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[Transformation Platform]

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By

Students: [Chau, Dicky Yat Kin (3035417290)

Chen, Huan Long Tony (3035545396)

Huang, Chia Yun Dora (3035417240)

Li, Xin Jason (3035545621)]

Supervisor: [Dr. Benjamin Yen]

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# **Transformation Platform The Ultimate Platform in Self- Improvement**

***Learning without  
Boundaries***

Abstract:

This project provides an explanation of the history, market and technologies in self-improvement, followed by a detailed description of the **Transformation Learning Platform**.

# Executive Summary

This report explores a learning and self-improvement platform named **Transformation**, which utilizes current and emerging technologies to augment online learning. The self-improvement industry is projected to reach \$13.2billion USD<sup>11</sup> by 2022, with overall online learning to be around \$300billion USD by 2025, both figures in the United States alone. **Transformation** plans to engage in this market space by networking learners with content providers, combining technologies in IoT, Big Data, AI and neurosciences to revolutionize learning and self-improvement, creating new thinking, products, businesses and consumer behaviors along the way. Transforming the market place with the focus to improve mankind's capabilities through learning and human development<sup>25</sup>.

To provide background and context in self-improvement, this report first explores major religions and philosophies on human amelioration and enlightenment, to understand early traditions, behavioral guidelines and practices for human and societies to excel.

Contribution of modern era in self-improvement, which gave birth to the term and the creation of an industry including current trends on the internet will then be covered in the report. Finally, the report explores in details the concept, technologies and business potential of **Transformation Platform**, a gateway and tool to gain knowledge and connect people all over the planet in learning and self-improvement.

**Transformation Platform** begins with current mobile-internet training modus operandi, providing 7/24 access to educational and improvement content, offering flexible learning free of charge. Use of technologies, such as biometric sensors, Big Data, AI, neuroscience, IoT, dedicated algorithms and cloud computing to provide real-time feedback and validation during learning, gamifying the learning process while optimizing and accelerating results via interactivity in a customized and individual approach.

Instructor and participant interaction, both individually and or in groups and communities, are held in the platform. Promoting dialogue and deepen learning, offering opportunities for both individual and group ideas-projects and activities to be shared and learning reinforcement.

As for business and usage aspects of **Transformation**, it is free to download and free to use. In-platform advertisements are available, as well as shopping and purchases. Users may generate income when they share content in the platform with amount of remuneration pending on popularity of content offering. Funds transfer also possible within the platform, allowing crowd sourcing and P2P transactions.

Overall, **Transformation Platform** has the capacity to change the notion of learning and self-improvement, with the potential to truly transform and elevate mankind. On the business side, this has the potential to generate and popularize new ideas, devices and markets relating to learning and self-improvement, thereby creating new business opportunities, markets and industries. **Transformation Platform** aims to be the “only” place where everyone goes for learning on the internet, as well as the location where “all” learning contents are shared.

# Declaration and Acknowledgments

The key focus of this report is to understand and study the requirement and viability of a learning platform called **Transformation**, which aims to revolutionize online learning and self-improvement. Learning really is a fundamental quality of being human, and as Dr. Martha S. Burns described in her TEDx Talk (Pennsylvania, 2012), humans are designed to learn, our brain rewards us with pleasant chemicals when we are having a proper learning experience. Humans are simply addicted to learning.

When comes to knowledge acquisition, we owe tremendously to people who have walked the paths before us, as well as the individuals who walk along with us, and the dearest members closest to us outside of our university lives, inspiring us to embark on our journey of discoveries at HKU; we want to thank all of them from the bottom of our hearts.

We wish to first thank members of our families, love ones and friends, providing us with encouragement and support, serving as examples of excellence and how to be the best one can be; indispensable in our educational journey and life.

With tremendous gratitude, two individuals at HKU we enthusiastically wish to thank and mention, who have been highly influential in our studies in the ECom&IComp program, are Professor Benjamin Yen and Professor Paul Cheung.

Professor Yen, being our advisor for the case study, has been tremendously supportive, guiding us into deeper understanding on how to carry out a successful case project,

sparkling ideas and lighting pathways for us to improve on our design and methodologies. Professor Yen with his motivating way and infectious laugh, guided us to produce a robust research, to make our study applicable in the real world.

Professor Cheung, the founder of the ECom&IComp program at HKU has been an essential figure in shepherding everyone not only academically, but also to provide much needed wisdom on how to navigate through today's technological world. Having played an important part of current technological movement since its beginning, Professor Cheung not only informs us of what we need to know in technologies, but most importantly he develops in us a sense of how we should make use of technologies to improve on the human condition; hence motivated us to embark on **Transformation Learning Platform** as our case study.

Next, we wish to thank our professors and TAs in the ECom&IComp program, who provide the ingredients to foster the project, inspiring our imagination while offering possibilities and solutions to overcome roadblocks and challenges. Professors and TAs taught us the knowhow and details to realize our designs and methods, to develop in us on how to ask appropriate questions and how to search for answers.

Finally, we wish to thank our fellow classmates in the ECom&IComp program, who travel this journey along with us in search of knowledge, understanding and academic excellence. Sharing ideas and struggle together, learning through each other to develop new technology comprehension, awareness and skills to engage in the technological world in which we live.

In closing, we wish to express that although the report describes the **Transformation Platform** with fair amount of details, to fully realize the project as outlined would require much more time and financial backing, to develop the various disciplines by specialists in order to come to full fruition. Not possible given the time frame, capabilities and budget allocated for the project study. None the less we do hope to make a strong case for **Transformation** through this report, being a viable platform for online learning and its business potentials.

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# Introduction

Prehistory cave paintings and stone artifacts show human has been passing information and knowledge since the beginning of our existence, with collective learning and development being the ultimate strategy for our specie to survive, propagate and to eventually dominate the planet. Human's quest for betterment has motivated our specie to search and discover all over the planet, exploring the world and into the cosmos, constantly improving and revising our understanding of the nature of things, solving problems of adaptation and transforming along the way.

Expressed jokingly by celebrated South Indian mystic Jaggi Vasudev, also known as Sadhguru, "When a dog is hungry it has one problem, when the dog becomes full it has no problem. When a human is hungry, he has one problem, but when the same man becomes full, he has unlimited problems." Human's capacity to imagine, seek and works towards betterment makes self-improvement an inherent part of the human condition.

In self-improvement, modern technologies in medicine, psychology and advanced computing are aiding the progress in a fresh and exciting way, combining cognitive studies, neurosciences, bio-technologies, Big Data, AI, IoT and gaming to create new techniques, approaches and thinking, accelerating results while bringing new comprehension to the topic.

This report will explore the history of self-improvement, the market potential and to investigate current and emerging technologies aiding in the area. The report introduces

a novel and possibly structural element in modern self-improvement movement, with the potential to popularized, expand and accelerate self-improvement globally via a platform called “**Transformation**”.

Finally, the report will describe the technologies, business plan and market strategy of **Transformation**, all parts and components necessary to realize this platform.

# 1. Background and Historical Perspectives

## *1.1 History of Self-Improvement*

Egyptian practice of passing advice letter from father to son called the Sebayt (meaning teaching), with “The Maxims of Ptahotep”<sup>1</sup> written around 2800 B.C. being an example, is one of the earliest application of self-improvement recorded. Major religions in history in a way contain the underpinnings of self-improvement. In this section we will begin the discussion by offering several religious examples to help understand their contribution in the history of self-improvement, then progress into philosophical schools of thoughts in support of personal development, both in the East as well as in the West, and end the section by reviewing the modern era of self-improvement offerings. It is not the intension of this report to cover all religions and approaches but rather to select a few to provide context and background into the history of self-improvement as we know it today.

## *1.2 Hinduism*

In Hinduism<sup>16</sup> there are ten main duties (dharma) for its lay practitioners to adhere, where the duties are essentially work performed for the Supreme Being Brahman, to gain liberation through proper actions, words and thoughts, consequently creating the basis for self-improvement and enlightenment.

Hinduism also promote and make use of yoga<sup>22</sup> and meditation to master one’s body, senses and mind to pursuit spiritual truth and development. The practice of yoga and meditation has long migrated out of Hinduism and into other religions and modalities,

and in modern time has earned a place in the study of neurosciences, psychology and medicine. An example of rather unexpected application of yoga and meditation is by the American military as an adjunct treatment<sup>23</sup> for soldiers with Post Traumatic Stress Disorder (PTSD).

In general, most people become aware of yoga and meditation through the health and fitness industry, where folks from all faiths throughout the world practice these methods for physical fitness and emotional welfare, making yoga and meditation an important element in today's self-improvement industry.

### ***1.3 Buddhism***

Buddhism with its fundamental focus on the understanding of The Four Noble Truths<sup>17</sup>, which is the key essence of Buddha's teachings, to eliminate suffering (dukkha) in human existence. The four truths are realization of suffering, root causes of suffering, cessation of suffering and path leading to the cessation of suffering. The Noble Eightfold Path<sup>18</sup> was Buddha's proposal to his followers on how to address suffering listed below:

1. Right Understanding
2. Right Resolve
3. Right Speech
4. Right Action
5. Right Livelihood

6. Right Effort
7. Right Mindfulness
8. Right Meditation

As with the Hindu dharmas, the Noble Eightfold Path provides a code of conducts for Buddhists to adhere to achieve enlightenment, offering a blueprint for proper living and self-improvement through understanding and practice.

## ***1.4 Christianity***

The Ten Commandments<sup>19</sup>, inscribed in stone tablets and given to Moses on Mount Sinai to be the base of conducts for ancient Jews, reflects an early Jewish tradition of self-improvement, with the commandments:

- I. You shall have no other gods before Me.
- II. You shall make no idols.
- III. You shall not take the name of the Lord your God in vain.
- IV. Keep the Sabbath day holy.
- V. Honor your father and your mother.
- VI. You shall not murder.
- VII. You shall not commit adultery.
- VIII. You shall not steal.
- IX. You shall not bear false witness against your neighbor.
- X. You shall not covet.

Christianity rooted in Judaism and the ten commandments, as well as a collection of books and stories reduced to a single volume over several centuries called The Holy Bible<sup>20</sup>, with the life of Jesus and his teachings being its main theme. Many consider The Bible to be the most popular self-help book in history<sup>21</sup>, with over one-quarter of current humanity associated to the wisdom within.

## ***1.5 Islam***

To Muslim, following the Qur'an provides a complete way of living, with prophet Mohammad's life stories as a blueprint to proper conducts<sup>29, 30, 31</sup> in life and self-improvement. For Muslim, the Qur'an holds wise messages and knowledge to mitigate life's troubles, placing great individual responsibility in understanding and shaping oneself for betterment, both for the individual and society<sup>28</sup>. Popularity of the Qur'an and its teachings spread throughout the globe, encompassing one fifth of the population on the planet with various branches of following.

