

ENGG 683 - Winter 2022

Assignment 4

April 12, 2022

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Question 1: Describe the difference between value innovation and technology innovation. Is the metaverse technology innovation or value innovation or both? Explain.

Value innovation and technology innovation differ in the production of value. Value innovation directly delivers value to the customer: it fulfills a need either not met or met in a new way far exceeding those of competitors. In comparison, technology innovation provides the tools and frameworks required to innovate value, whether that be improving existing technology or introducing new technology [1, 2, 3]. A new computer chip for example may have little value for the average smartphone user, but its development could enable Apple or Samsung to create a wholly new innovative smartphone which grossly outcompetes their competitors' models.

In this regard metaverses can be considered both value innovation and technology innovation. Proper creation of a true metaverse in the vein of Neal Stephenson's *Snow Crash*, Ernest Cline's *Ready Player One*, or Kawahara Reki's *Sword Art Online* requires significant technological development: new software is needed to drive connectivity and interaction, new hardware is required to power the metaverse's sustainability, and new paradigms in both (e.g. virtual reality headsets) must be developed. While platforms such as Second-Life and VRChat already offer virtual reality experiences via technology such as Meta's Oculus Quest headset, these are nascent creations not yet providing the fully immersive environment expected of a true metaverse.

Likewise the metaverse also innovates value. Besides the sheer Brobdingagian requirements in terms of developer time and resources needed for initial implementation, determined and imaginative entrepreneurs have the opportunity to create both applications for existing metaverses and create new metaverses entirely. Established businesses and brands can leverage the metaverse's space for marketing and advertisement, displaying their banners and commercials from metaverse streets the same way as in the real world. Even the average user can utilize the metaverse environment to better connect with friends and coordinate corporate work, potentially providing positive secondary effects (e.g. reducing work commutes and urban traffic).

Question 2: What are the pros and cons of the metaverse? You should look at social, economic, and environmental implications.

Social Implications

The social benefits of the metaverse are primarily through connection. Individuals could connect quickly and more personally than through phone or internet: they can travel (virtually) to any desired location, speak to anyone present, and otherwise experience life as they otherwise would in reality. This is especially useful for combating loneliness, as the elderly and bedridden now have the same capacity to interact as any other individual, and for instruction, as classroom experiences could be transformed into fully interactive experiences.

The social cons likewise extend from such connectivity. Current social media for example encourages duplicity with individuals often playing an online role which only displays their

best side. Alone the metaverse would not change this and potentially exacerbate it, especially when the environment enables far more than social media currently can. Likewise comes control. Should one be banned from the metaverse, it could have drastic effects on their actual lives should their school or work be conducted through it, particularly considering the arbitrary nature at which Meta conducts censorship [4, 5, 6]. In tandem with the increased daily online presence of individuals this could further drive physical and mental health issues as individuals disconnect from each other and the real world.

Economic Implications

The main economic benefit of the metaverse is the opening of the work environment. Physical office locations would no longer be required; so long as employees can access the virtual office, they are capable of doing their tasks. Stagnant and dilapidated communities could receive a new lease on life as people would be able to consider them for prolonged living similar to how Covid-19 encouraged remote working [8]. Coupled with career opportunities structured around metaverse creation, development, and maintenance, individuals could see both better training and higher salaries to account for the paradigm shift in human living.

In comparison the metaverse is also likely to harm physical businesses. Not every company can convert its business to virtual, and unless these businesses are willing and able to pivot they may be left behind. For example the tourism industry might need to develop and offer virtual experiences to account for customers preferring to virtually travel over physically visiting foreign locales.

Environmental Implications

Considering the potential of the metaverse, the main environmental positive is reducing the human footprint. If businesses transition to virtual, physical office space is no longer required and daily commutes are no longer needed. This could reduce both electricity use and fossil fuel consumption, helping lower overall energy requirements.

Conversely the metaverse could also drive waste as the electronics driving its function are discarded for current models and electricity is devoted to maintaining the infrastructure powering its sustainability [7].

Question 3: Reflecting on this case, provide your view as to whether the proposed metaverse creates a blue ocean utopia or dystopia. Provide justification for your answer.

The inherent challenge of the metaverse is its double-sided nature. For every benefit offered in terms of connectivity and experience is a downside promoting disconnection and ambivalence towards the real world.

While the metaverse may be incredibly profitable (especially for the first true pioneer of the concept), it is as it stands societally a dystopia. As modern social media has shown the human mind is incredibly easy to dissociate from real life: men and women both will chase immediate satisfaction and will use what provides positive response even at the expense of real-life concerns [9]. The metaverse would only intensify this psychological issue as

individuals are no longer simply staring at a screen but virtually living in a digital world: outside of food, water, and basic necessities they can theoretically spend their entire existence within it.

Particularly egregious for the metaverse is how this dissociation would affect its users. If individuals are so connected to it, disconnecting them could leave them listless. Without physical interaction to stimulate and drive personal growth, the average consumer will be rendered helpless compared to those who live, work, and interact in real life. The proposed metaverse is a veritable system of addiction whose benefits primarily benefit only its ownership class. For every successful classroom or work environment is another case of game addiction or perpetual digital living, for every digital tourist escape another of an individual addicted to the delusion.

Without proper controls and regulation the metaverse can fundamentally alter the landscape of core human society, ensuring that the divergence between “haves” and “have-nots” only intensifies as sovereign state-level controls (e.g. tariffs, border restrictions) are erased and the world is brought closer through ever-easier digital connection. As with all major shifts in human society such as the Industrial Revolution or Information Age, the benefits of the metaverse must not be allowed to overshadow its impacts on basic human interaction and living lest the consequences drive societal damages not easily corrected.

Question 4: What components of entrepreneurial pivoting have been used for the birth of the Metaverse? Was it incremental or radical change for each stage of pivoting? Explain with reference to the 8 types of entrepreneurial pivoting that have been presented in week 10.

Metaverse utilizes the eight types of pivoting as follows:

Relational Commitments: With its stakeholders, particularly its customers, there will at most be incremental change. In Facebook, Meta acts as an overseer for its social media network. They manage the user accounts and regulate content on the platform. Similarly, in the metaverse, they will also manage the accounts of its users (both individual and business) and the content as overseer.

Temporal Commitments: There will be radical change in Meta’s temporal commitments. While existing social media platforms (e.g. Facebook, Instagram, Whatsapp) will continue functioning, Meta will emphasize and focus resources on its metaverse of which its social media platforms will only be one component.

Key Activities: There will be radical change in this component. Firstly Meta has changed its branding from Facebook to Meta. Furthermore, the product is now a virtual reality platform aiming to be fully integrated with the lives of people instead of a social media platform.

Key Resources: There will be radical change in this component as Meta is proposing to inject significant financial resources into its metaverse creation (\$10 billion in the first year alone) far outweighing its current social media platform costs.

Value Proposition: There will be radical change in this component. Meta's targeted market segment is now individuals from all walks of life versus those interested solely in social media.

Revenue Model: There will be incremental changes to the revenue model. With Facebook, the revenue source is mostly from advertisements. For metaverse, the main revenue source will be from advertisements in addition to the selling of virtual assets and property.

Cost Structures: For cost structures there will be radical changes for Meta. Facebook is a mature platform with costs centered around operation and maintenance. Meta's metaverse, however, is under development and requires significant funding in research and development to fully realize.

Channels: Lastly, there will be radical changes to the channels as with Facebook the major channels are website and mobile app. With metaverse, the channel will be through a virtual reality framework accessed via a VR headset.

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