity is elevated.

User activity recorded by the platform must be utilized to improve the entrepreneurs' performance and the overall educational process. It is essential to get explicit and well-explained consent from users while accessing their private information. By constant tracking of the entrepreneur's progress, they are always guided to the right path. With the help of the audited AI algorithms and progression tracking module, entrepreneurs could seek advice and make decisions accordingly, which could lead them to achieve goals.

III. Action Statement

- Adopting a Universal Design for Learning (UDL) framework to "improve and optimize teaching and learning for all people based on scientific insights into how humans learn."

- A moderator monitors discussion in the community forum to ensure that all the participants are safe and that no feelings are hurt.
- All the communications in the forum can be recorded to protect ownership of an original idea pitched in the forum. Anonymization of participants in the discussion would be supported.
- Frequent communication and feedback would be provided to the entrepreneurs to guide them.
- Abiding by the Family Educational Rights and Privacy Act (FERPA) law can protect the privacy of all the participants about whom the organization collects data.
- Participants ' aggregated anonymized data should be protected against reidentification.
- Lastly, one central challenge that the organization needs to concentrate on is, "How can we make sure that the entrepreneurs are now ready for the industry? On what basis?"