## ***1.6 Eastern Philosophy***

Early Chinese philosophical writings, such as Tao Te Ching (600 B.C.) by Lao Tzu<sup>13</sup>, The Art of War<sup>13</sup> (500 B.C.) by Sun Tzu and the Analects (400 B.C.) by Confucius, focused on understanding of oneself and one's surroundings, providing directions and hints for proper conducts, decision making and avoidance of disastrous actions, all to develop and create a superior being. These classics were not only well studied in ancient China but were required readings for royalties and scholars alike throughout Asia, influencing Asian societies and history, providing the philosophical background and guidance in governance, warfare and individual-societal code of conducts. These

classics are so popular and influential they continue to be best-selling works even today and have made impact in western civilizations<sup>15</sup> since the 1700s.

## ***1.7 Western Philosophy***

Meditations<sup>13</sup>, a series of 12 books written by Roman Emperor Marcus Aurelius (161 to 180 A.D.) containing private notes and personal reflections with an underlying theme of analyzing and improving oneself against a cosmic perspective, was one of the earliest self-improvement works out of western Europe.

Meditations originated as personal journals and lessons of Emperor Marcus Aurelius, promoted the idea of restraint and avoidance of indulgences to free oneself from the trappings of human existence.

## ***1.8 Modern Era***

In 19<sup>th</sup> Century, advice books as they were called<sup>1</sup>, promoting parenthood, time management, weight loss, business success and self-control amongst other topics were highly popular read. Mutual Improvement Societies trend in the same era had Scottish writer Samuel Smiles<sup>2</sup>, who published several popular books with titles such as “Self-Help”, “The Art of Living”, and “Duty, Character and Thrift”, “Self-Help” was so popular it even outsold Darwin’s “Origin of the Species” in the same period<sup>1</sup>.

In 1917, American silent movie star Douglas Fairbanks, a giant in the early motion picture industry, took on self-help as a kind of public service<sup>2</sup> and published “Laugh and Live”; a popular read which took a common-sense approach in dealing with life’s

encounters, promoting a positive attitude, laughter, self-awareness, purpose, generosity and decency as paths to happiness.

In 1922, French pharmacist and psychologist Emile Coue<sup>2</sup> published “Self Mastery Through Conscious Autosuggestion”, a book which promotes self programming for success and happiness, via mantras, meditation and self-hypnosis. Coue was an originator and pioneer of the autosuggestion practice, formulated through his 20 years of work and study, based on the belief that an individual’s subconscious is far more powerful than the conscious, conditioning oneself to tap into this capability in order to steer himself into profound positive changes. Coue’s work has roots in hypnotism and guided imagination, he considered this approach as a kind of “mental therapeutics” or “suggestive therapeutics”, combining his autosuggestion practice with medication to amplify efficacy.

American journalist and author Napoleon Hill published “The Law of Success” in 1928, followed by “Think and Grow Rich” in 1937. Both books were highly successful and consider as classic in the self-help industry, continue to attract readers even today.

Church minister and author Norman Vincent Peale, who started the radio program “The Art of Living” which lasted 54 years, as well as being the co-founder of “Guideposts”, a non-denomination Christian based magazine focused on religious and inspirational content, published “The Power of Positive Thinking” in 1952. “The Power of Positive Thinking” became an instant self-help classic and remained in the New York Times bestseller list for 186 when it came out.



Dale Carnegie, considered by some as the father of self-help, wrote "How to Win Friends and Influence People" in 1936 and developed a set of self-improvement courses focusing on public speaking which attracted selling professionals, corporate managers and businessmen alike. Carnegie's courses were so successful he was able to amass 450,000 graduates of his program and critiqued 150,000 speeches of members who participated in his training within his lifetime.

Carnegie was quite a salesman in his own right, changed his last name from "Carnagey" to Carnegie after Andrew Carnegie, the well-known self-made American steel tycoon who was famous for his business prowess and philanthropic legacy.

Dale Carnegie was a successful writer, penned several famous books and sold 5 million copies of "How to Win Friends and Influence People" translated in 31 languages before his passing.

"7 Habits of Highly Effective People" published in 1989 by Stephen Covey, sold more than 25 million copies worldwide in 40 languages. Covey received an MBA from Harvard and earned his doctorate in Religious Education from Brigham Young University in Utah, USA, with his doctoral thesis in American self-help books.

Covey became a highly successful management guru after the release of "7 Habits", the audio version of the book alone sold more than 1 million copies, along with the three other books which sold 1 million copies each. The success allowed Covey to open the Covey Leadership Centre where it received strong business support from Fortune 500 companies.

Perhaps due to his religious upbringing and academic training, Covey's ideas and principles seemed to be old-fashioned with a religious underpinning, along with an intellectual sophistication and business-like attitude which was very popular in the late 80s and early 90s.

Dr. Wayne Dyer<sup>43</sup>, a prolific self-help author and popular Public Television personality in the United States wrote "Your Erroneous Zones" in 1976, which sold approximately 35 million copies. Dr. Dyer was born in Detroit, Michigan in 1940 and spent much of his first 10 years in an orphanage.

Dyer received his doctorate in education in counseling from Wayne State University in Detroit, Michigan, with his dissertation titled "Group Counseling Leadership Training in Counselor Education" then started his career as a professor in counseling at St. John's University in New York City, specialized in positive thinking and motivational speaking.

Popularity of Dr. Dyer's lectures led to a collaboration with a literary agent to publish the "Your Erroneous Zones", which documents Dr. Dyer's principles and theories in his lectures. Subsequent popular self-help books were released by Dr. Dyer, which brought him further fame and celebrity status from the late 70s when he toured the US television talk show circuit to promote his books, with popular TV hosts such as Dinah Shore, Johnny Carson, Merv Griffin and Phil Donahue.

Self-actualization was the main theme in earlier Dr. Dyer's books, but by the 90s he began to side more on spirituality and higher consciousness as the source of

understanding and being, gave away his possessions (even his shoes) at the age of 65 to liberate himself from materialistic trappings and the ego oriented existence, then published “Your Scared Self” in 2013 to offer a program for his readers to establish a spiritually oriented life.

As one of the pioneers of modern self-help industry, Dr. Dyer wrote 30 self-help books with 6 of them on the New York Times bestseller’s list. He had 10 National Public Television (PBS) specials and produced numerous successful audiotapes and lecture series.

Anthony J. Mahavoric, better known as Tony Robbins<sup>32</sup>, was born in North Hollywood, California in 1960. An author and a professional motivational speaker made popular in TV infomercials and seminars in the 80s and 90s, with his best-selling books “Unlimited Power” and “Awake the Giant Within”.

Robbins has been working as a motivational speaker since the age of 17, after training under John Grinder, the co-founder of Neurolinguistic Programming (NLP), which is a method of personal development via specific thinking, speech and behavioral patterns to gain beneficial outcomes.

In the early 90, Robbins promoted himself as a “Peak Performance Coach” and was one of the pioneers to use infomercials to sell books, audiotapes and seminars with celebrity endorsements in his infomercials, reaching viewership of 100 million.

## ***1.9 YouTube Self-Help Boom***

Offering video streaming of literally unlimited content for free, YouTube has taken over popular media dominated by television since the 1950s. With total number of users over 1.3 billion<sup>49</sup> and near 5 billion<sup>49</sup> videos viewed on a daily basis, traffic through the site is a phenomenon, reinventing the media industry while creating new cultures, habits, business models and markets.

Learning is a growing component of YouTube viewing, with how to and tutorial videos on virtually any topic gaining popularity, the first place where people nowadays visit, prior to taking on a new task or skill. Tutorials rank 4<sup>th</sup> place amongst top ten most watched YouTube videos<sup>51</sup>, with educational videos making within top ten most popular YouTube topics<sup>48</sup>.

Long form programs and interviews lasting as long as 3 hours a stretch, completely unheard of in the television world, are now drawing views in the millions per episode on YouTube. Academics, researchers, experts and people with unique and interesting talents and information are capturing viewers in huge numbers on YouTube, allowing these content providers to capitalize on their popularity to create income streams through product selling (books, fitness equipment, etc.), sponsorships and speaking tours, sharing their understanding and expertise. People around the globe are hungered to learn and to gain better understanding of the world around them, ease of access to information from sites like YouTube is demonstrating how much of a demand it is out there for learning and understanding. Following will provide an example of one of the most popular personality on YouTube, Joe Rogan, who combines martial arts, entertainment, learning and self-improvement into an immensely popular podcast and

has everyone talking about him and wanting to be interviewed by him; revolutionizing entertainment media, news reporting, learning and self-improvement.

Began his career in standup comedy, stardom came for Joe Rogan<sup>52</sup> when he became the host of reality TV show “Fear Factor”. The true calling for Rogan has actually been in martial arts, where Rogan started in Taekwondo since a teenager and trained daily to develop his skills and competed in full contact sparring on a regular basis. He explained his early martial arts training story many times on his podcast, “The Joe Rogan Experience”, as a way to describe the importance of hard work and determination in the world of success.

Daily diligent martial arts training netted results for Rogan, he taught and competed in Taekwondo after high school and impressively won the US Open Grand Champion at the age of 19, which meant he competed and won the lightweight championship, the weight division for his size, plus won both the middle and heavyweight titles as well. Rogan was also the full-contact Taekwondo champion for 4 consecutive years in the State of Massachusetts, where he was living at the time. Rogan explored further into martial arts which brought him to study Muay Thai Kickboxing and Brazilian Jiu-Jitsu.

At the age of 21, having suffered headaches and various injuries from years of competitive fighting, Rogan decided to retire from fighting and dedicated himself fulltime into stand-up comedy. Started his performance at open-mic venues, bachelor parties and strip clubs in Boston, Rogan was picked out by talent manager Jeff Sussman, who signed and relocated Rogan to New York in 1990 to work as a fulltime standup comedian, then moved again to L.A. in 1994 to further his career.

While working in L.A. between various deals and contracts from MTV, Disney, Fox and NBC, Rogan befriended Dana White, the president of the “Ultimate Fighting Championship” (UFC), and a Bostonian as Rogan. Through the friendship, Rogan became the commentator and interviewer for UFC in 1997, initially without pay but in exchange for prime tickets for Rogan’s family and friends in fight events. Rogan’s presence in the UFC was an immediate hit for fans and fighters alike, with his knowledge and experience in competitive fighting, humor and on-screen presence honed through standup comedy and television, Rogan was a shoe in for the position and held it for free in the beginning, then with pay after 15 fight commentaries, until 2016 when Rogan declared his retirement from UFC.

Between 2001 to 2006, during the boom of reality television in the United States, Rogan also landed the host position of the popular TV program “Fear Factor”, which brought him further fame and recognition throughout America’s TV audiences.

With his successes through the UFC and Fear Factor, Rogan wanted to do something on his own, involving projects and subjects he is passionate about. Hence in 2009, Rogan tried his hand on podcasting and discussed topics in standup comedy, mixed martial arts, altered state of mind and UFOs.

Rogan called his podcast the “The Joe Rogan Experience”, utilizes his unique brand of interviewing style, injecting humor, profanity, beer drinking, marijuana smoking, with the goal to learn and improve oneself through inquiry, debate and understanding.

His podcasts are also long, typically 3 hours at a stretch covering issues and topics in depth. Rogan's current podcasts rank 21<sup>50</sup> in the top 100 popular YouTube searches in April 2019, with 1,280,000 search volume, regularly receive 3 million plus in viewership for each episode. Rogan's podcasts are most popular in this format category worldwide, bringing to light previously unknown personalities and topics, creating internet sensations overnight after one podcast with Rogan.

Personalities such as Canadian University of Toronto professor and psychologist Jordan Peterson, who became an internet sensation due to his fight with the Canadian government on Bill C-16, an act on gender identity and expression, which Peterson feels is an introduction of compelled speech into the Canadian law. Journalist and pharmacologist Hamilton Morris, who focuses on psychoactive drugs and how they may benefit human kind. Evolutionary psychologist Geoffrey Miller, who is an expert in human sexual selection, consumer behavior and behavior genetics. David Goggins, an ultramarathon athlete and holder of the world record for the greatest number of pull-ups done in 24 hours, explained on the podcast how he went from being a 300lbs overweight couch potato with no self-esteem to transform himself to be a member of the United States special forces Navy Seal, served the USAF Tactical Air Control Party in Iraq and Afghanistan.

Many famous celebrities and personalities have also been on Rogan's podcasts, explaining in details of their life stories, successes and failures. Like tech billionaire and founder of Tesla Elon Musk, who discussed everything from his childhood to self-driving cars and future of robotics, followed by smoking a tobacco laced marijuana cigarette with Rogan during the podcast (which may have caused Tesla shares to drop

10% in one day after the podcast, and the company's chief accountant Dave Morton's resignation). Famed astronomer and educator Neil deGrasse Tyson, ever entertaining and laughed through the podcast with Rogan while sharing his understanding and insights in astronomy and life. Founder of Twitter Jack Dorsey discussed Twitter's content governance policies and the changing dynamics of the internet. World renowned researcher and Harvard professor David Sinclair shared his findings on latest anti-aging research plus his recommendations on longevity.

Key to success of "The Joe Rogan Experience" has been Rogan's keen interest in learning, taking himself as well as his audience into deep inquiry on each topic, supported by Rogan's innate curiosity and common man approach of asking the right questions (often with great amount of profanity), to gain greater apprehension of life and the world. Popularity of Rogan's podcasts shed light on just how much interests there are in learning and self-improvement, capitalizing on ease of information access (there's a guy on the show called Jamie with the sole responsibility to immediately search for information online during the podcast to augment the discussions) to create a world community in investigation and understanding; while being highly entertaining at the same time.

Joe Rogan is but one of numerous internet sensations on YouTube, with leading academics, scientists, researchers and technologists making use of YouTube and networks of FANG (Facebook, Amazon, Netflix, Google) and BAT (Baidu, Alibaba, Tencent) to propagate their ideas, messages and offerings; taking advantage of the network effect to market, share and generate support plus sales. **Transformation**



**Platform** aims to participate in the same space, utilizing network effect to share information and to assist in self-improvement and learning for the masses.

## **2. Technologies in Self-Improvement**

Technology has always been an ally to self-improvement, starting with writing and books where knowledge can be recorded for others to acquire, a method still in use today in all learning institutions. Radio and television take on this responsibility even further, help spread information faster and to an increased audience.

As recording and communication technologies improved, tools for learning also expanded. In the 80s and 90s with CD and DVD use, self-help content from guided meditation, to books on CD to subliminal recordings, helping one to stop smoking, learn a foreign language or lose weight propagated the market place. In the age of computer, internet and smartphone have broaden the potential and capability of learning, both in terms of the amount of content and ease of access, have greatly facilitate the topic of learning and self-improvement. Current flood of self-improvement Apps in the market place provides an example of things to come.

There are Apps to help one to keep a daily journal, numerous Apps for fitness and exercise, Apps to help with organizing one's day to day life, with coaches and advices to assist in decision making. An App called "Happier"<sup>34</sup> with positive projects for the user to get engaged in to foster happiness daily, which claims to have "1 million users and counting". And for someone who likes to venture out, an App called "Headout"<sup>33</sup> which guides its users to find regional activities and events, promoting "incredible experiences on demand"<sup>3</sup>.

As for learning Apps, there are a plethora of options available in the marketplace, one which normally would not consider as such but makes perfect sense when you begin to use it being the Amazon Kindle App. With almost unlimited selection of books which can be downloaded and read, Amazon Prime members can choose over 1,000 titles and read them for free, it is truly “a library in your pocket” as they advertise. Other options such as Google Play Books and Nook by Barnes & Noble also serve similar purpose, allowing one to study, learn and improve conveniently and let the user to control and manage the timing of learning.

Formalized and academically incline types of learning Apps and platforms have also emerged in recent times, with the aim to provide online learning, from pre-school to university level. The following are current four key players in the marketplace, we will describe them briefly in this report and how they fare against **Transformation**.

## ***2.1 Skillshare***

Skillshare is a 2-sided educational platform that allows anyone to create a course and sell them to learners who wish to obtain different skills over the platform through e-learning. Skillshare offers some trail courses that are free of charge, and many paid courses that are mainly creative and business topics. The platform does not create their own courses and rely heavily on user-generated contents (courses). Therefore, becoming a teacher on the platform is not a difficult thing as the requirements are not very strict. However, as the SKillshare provides very little guidelines on how to create a course, the production quality and teaching delivery of the courses on Skillshare varies. Teachers are provided with minimal support such as handbook and uploading tools for creating video-based classes, together with some marketing support. They get paid

monthly based on the number of enrolments for their courses. Thus, a membership system is crucial for Skillshare's freemium business model. Students can view the paid materials by paying a per month subscription fee. Moreover, users can create projects once they complete a course and share them with the Skillshare community. In the community, the users can like and comment on other students' projects as well.

However, Skillshare tends to focus on non-academic self-learning topics that aims to help learners acquire some skillset within a short learning path. Thus, the range of learning topics they offer is quite narrow. There are only four topics to choose from on their website. They are Creative, Business, Technology and Lifestyle. Among the few topics, they value most in the Creative. Therefore, the topic provides more quality courses and contents, while other topics offer less quality productions. For example, many of them may be just entry level or introductory level. Hence, for somebody who's been working in an industry for a long time and looking to improve themselves or to expand their skillset, Skillshare may not be suitable for them. Furthermore, Skillshare teaches their courses by video. Thus, a single course may be a bunch of segmented videos. There is no script feed to go with the videos, nor any form of interactivity during the learning process for students. Therefore, when students encounter problems, the best they can do is to contact their teachers on the Skillshare community and hope for them to respond as soon as possible. This can be seen as an interactive feature, however, it is not real time. Lastly, users of Skillshare don't get to keep any teaching contents and materials. Therefore, students lose access to courses once their subscription expires.

## ***2.2 Udemy***

Udemy is an educational website that offers video-based courses that are created by freelance educators, as the platform does not create its own content. The company entered the business relatively early comparing to other similar websites, therefore it has a head start advantage. Udemy is also a well-established and well-developed two-sided platform that offers services to both educators and learners, with a wide variety of courses in broad range of learning topics, with vast and rich contents for learners of different levels. As it is one of the earliest establishment in this space, the head start advantage allowed the platform to attract massive number of students, making it attractive for educators to join the platform due to volume of participants. However, the website does not offer any free lessons, therefore, learners must pay for each course they wish to enroll. Thus, making it difficult for poorer learners who cannot afford paid training. Price of courses on Udemy also varies, ranging from \$4 USD to over \$20 USD, but content providers do get 50% of the listed price of their courses. Udemy welcomes anyone to become a teacher on their platform, as long as they meet the qualifying criteria which is relatively strict compare to Skillshare.

Although Udemy has achieved some success in attracting users, there are downsides to the website. The platform trades more practical courses that are lesson specific and skill-oriented rather than a long learning path. Although, it offers some academic courses, the way of teaching of those courses is not so academic. Therefore, Udemy may be more suitable for learners that are looking to acquire some quick skills or knowledge through a convenient approach. Moreover, many of the courses (and potential users) are for school students, who are less likely to have extra money to spend on courses offer by Udemy, as Udemy does not provide any free courses. It is really a

drawback for the website and potential users, since cost is one of the major concerns for young learners when choosing between learning platforms. In addition, online learners can easily find free learning resources from sources such as YouTube, Coursera and edX. Furthermore, Udemy does not manage its own social community, instead, the platform has a Facebook page for instructors and learners to their experiences. Hence, the Facebook page of Udemy is more of a promotion board rather than a community for socializing and interacting. Finally, Udemy does not offer any interactive learning feature for learners during the learning process.

### ***2.3 Khan Academy***

Khan Academy is a nonprofit learning website that offers free courses of most major school subjects. The contents on the platform is absolutely free, as the organization does not charge for their video-based and text-based courses. The website depends solely on volunteers and donations for its operations, as it does not sell any advertisements, nor does it charge subscription fees. Khan Academy hires its own teachers and creates its own teaching materials; thus, it is not a two-sided educational platform therefore the number of courses available on the website is very limited. Khan Academy does not have the leverage and advantage of using user-generated contents, and being essentially a nonprofit organization, it does not have the funding to produce new content regularly, quickly and in high volume. Moreover, the courses offered by the website are mostly beginner's level that are more suitable for school children. Thus, it is a popular website that schoolteachers use for teaching classes, as the contents they derive from Khan Academy are very simple and easy to understand, therefore not suitable for users looking for more advanced knowledge and skills.

## ***2.4 Coursera/edX***

Both Coursera and edX are MOOC (massive open online course) platforms that offer free courses by university professors and industry experts. The two platforms collaborate with universities and institutions to offer university-level courses and degree programs that are in MicroMasters level. Thus, for the degree programs, learners would obtain a degree certificate that is recognized as a university credential by most of the universities upon completion. For the other courses, learners have the option to obtain the verified certificate as well. Even though users have free access to most of the courses and the course materials, they may need to pay a small fee for the optional certification to prove completion of the courses they have enrolled.

Coursera and edX are not 2-sided educational platforms that would allow freelancing experts to create courses and share their skills, as they do not use user-generated contents. Instead, the two platforms collaborate with partners to roll out courses that are teaching from an academic approach with relatively longer learning path. Thus, both Coursera and edX are not suitable for learners who look to acquire quick skills from a few video lectures. Furthermore, the two MOOCs don't offer courses in topics other than academic subjects, hence hobby topics perhaps interesting for lifetime learners, such as cooking, gaming, video editing, fishing, etc. are absent.

## ***2.5 Transformation***

**Transformation** does not have the pain points that its competitors face. The platform offers wide variety of free courses and content that covers all kinds of learning topics with in-depth learning schemes. **Transformation** collaborates and assists with its partners such as universities and colleges to provide academic courses, as well as

offering opportunities for platform users to share their own content. The mandate of the **Transformation Platform** is to make learning reachable and accessible without boundaries, this means **Transformation** users not only able to learn anywhere and anytime for free, but also can learn anything as the platform does not limit the type or scope of study. Topic selection and quality really based on user demand, allowing the platform users to drive the learning content via popularity of viewership.

Additionally, **Transformation**'s adoption in technology help facilitate course development and improvement via user feedback, either directly from user comment, user's learning behaviors and or from smart accessories (wearables, IoT, smartphone, ect.) used during learning. These tools and data assist the content provider with the necessary information to optimize, update and improve on the content they deliver, constantly informing and encouraging the content provider on best practices and approaches to help the learner, with financial remuneration as reward for job well done.

**Transformation** aims to use machine learning technologies and algorithms to provide unique analytic programs, generating and feeding reports and information to content providers in order for them to gain in depth understanding of where or at point users exit on their courses (e.g. in the middle of a video-based lecture). Thus, if there is a high volume of exit by learners on any part of the course, content providers can discover immediately and make changes to the course accordingly.

As for the learner, by having interactive virtual assistant to help speed up learning intelligently, to assist in overcoming learning obstructions, either via content recommendation outside of the course (can be within the platform such as other similar

courses or via Google, YouTube, Wiki, Youku Tudou, Baidu, WeChat, Facebook, etc.), as well as constant feedback to learners as to the effectiveness and conditions of the learning; with data collected from wearables and other in-platform methods such as similar analysis as explained previously for content providers to improve on their courses, but now via individual user's outcome for individual user's consumption. These techniques combined form powerful tools to help the user to overcome any learning impediments.

As technologies increase and improve, especially in the area of wearables, **Transformation** will continue to adapt and innovate, to test and employ them for learning efficacy. Combing development in brain sciences, AI and IoT **Transformation** will create powerful training tools, with the aim to aid in learning and self-improvement, for distribution to the masses.



Following is a quick comparison table of the four online learning platforms versus

### Transformation:

	<u>Skillshare</u>	<u>Udemy</u>	<u>Khan Academy</u>	<u>Coursera/Edx</u>	<u>Transformation</u>
2-Sided Platform	✓	✓	×	×	✓
Free Courses	×	×	✓	✓	✓
Interactive Learning	✓	✓	×	×	✓
Anyone Can Teach	✓	✓	×	×	✓
Degree Programs	×	×	×	✓	✓
Academic Courses	×	✓	×	✓	✓
Community	✓	✓	✓	×	✓
Analytics	×	×	×	×	✓
Virtual Assistance	×	×	×	×	✓
Certificate of Completion	×	✓	×	✓	✓

## 3. Transformation Platform

**Transformation** emerges in current internet learning paradigm, and additionally adapting frontier technologies to create the ultimate platform for learning and self-improvement. As mentioned in previous section, learning Apps and websites are a growing industry, later sections will explain more details on the internet learning market scene and how **Transformation** make be injected into this market sphere, however, in this section we will only discuss the details and fundamental values of **Transformation**, provide the reader with a clear breakdown of the platform.

### ***3.1 Learning without Boundaries***

Internet and computing technologies have emancipated learning for the general public, allowing people to learn whatever, whenever and in as much details as desirable. The concept of lifetime learning is proliferating in the age of the internet, with information so easily accessible, self-help Apps are gaining popularity with mobile learning alone expects to grow to \$38 billion USD (GSMA & McKinsey, 2012) by 2020.

**Transformation** is born of this learning revolution, with its aim to become the best platform of its kind, in use and offerings. It is completely free of charge and utilizes technologies and unique processes to allow individuals to learn effectively and efficiently, without big financial investment, locality limitation and time constraint, removing these major roadblocks in learning.

It is not in **Transformation**'s objective to replace traditional learning institutions, which provide a different and unique experience, that **Transformation** is not designed to replicate. Instead, **Transformation** offers the opportunity for individuals who wish to improve themselves, to better prepare for the changing technological world and for hobby learners with a passion for knowledge acquisition.

Main objectives for **Transformation** are to assist in knowledge propagation, to create a new paradigm in learning with unlimited possibilities, and to participate in the internet learning revolution to elevate human kind.

### 3.2 *Transformation User Account*

To begin use of the **Transformation Platform**, all participants (user, content provider, institutions, etc.) must first create an account within the platform. The account will allow the user to have access to learning content available within the platform, or a content provider to offer content, and for businesses to operate within.

Once a user account has been created, storage and services to manage the user's learning is available, housing details and history of the user's development for review and analysis. A **TA (Transformation Assistant)** will also be assigned to the user to assist in learning, platform navigation and content recommendation. According to the user's learning history and habits, **Transformation** continues to update the user's account, optimizing and evolving in real-time, utilizing AI and custom algorithms to develop along with the user.

### 3.3 *Transformation World (TW)*

**Transformation** aims to create global learning communities called **Transformation World (TW)**, where users may share and assist in each other's learning throughout the globe. **Transformation's** software, considering the user's habits, interests and profile settings, offering recommendations to enhance the user's learning experience, making suggestions in study groups and learning communities, as well as activities and projects for the user to engage in for further development and building learning networks.

### **3.4 *Transformation Production Support***

Ensuring content providers can make available their knowledge and knowhow for sharing in the **Transformation Platform** is an important element of what makes **Transformation** effective. For providers which may lack the ability or time to prepare and arrange content for the platform, **Transformation** can support in this area.

Secondly, **Transformation** also serves the role in data analytic, providing vital information of users back to content providers for validation of learning effectiveness, creating room for continuous improvement in learning content. This is especially so when comes to development of interactive learning, which **Transformation** is a proponent of and aims to provide services to assist in production of this types of content.

### **3.5 *Transformation Techs (TT)***

A key value for **Transformation** is to marry technologies with tried and tested approaches to support learning and comprehension. A novel direction is to take advantage of wearables to improve the learning experience, promoting interactive learning where real-time inputs from the learner allows for instantaneous feedback, recommendation and suggestion to accelerate the learning process.

In a TEDx talk in Shanghai<sup>36</sup>, Dr. Elyn MacInnis discussed how neurofeedback was used at the Peng Cheng Special Education School in Xuzhou, China, where Dr. MacInnis treated children with autism, ADHD and cerebral palsy and improved their learning and daily lives.



Figure 1: Muse Meditation Headband

In the marketplace today, a mediation headband named Muse<sup>39</sup>, as well as other similar products are used to detect brainwaves while the user engages in meditation; thereby assisting and improving meditation practice through real-time feedback to the user. In learning application this provides a hint to understand and interpret the learner's engagement, as well as a method to train the user's attention and focus for better learning. It is in **Transformation**'s plan to connect and manage devices such as the Muse, incorporating and capitalizing neurofeedback to yield better learning possibilities, as well as to support and help the user to manage his learning results.

Another technology which **Transformation** plans to adopt into its platform is digital pen. This technology allows the user to capture writing with the pen and store it digitally for later treatment and processing.



Figure 2: NEO SMARTPEN M2

NEO SMARTPEN<sup>38</sup> and similar products may be a powerful learning ally when combined with **Transformation** to manage learning.

In addition to above mentioned hardware, a more familiar and pervasive tool in learning is our smartphones. When **Transformation** is used via a smartphone, the front camera of the phone can be used for facial capture of the user during learning. Software built into the platform then can provide feedback and analysis of the user's facial expression, gaze focus and other elements to determine learning engagement and efficacy.

Another method which is currently available, is to make use of the smartphone's haptic device to produce an interactive learning response. Application examples are when an answer is correct during learning or to notify the user that learning focus has been lost. When combined with other input data, haptic response can produce a user generative learning system, resulting in an interactive learning experience.

If a desktop or laptop is used during learning instead of a smartphone, additional methods may be utilized to illicit similar outcome as haptic. Such as display changes, alarms, etc., to be customized by the user.

Further down the path, as VR technology such as Hololens by Microsoft becomes more popular, **Transformation** aims to incorporate this type of technologies into its platform, encouraging interactivity and gamification in learning. As VR training content becomes more prevalent, this may become a powerful tool in learning.



Figure 3: Hololens by Microsoft

**Transformation** also targeting the incorporation of virtual assistants (**TAs**), to pair with and support the user in learning.

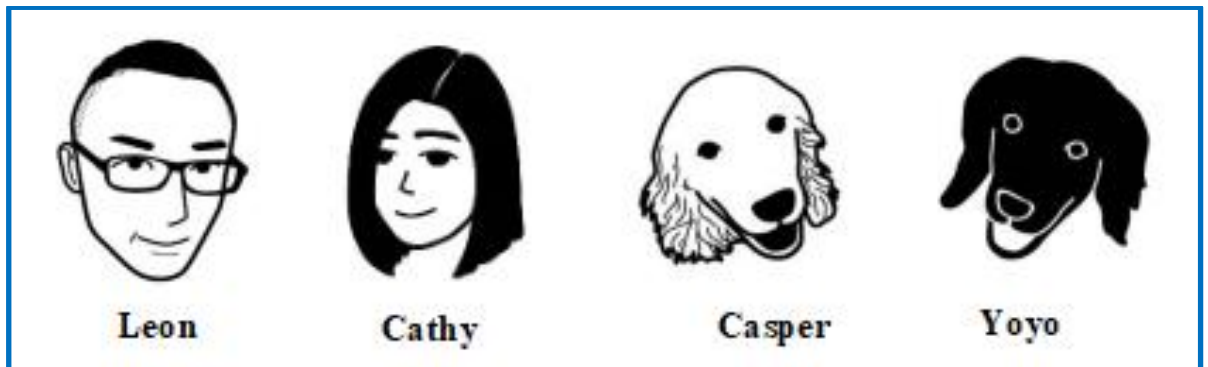


Figure 4: **Transformation Assistants**

When activated, the assistant participates all learning with the user, monitoring and interacting with the user during learning, make recommendations for additional materials (content curation) depending on the user's learning progress, targets and settings.

This approach may be of greater interest to young learners, to gamify the learning process with animated interactivity to capture the children's attention as well to enhance their learning experience.

Overall, **Transformation** acts as the hub to incorporate current and future technologies in learning, providing an intensive and interactive experience, sandwiching hardware, AI, Big Data and traditional online learning methodologies to support user's progress and objectives in a networked fashion.

### **3.6 *Transformation Learning Coins (TLC)***

In order for **Transformation** to become successful in knowledge propagation, monetization of its services is an important element to ensure the platform's existence. **Transformation** believes in the sharing paradigm, where profits and rewards are divided amongst participating members for its successes. One approach is the **Transformation Learning Coins (TLC)**. **TLC** acts as a profit-sharing scheme where success of a learning content, in terms of advertisement and sponsorship are shared with the content provider.

Another way for the content provider to receive direct rewards is when users transfer **TLC** directly to the content provider, for subscription-based learning and or services, as a reward for the content or as participating producer for up and coming content, similar to crowd funding. **TLC** may also be able to setup one time, monthly, annually, or any configuration and frequency as desirable for the user and content provider.



Finally, **TLC** may also be used for in-platform purchasing, with funds transfer directly from a user's account as requested. **Transformation** manages the **TLCs** to provide ease of transfer and ensure correct delivery and validation. **Transformation** also provides privacy and security via **TLC**, ensuring smooth transfer of funds, recording all transactions in the user's, content provider's and business's account record.

### ***3.7 Website Prototype***

We have built a website prototype (Appendix: website preview link) to demonstrate the minimum viable product of our platform. However, due to limited resources in the initial stage, we could only focus on the logic design of the website – which is the core of the prototyping process – and outsource most of the technical tasks. Among the many service providers, we have chosen Wix.com for provision of platform and tools for building a website prototype. It is easy to use and user friendly for those who have no strong technical background. The core functions of our website are to allow users to access massive amount of diversified educational contents (both on-site and API contents), and to connect each other in a virtual community maintained by **Transformation**.

To facilitate the functional purposes, the website needs to be as simple and organized as possible to make the user experience easy and smooth. For these reasons, the contents on our website would be classified into different subsets under a few major categories. Users of the **Transformation** website can either navigate courses through a directory (menu) of classified topics or to find their interested subjects through search bar – for both on-site and integrated off-site contents. Moreover, to optimize the performance of the website and user experience, the depth of our website was reduced to no more than

three layers. To elaborate, it means users of the **Transformation** website can get to what they want to learn within three clicks.

Furthermore, **Transformation** website will be using the Google Analytics (GA) to analyze everyday traffic. It generates traffic analysis report daily and provides useful information about when and where users leave our website. Therefore, we can make adjust the contents accordingly and continue to improve the user experience.

We do not wish to overwhelm users with busy contents and colors. Therefore, the background of our webpages is in plain white, so attention of users would be drawn to the contents. Below is how the homepage looks like:

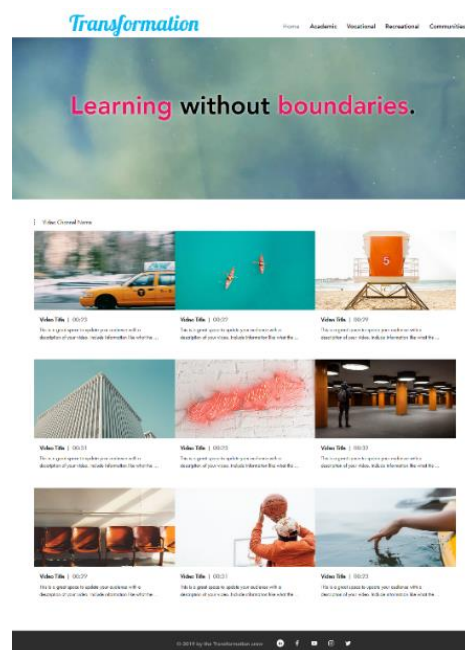


Figure 5: Website Homepage

The homepage is an informative overview and directory of the whole website. At the top of the page, there's a navigation bar where users can choose what category they want to go to. However, if a user does not know what he or she wants to learn yet, the

learner can just surf through the page and browse for the highlights. Down from the navigation bar, there is a full width slideshow that presents the slogan of our platform and the most recent courses. As users scroll down the page, they can see the most popular courses of each learning topics in rows of small slideshows.

In the Academic category, there are going to be all the academic course that are provided by our institutional partners. Below is the Academic page:

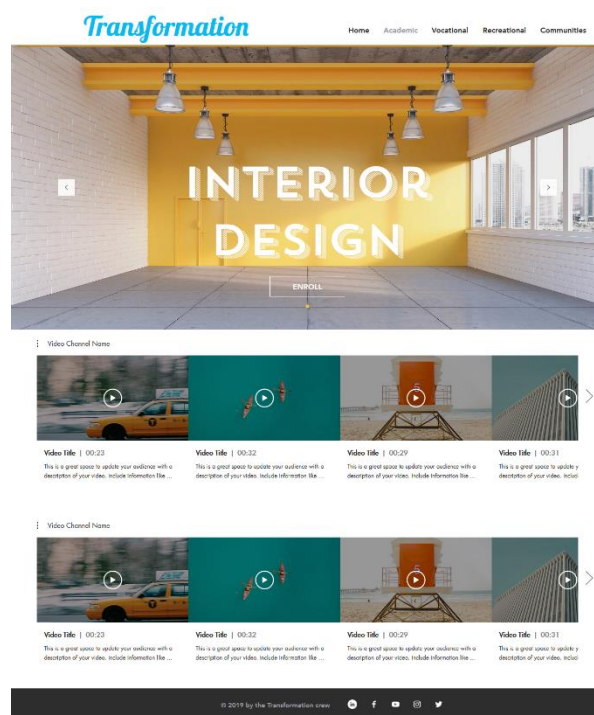


Figure 6: Website Academic page

Besides the academic course that requires intensive learning effort, learners can choose topics from the Vocational category. Below is the Vocational page:

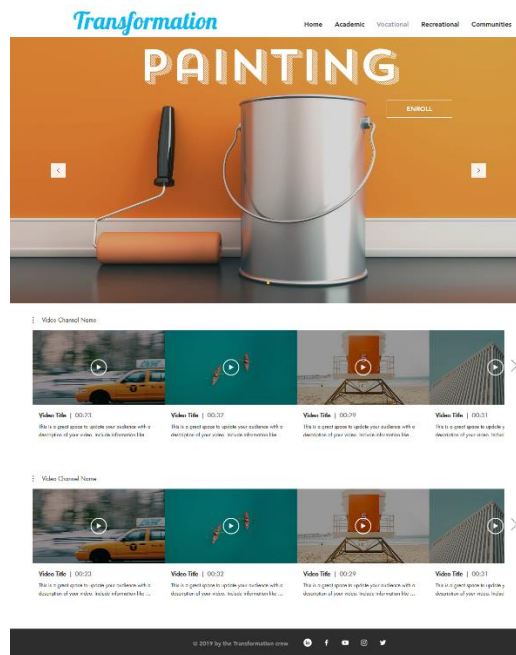


Figure 7: Website Vocational page

There are also a lot of recreational learning topics that are relatively short learning stream. Below is the Recreational page:

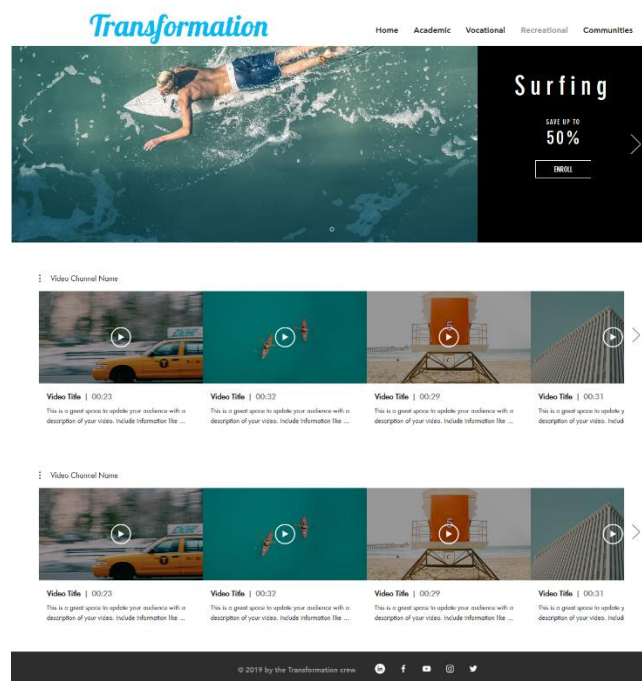


Figure 8: Website Recreational page

Finally, learners can get connected with peers and educators in the Communities page.

Below is the Communities page:

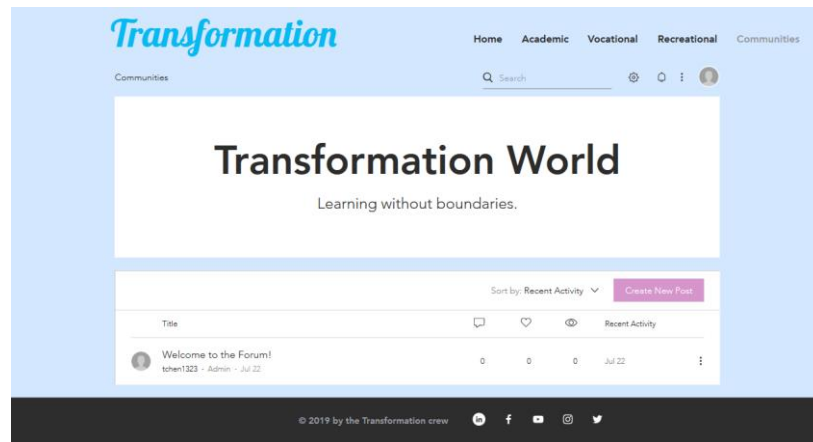


Figure 9: Website Communities page

### ***3.8 Interactive Learning Research***

One of the differentiators for **Transformation** over other approaches, is the application of interactive learning to assist and augment the learner. Integrating technologies such as VR helmet or smart watch, to extract biometric data in heart rate and brainwave for example, are some of the methods used to understand the learner's focus and comprehension, therefore can optimize and tailor training content for a specific learner to yield best results. Following are current research understanding on the topic of interactive learning, which **Transformation** aims to incorporate into its platform.



### **Influence of Brainwave on Interactive Learning**

The effectiveness of interactive learning of an individual can be extracted via biometric data of the learner and indicate the influence of different types of learning modality and content.

Research from Kyung suk Jung and Yong suk Choi proved that the combination of the user's brainwave data and profile can result in best learning content recommendation<sup>1</sup> verifiable by performance results. The learning content types from that experiment consisted of 'Game type', 'Story-telling type', 'Information-presenting type', and 'Information-exploration type', which are helpful references for **Transformation**'s integration. New technologies such as VR hardware devices with brainwave monitoring capabilities allows understanding of most suitable learning style based on brainwave, to decide best learning type and content for an individual. Furthermore, the demand of interaction improvement between learners and content, which was conducted by using

the technique of sensing the real-time emotions of learners<sup>61,62</sup>, provide a hint and direction for **Transformation** to incorporate and work towards.

In addition, brainwave helps facilitate the idea of adaptive learning, creating a new form of learning technology which is customized and highly specialized for the learning individual, gamifying the learning process<sup>63</sup> in a tailor-made fashion.

Emotions have been shown to be an important element in learning, which they can be correlated with brainwave activities. Research have shown that performance improvement correlates with emotional states and emotional awareness<sup>64</sup>. The basic example of learning emotional space is illustrated in Figure 10 below<sup>64</sup>:

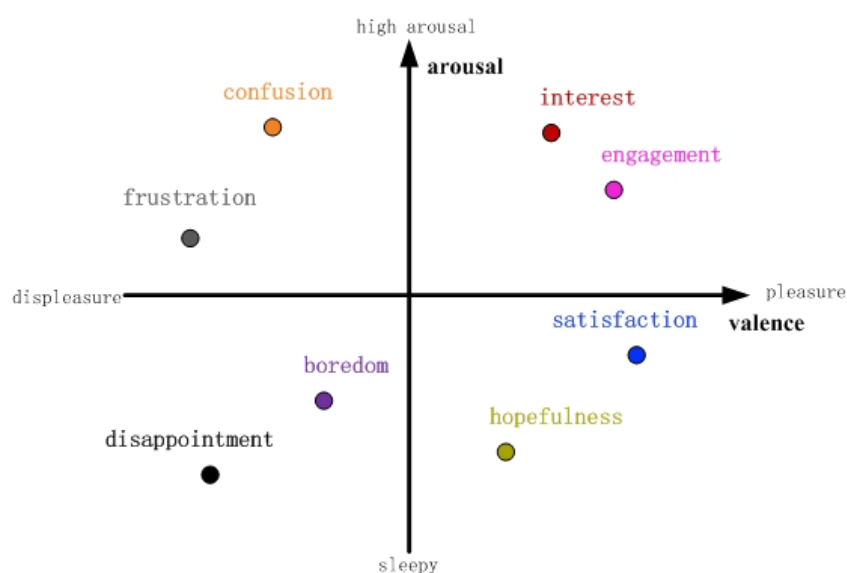


Figure 10: Basic Example of Learning Emotion Space

The relationship of brainwave and emotion was revealed and detected by using the Thought Technologies ProComp 5 suite with sensors as shown by Figure 11 and Figure 12 below<sup>64</sup>:



Wave Type	Frequency	When wave is dominant
$\delta$ Delta	0-4 Hz	Deep sleep
$\theta$ Theta	4-8 Hz	Creativity, dream sleep drifting thoughts
$\alpha$ Alpha	8-13 Hz	Relaxation, calmness, abstract thinking
Low $\beta$ Beta	15-20 Hz	Relaxed focus. High alertness, mental activity. Agitation anxiety
High $\beta$ Beta	20- 40 Hz	

Figure 11: The Relationship of Brainwave and Emotion.



Figure 12: The Detection on the Relationship of Brainwave and Emotion by Thought Technologies ProComp 5 Suite.

**Transformation Platform** aims to integrate these types of understanding and technologies to detect the emotions of learners through brainwave data during learning, providing advice and offerings to better accurately support the user in learning.

Results from a paper on the correlation between brain dominance and learning styles showed most left-brain dominant individuals had better learning outcome under the



circumstances of visual or auditory learning, whereas most right-brain dominant individuals had better results with visual learning only<sup>65</sup>. These results indicate how we may make use of technologies to individualize learning, integrating visual and auditory technologies in IoT and VR devices to refine and optimize learning for different individuals.

Chen and Huang<sup>66</sup> had also developed a web-based reading annotation system to detect the brainwaves of learners in order to improve their sustained attention and online reading performance, which is another reference of designing smart structure in e-learning that **Transformation** would be able to incorporate.

### **Influence of Heart Rate on Interactive Learning**

The research written by Phuong Pham and Jingtao Wang, presented heart rates of learners extracted via cameras of mobile phones, applied to predict learners' "mind wandering" during learning<sup>67</sup>. The method used learners' heart rate to infer the attention of the learners through the analysis of changes of the learners' fingertips on the smart phone's back camera. Figures of 13 and 14 below illustrate the use of smart phone back camera as a heart rate sensor and video controller when learning through the MOOC platform<sup>67</sup>:

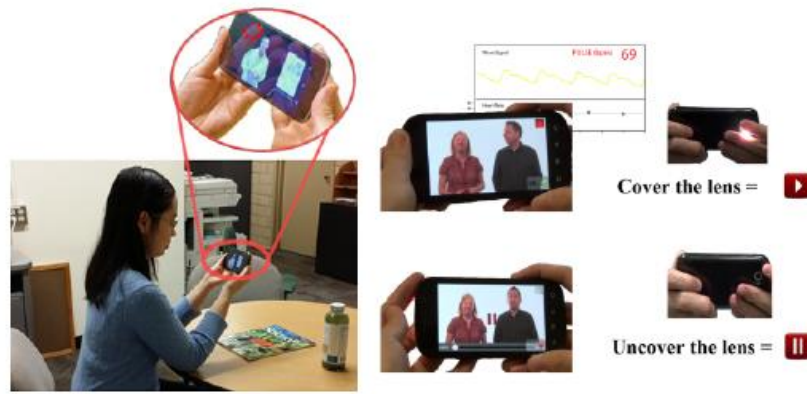


Figure 13: The Use of Smart Phone Back Camera as a Heart Rate Sensing Channel and the Video Play Control Channel When Learning through the MOOC Platform.

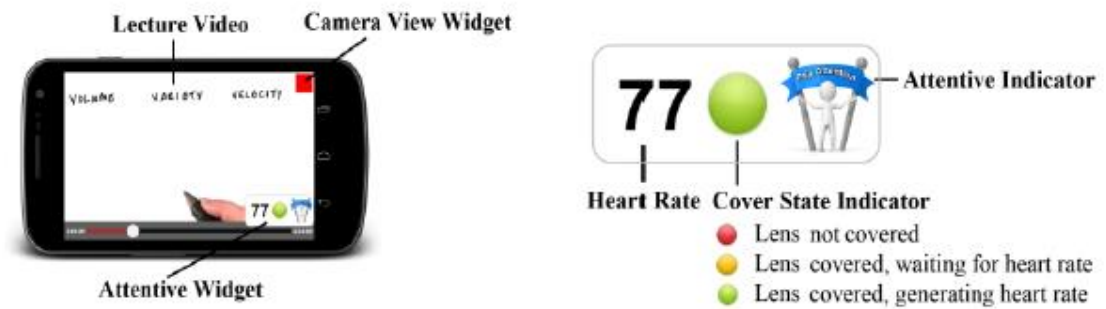


Figure 14: The Interface for Users and Smart Phones.

Again, this research strengthens the idea of using biometric data to augment learning, predict learner's attention span and improve the effectiveness via integration with the smart phone's hardware/software features.

Another research stated that the analysis of heart rate power spectral density was used via the emWave system of ear sensor to detect the emotional states of participants<sup>68</sup> (see

Figure 15 below). A significant correlation was also shown between learning performance and positive emotion of learners.



Figure 15: The Ear Sensor Used in EmWave System

Hsu, Chen, Su and Huang<sup>69</sup> had developed a reading concentration monitoring system by using three kinds of sensors – webcams, heartbeat sensors, and blood oxygen sensors, positioned in a classroom environment, which was called the ‘intelligent classroom’, detecting the concentration during e-book learning. This poses another possibility for **Transformation** to integrate, as an example to allow **Transformation** to offer an e-learning environment/system SOP or BKM (best known method), integrating these devices into the user’s own “intelligent classroom”.

The research of biometric impact on learning via the use of wearables and IoT devices are relatively new and under development. It is in **Transformation**’s aim and direction to foster these developments, incorporate them into the platform and offer users vast categories of techniques and methods to improve and accelerate learning.

## 4. Market Research

**Transformation Platform** aims to empower people by providing easy access to knowledge, technology, and networking. It is a new concept to implement within existing market of self-learning, especially mobile learning. Thus, the marketing research would include an overview of mobile-learning, research on target markets and customers, analysis of potential competitors and directions for **Transformation Platform** to build up its own competitiveness.

### *4.1 Overview of Mobile Learning*

The definition of Mobile Learning has evolved over time with the launch of new technologies as well as the shift of modern people's lifestyle. In the beginning, it was referred to learning only on mobile devices, but nowadays, the generally accepted definition has a broader view, which is "Any sort of learning that happens when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies."<sup>52</sup> From this definition, the key to differentiate mobile learning from traditional methods of learning is are one of the two factors: (1) no physical classroom is required to conduct the learning activities and/or (2) the learning is facilitated or conducted via mobile devices. This is main market of **Transformation Platform**.

From a business perspective, mobile learning is to leverage the Internet for delivering educational contents and practices, so the service offering is scalable without increasing too much costs when adding additional new users on the same course. The main part of the cost would be the operational costs to maintain and improve the mobile learning

platform, as well as resources required in content creation, which can be done by hiring the topic experts in the platform company or partnering 3<sup>rd</sup> party lecturers on the required subjects.

The revenue stream of mobile learning platform can also be in form of different model based on the nature of each organization. For example, it can be subscription model per course, government or charity sponsored, social network model based on advertising revenue, or freemium model to provide segmented levels of services according the needs of each user types. From customers and sponsors' point of view, the value drivers are mainly from content and platform/software as below illustration.<sup>54</sup>

**Transformation Platform**'s capabilities to host an integrated and robust platform, combining high-quality expert level content with user generated content in a network environment, continuously evolving and enlarging material offering, augmenting wearable and IoT technologies to enhance learning.

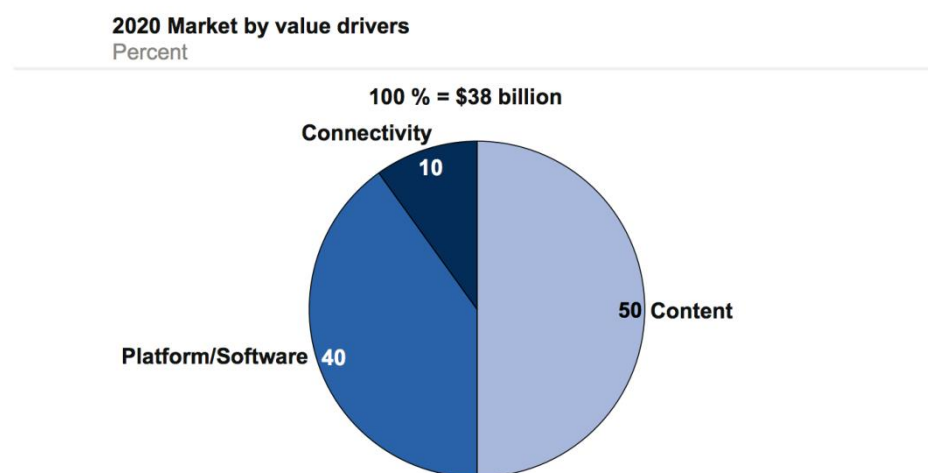


Figure 16: 2020 Market by Value Drivers.

## ***4.2 Mobile Learning Markets***

One research by Reports and Data estimated that in the year of 2026, the global mobile learning market could be up to \$95 billion USD per year with a growth rate of 26% per year, particularly higher in Asia.<sup>55</sup> Given the high potential of market growth in mobile learning, there are many new service providers entering this market every year. The following subsections describe the current status of mobile learning markets and potential in the United States and Greater China Region.

## ***4.3 The United States***

The United States has been the leader of technology and innovation, so does its progress in mobile learning phase. Both Coursera and Udacity, two of the major companies for distance learning, are originated from the United States. The popularity of mobile learning is well proven in this market, which allow institutions and companies in other part of the world to learn from it. There are many researches in the US focusing on different aspects to improve the effectiveness of mobile learning. From business side, various consulting companies also conducted in-depth analysis about this market. As of 2015, 30% of mobile users had used their mobile devices to get educational content, which means mobile learning.<sup>56</sup> Given the fact that the US has 391.6 million mobile subscriptions as of 2017<sup>57</sup>, there would be at least 130 million mobile learners. The large population of mobile learners are driving revenue to this sector, projecting by 2020, mobile learning is estimated to be a \$38 billion USD global industry.<sup>54</sup>

#### 4.4 GCR – Greater China Region

In Chinese culture, education is one of the most important focuses for parents, which they are willing to pay extra in educational expenses, embracing any new initiatives and practices which may provide an advantage for their children in education. Thus, not only mobile learning, education technology (EdTech) has become a popular area of business focus nowadays. At the end of 2017, more than 20% of Chinese Internet users had used internet for online learning, and among these users, 76.7% of the population had enrolled in at least one mobile course, showing a large market potential for mobile learning apps to reach out to more than 119 million users in China.<sup>58</sup> From a report prepared by iResearch, the revenue of China's online education was expected to reach \$200.3 billion Yuan in 2017, below chart demonstrates the solid growth in revenue for past few years in online learning.<sup>59</sup>



Figure 17: China's Online Education Revenue in 2017.

CNNIC survey also pointed out that education is one of the key areas in which artificial intelligence is deployed and applied extensively. Such trend echoed our earlier research in the report that learning is not just a one-way delivery, by including gaming and interactive component in learning, it can help to enrich the learning experience and improve effectiveness.

## 5. Direction for **Transformation Platform**

1. Network Learning
2. Integration with wearables and IoT devices
3. AI application
4. Nano certification

## 6. Minimum Viable Product

### *6.1 Vision*

- Our platform will change the whole notion of learning with the potential to truly transform and elevate capacities of mankind online through technologies.

### *6.2 Target Audience*

- Our platform fits anyone who wants to improve themselves and build up their expertise in a wide variety of fields.



## ***6.3 Value Proposition***

### **For Users**

- Time saving: our learning platform is more focus as we provide the combined contents of video, audio, and scripts. Also, we would push the notifications to users by their learning, searching, and viewing record.
- Real-time feedback: our learning platform would provide the real-time feedback by AI and big data analytics.
- Mentorship: users could directly communicate with mentors.
- Social networking: users could interact with peers.

### **For Partners**

- Revenue generation: partners could generate revenue by allowing the advertisement or subscription via their channels.
- Fast publishing: partners could publish their contents and get the feedback of their readers in an easy and efficient way.
- Target marketing: advertisers could accurately and efficiently reach their target audience through our learning platform.

## ***6.4 Revenue Model***

- **Transformation** earns a percentage of the intake from subscription-based content for upgraded and or personalized services (freemium).
- Advertisement (main source of income).
- Commission: Platform gets a percentage from partners' and content providers' additional income (product and services offered in the platform).

## 6.5 Key Partners

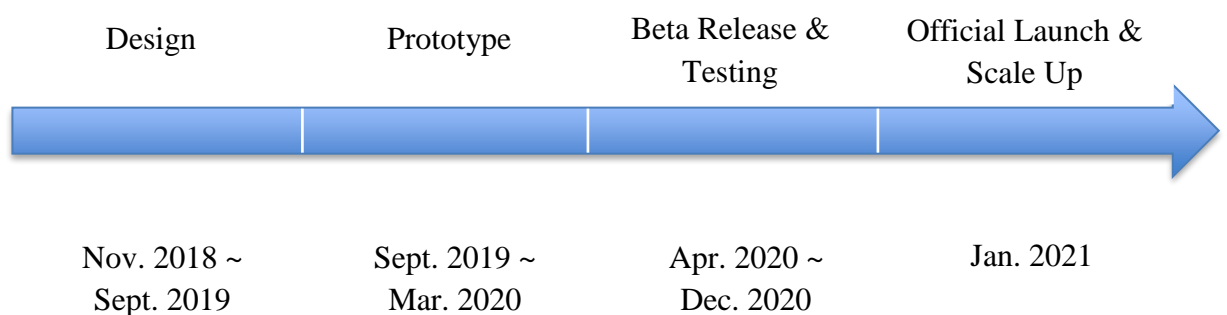
- Platform users
- Educational institutions
- Freelance trainers
- Business organizations

# 7. Budget and Execution Plan

## 7.1 Budget: \$24,000 HKD

- At the initial stage, we are going to spend most of our budget on prototyping.

## 7.2 *Transformation Platform* Execution Plan



# 8. Activities and Financial Planning

**Transformation** not only provides an innovative learning approach for its users, it also can be financially rewarding for its content providers, partners and investors, by leveraging on the integration of technologies and network effect, to offer innovative online learning to the global market. In its formative years, **Transformation** will

focus mainly on development, testing and refinement, with expectation of strong growth at its release in January of 2021. This section will provide the platform's first three years' milestones, followed by sales and expense forecast using model created by David Teten<sup>80</sup>.

### **Phase I – Prototyping (Sep. 2019 to Mar. 2020)**

This phase to initiate the development of **Transformation Platform**, with key to form partnerships and alliances in creation of the platform. Funding will be required to shoulder the project, via crowd sources, universities, organizations and industry partnerships to realize the following targeted milestones:

1. Develop a cross platform mobile app (iOS and Android) to initiate the network learning environment – To hire or partner with an App Developer to build the mobile app that would cover basic features of **Transformation**.
2. Integration with IoT devices: **Transformation Tech** – Since integration with wearables and IoT devices is one of the selling points, being able to hire or partner with an engineer in this effort would be essential. The goal in this phase is to have at least one IoT device fully integrated.
3. MVP and Lean Startup Concept – Concept to execute at early stage of product design, with the spirit to test out the product features at an early stage of product launch, so the platform can be further tailored to match with customers' needs without heavy deployment of less popular features.

With regards to expense forecast, the major cost items during this phase would be the cost to form the technical team. In startup companies, team members can be paid by regular salary and/or stock options. Given the high potentials of growth, senior developers and engineers would be offered an average market rate of salary with majority of compensations based on stock options. The rate of salary level would be set according to 2019 Salary Guide by Morgan McKinley, one of the market leading headhunter companies in Hong Kong. As for founding members (CEO, CTO, CMO, CFO), all the compensations would be paid by stock options only.

### **Phase II – Beta Release & Testing (Apr. 2020 to Dec. 2020)**

Most extensive phase of the platform development, to beta test **Transformation** with users, as well as to continue to add and improve features within the platform. Beta test groups may be crowd sourced, university and or partner/organizational/business test groups.

An example would be health and safety training for a manufacturing company, where the employees go through the training via **Transformation**. An alternative example is a course or tutorial from HKU made available in the platform. These testing activities are project based and members from our team will lead the testing projects to ensure the product development and subsequent enhancement being executed in a timely and effective manner. Weekly review of user feedback will be utilized to address any issues encountered within the platform, with timelines and schedules for mitigation accordingly.

This phase will also see an expansion to hire or partner with additional members to cover two important functions: Business Development and Production Support, in order to help facilitate growth in sales and operations. The following points cover the major milestones for this period:

1. App Developer and founding team would continue to strive to enhance the stability and scalability of the platform. Also, an important initiative to be implemented during this phase would be **Transformation World**. As we increase the number of users in the platform, **Transformation World** will be necessary to support interactions amongst users, and to utilize user data to better structure, improve and optimize the platform. To support the application development and continuous testing projects, application development team will be formed by a team of three, including the Lead App Developer, Assistant App Developer (Transformation World), and QA Engineer.
2. Integration with IoT Devices – Additional partnership with companies to further develop and increase platform applications to include least five different IoT devices. Inclusion of IoT devices provide revenue stream for **Transformation** in in-platform purchases.
3. Marketing Strategy – During this period, focus will be placed on marketing the platform with discretionary budgets allocated to ensure visibility in the marketplace. Again, use of crowd sources, universities, organizations and industry partnerships to propagate the Transformation brand and its services, being the most cost-effective approach to achieve the goal.

4. Establish Production Support team – By the end of this phase, **Transformation Platform** would have both side of users (learners and teachers/content providers). The production support team would provide point of contact for services and daily communication with learners and content providers, full support will be necessary to ensure best level of service to build trust and usability of the platform.

### **Phase III – Official Launch and Scale Up (Jan. 2021)**

With the official launching of the platform, effort will be placed on further marketing the brand and operations scale up to improve on business outlook and user expansion, with revenue coming in as following:

1. Advertisement – Advertisement would be the main stream of revenue income. To begin with the income estimation, our formula to use would be Cost per Click (in HKD) x Number of users forecast x ( 1 – Ratio of freemium users) x 10 clicks per month. Per report from Kenshoo in early 2019, the average cost per click is 0.42 USD or 3.28 HKD. For number of user forecast, our monthly target would begin with 50 users from Jan. 2021, doubling the number of users each month for one year. After this period, we will use an estimated growth rate per month and more details will be covered in later subsection.

2. Freemium – Freemium users gain full access to more advanced features and customization services in particular courses, offered by specific content providers with higher service offerings and requiring payment to compensate. **Transformation** does not solely charge the user on these services, as is in-application purchases, **Transformation** acts as the bill collector, similar to Google Play or App Store, to

collect payments from user then reimburse content provider, charging a commission for its services.

For freemium services, user (subscription-based learning) may gain an invitation to feedback sessions to shape up and coming educational content or be the first to experience certain AI facilitated learning. For regular services, the typical conversion rate of free to paid users is around 2%-5% per a research from Harvard Business Review. For applications that have excellent paid service feature can reach a conversion rate up to 27% like Spotify. Given the fact that **Transformation Platform** would offer much more than a simple application and the pricing of additional services is quite affordable in the field of educational applications, we would expect 10% of total users to be paid user.

3. In-platform Purchase – As some of the courses will be integrated to IoT devices, we will have in-platform purchase that allows user to purchase devices at discounted prices at our partners' website when the transaction was referred by **Transformation**. It would be a relatively small proportion of revenue stream, and the main purpose of this is to provide convenience to the users to enrich their learning experiences. Since this would not be a main revenue stream, a conservative estimation started with 50 HKD per month with monthly growth rate of 10% is applied for this part of revenue projection.

At this stage, the revenue stream will be remaining the same three sources but apply a more sustainable growth rate to come up with the revenue forecast. As mentioned above, the key factor of the revenue estimation is user count, so after the growth phase, we will apply a monthly growth of 5% in total user for the advertisement and freemium revenue

forecast. From the expense side, the company will build a team of three to five personnel in each key function, and target to reach a team of 17 people by the end of third year. Also, the company will rent a 2000 sq. ft. office in Hong Kong Science Park or Cyberport, where we can build up business networks with various startups and investors<sup>82</sup>.

### Team structure during Phase III:

Management Team	Business Development and Marketing	Information Technology
<ul style="list-style-type: none"><li>•Chief Executive Officer</li><li>•Chief Technology Officer</li><li>•Chief Marketing Officer</li><li>•Chief Financial Officer</li><li>•Administrator</li></ul>	<ul style="list-style-type: none"><li>•Business Development Manager</li><li>•Salesperson</li><li>•Salesperson</li><li>•Marketing Manager</li><li>•Marketing Assistant</li></ul>	<ul style="list-style-type: none"><li>•Lead App Developer</li><li>•Lead IoT Engineer</li><li>•Assistant Developer (Transformation World)</li><li>•QA Engineer</li><li>•Assistant Engineer</li><li>•Senior Production Support</li><li>•Production Support</li></ul>



### Three-Year Income and Expense Forecast with major milestones:

	Gross Income	Total Operating Expenses	Monthly Net Income	Accumulated Gross Income	Accumulated Expenses	Net Return	Notes		
Sep-19	0	(50,000)	(50,000)	0	(50,000)	(50,000)	Phase I - Prototyping	Begin with founding team and IT Leads	
Oct-19	0	(50,000)	(50,000)	0	(100,000)	(100,000)			
Nov-19	0	(50,000)	(50,000)	0	(150,000)	(150,000)			
Dec-19	0	(50,000)	(50,000)	0	(200,000)	(200,000)			
Jan-20	0	(50,000)	(50,000)	0	(250,000)	(250,000)			
Feb-20	0	(50,000)	(50,000)	0	(300,000)	(300,000)	Phase II - Beta Release & Testing		
Mar-20	0	(50,000)	(50,000)	0	(350,000)	(350,000)			
Apr-20	0	(92,000)	(92,000)	0	(442,000)	(442,000)			Build App Dev team
May-20	0	(92,000)	(92,000)	0	(534,000)	(534,000)			
Jun-20	0	(92,000)	(92,000)	0	(626,000)	(626,000)			
Jul-20	0	(114,000)	(114,000)	0	(740,000)	(740,000)			
Aug-20	0	(114,000)	(114,000)	0	(854,000)	(854,000)	Phase III - Official Launch and Scale Up	Build Production Support team	
Sep-20	0	(114,000)	(114,000)	0	(968,000)	(968,000)			
Oct-20	0	(139,000)	(139,000)	0	(1,107,000)	(1,107,000)			Start of Marketing Campaign
Nov-20	0	(224,000)	(224,000)	0	(1,331,000)	(1,331,000)			
Dec-20	0	(224,000)	(224,000)	0	(1,555,000)	(1,555,000)			Product Launch and Rent Office
Jan-21	2,576	(288,200)	(285,624)	2,576	(1,843,200)	(1,840,624)			
Feb-21	5,072	(288,200)	(283,128)	7,648	(2,131,400)	(2,123,752)			
Mar-21	10,030	(288,200)	(278,170)	17,678	(2,419,600)	(2,401,922)			
Apr-21	19,940	(288,200)	(268,260)	37,618	(2,707,800)	(2,670,182)			
May-21	39,755	(288,200)	(248,445)	77,373	(2,996,000)	(2,918,627)			
Jun-21	79,378	(288,200)	(208,822)	156,751	(3,284,200)	(3,127,449)			
Jul-21	158,617	(379,950)	(221,333)	315,368	(3,664,150)	(3,348,782)			
Aug-21	317,089	(379,950)	(62,861)	632,457	(4,044,100)	(3,411,643)			
Sep-21	332,943	(355,200)	(22,257)	965,400	(4,399,300)	(3,433,900)			
Oct-21	349,590	(355,200)	(5,610)	1,314,991	(4,754,500)	(3,439,509)	Monthly Breakeven		
Nov-21	367,070	(355,200)	11,870	1,682,061	(5,109,700)	(3,427,639)			
Dec-21	385,423	(355,200)	30,223	2,067,484	(5,464,900)	(3,397,416)			
Jan-22	404,695	(365,200)	39,495	2,472,179	(5,830,100)	(3,357,921)			
Feb-22	424,929	(365,200)	59,729	2,897,108	(6,195,300)	(3,298,192)			
Mar-22	446,176	(365,200)	80,976	3,343,284	(6,560,500)	(3,217,216)			
Apr-22	468,485	(365,200)	103,285	3,811,768	(6,925,700)	(3,113,932)			
May-22	491,909	(365,200)	126,709	4,303,677	(7,290,900)	(2,987,223)			
Jun-22	516,504	(365,200)	151,304	4,820,181	(7,656,100)	(2,835,919)			
Jul-22	542,329	(365,200)	177,129	5,362,511	(8,021,300)	(2,658,789)			
Aug-22	569,446	(365,200)	204,246	5,931,957	(8,386,500)	(2,454,543)			
Sep-22	597,918	(365,450)	232,468	6,529,875	(8,751,950)	(2,222,075)			
Oct-22	627,814	(365,450)	262,364	7,157,689	(9,117,400)	(1,959,711)			
Nov-22	659,205	(365,450)	293,755	7,816,894	(9,482,850)	(1,665,956)			
Dec-22	692,165	(365,450)	326,715	8,509,059	(9,848,300)	(1,339,241)			
Jan-23	726,773	(375,450)	351,323	9,235,833	(10,223,750)	(987,917)	Investment breakeven		
Feb-23	763,112	(375,450)	387,662	9,998,945	(10,599,200)	(600,255)			
Mar-23	801,268	(375,450)	425,818	10,800,212	(10,974,650)	(174,438)			
Apr-23	841,331	(375,450)	465,881	11,641,543	(11,350,100)	291,443			
May-23	883,398	(375,450)	507,948	12,524,941	(11,725,550)	799,391			
Jun-23	927,567	(375,450)	552,117	13,452,508	(12,101,000)	1,351,508			
Jul-23	973,946	(375,450)	598,496	14,426,454	(12,476,450)	1,950,004			
Aug-23	1,022,643	(375,450)	647,193	15,449,097	(12,851,900)	2,597,197			
Sep-23	1,073,775	(375,700)	698,075	16,522,873	(13,227,600)	3,295,273			

Figure 18: Three-Year Income and Expense Forecast

After consolidating all the income and expense projections in three-year execution plan, **Transformation** requires an initial investment of 1.5 million HKD in the first 3 months, and additional 2 million HKD in the second round of founding after platform launch. During scale up period, the revenue growth is expected to cover monthly operating expense in late 2021, and achieve investment breakeven point in the second quarter of 2023.

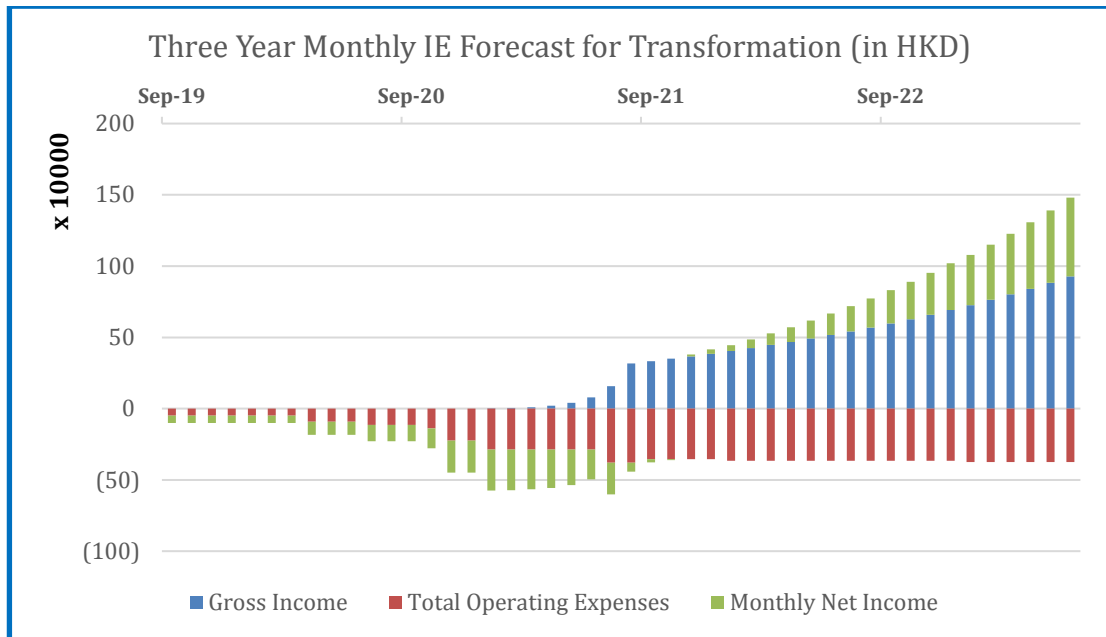


Figure 19: Three Year Monthly IE Forecast for Transformation

There are also more exciting growth opportunities that expected to be realized in coming three to five years. Such initiatives include strengthening the platform’s functionalities to introduce **Transformation Learning Assistant**, conducting big data analysis and AI implementation, more integration with various IoT devices, and launch of **Transformation Learning Coins (TLC)**. The management team will keep a close eye of user feedbacks and trends in the markets to decide when would be the best timing to act on these new features, thus the financial planning in near term (three years forecast), this part of budgeting would not be considered.

## 9. Main Role of Each Member

Group Member	Contribution
Chau, Dicky Yat Kin (3035417290)	Executive Summary, Declaration and Acknowledgements, Introduction, Background and Historical Perspectives, Transformation Platform.
Chen, Huan Long Tony (3035545396)	Technologies in Self-Improvement, Website Prototype, Direction for Transformation Platform.
Huang, Chia Yun Dora (3035417240)	Market Research, Budget and Execution Plan, Activities and Financial Planning.
Li, Xin Jason (3035545621)	Interactive Learning Research, Minimum Viable Product, Findings and Conclusions, Limitations.

## 10. Findings and Conclusions

Online learning is a growing segment in the industry, combined with technologies will revolutionize learning and create opportunities for new businesses and earnings to emerge.

**Transformation Platform** aims to capture this unique opportunity and provide technology augmented learning via a global network medium, with following unique learning modalities:

1. Adaptive and interactive learning
2. AI and intelligent assisted learning
3. Gamification or game-based learning
4. Virtual reality or augmented reality learning
5. Social learning
6. Content curation learning (content presentation/suggestion via web sorting and organization)

Via following platform features to enable the innovative learning functions:

1. **Transformation** User Account
2. **Transformation World (TW)**
3. **Transformation Techs (TT)**
4. **Transformation Assistant (TA)**
5. **Transformation** Production Support
6. **Transformation Learning Coins (TLC)**

On the business side, **Transformation** utilizes network-based business model, employing scope of a global network to generate income through products/services promotion, advertisements, subscription-based learning, in-platform purchases and funds management as sources of income.

Overall **Transformation Platform** is inline with current consumer trends and demands, with a viable plan to capture business opportunities and the goal to revolutionize learning and self-improvement.

## **11. Limitations**

In order to fully realized **Transformation Platform** as proposed in this report, more time and resources will be necessary to develop the various features and disciplines, employing dedicated support from specialists and experts. Not possible given the time frame, team members capabilities and budget allocated for the project study. None the less, we hope the report provides a strong argument for **Transformation**, being a viable platform for online learning and its potential business opportunities.

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## **Appendix**

Website prototype preview link (username: [tchen1323@gmail.com](mailto:tchen1323@gmail.com), password: transformation2019):

[https://editor.wix.com/html/editor/web/renderer/external\\_preview/document/096ca2fd-63c2-4fd8-b490-8b79af7a1f4f?metaSiteId=54af2a57-788a-4a47-bfa9-623de3fa6003](https://editor.wix.com/html/editor/web/renderer/external_preview/document/096ca2fd-63c2-4fd8-b490-8b79af7a1f4f?metaSiteId=54af2a57-788a-4a47-bfa9-623de3fa6003)