Technology Futures Roadmap For The Longevity Economy

keywords
technology, digital, futures, roadmap

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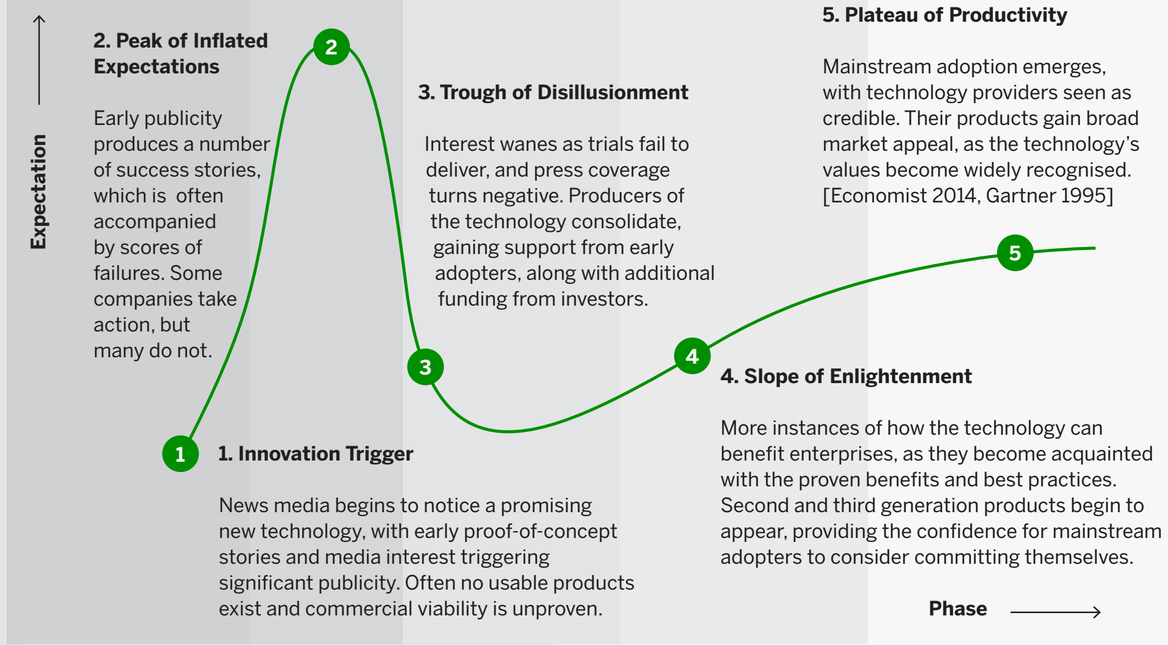
abstract The Longevity Economy was recently estimated to generate nearly £11 trillion of economic activity, and there is considerable interest in emerging digital technologies that would bring living 'longer' closer to living 'well'. While this promise is inspiring, older people are rarely consulted in development, and the Longevity Economy has an inherent duality, with the majority of older people having diverse functional capacity, and only a minority being disabled. Acknowledging this inherent duality leads to age-friendly design in the development of mainstream digital technologies, moving beyond medical products to aspirational age-inclusive design. However, this requires better understanding the relationship between emerging digital technologies and the future needs of older people in the Longevity Economy. We therefore considered Technology Futures, specifically age inclusivity through an enhancement model for the development of mainstream digital technologies. Therefore, offering enhancement for all ages with diverse functional capacity, inherently providing support for those with differing ability resulting from age or disability. Furthermore, being part of the development of mainstream popular technology would ensure economies of scale, as well as widespread social acceptance of enabling-technologies, minimising stigmatisation. We then identified emerging digital technologies significant to the inherent duality of the Longevity Economy. We present this in the form of a Technology Futures Roadmap, based upon Gartner's Hype Cycle, sharing our understanding of the emerging technology landscape for our future selves.

Project Background

In 2020, the Longevity Economy was estimated to generate £11 trillion of economic activity. It has an inherent duality, with the majority of older people having diverse functional capacity, and only a minority being disabled. In the UK, 58% of people above state pension age have diverse functional capacity. Digital technology companies, policymakers and academia are all interested, especially in emerging digital technologies that would bring living 'longer' closer to living 'well'. While the promise of such technology is inspiring, older people are rarely consulted in development. Instead, we need to acknowledge the inherent duality of the Longevity Economy, requiring inclusive age-friendly design in the development of mainstream digital technologies. Moving beyond medical products at points of crisis to aspirational age inclusive design. However, this requires better understanding the relationship between emerging digital technologies and the future needs of older people.

Methodology

We adopted a Technology Futures approach to better understand emerging digital technologies for the Longevity Economy. Specifically, age inclusivity through an enhancement model for the development of mainstream digital technologies (Parra 2014). Therefore, offering enhancement for all ages with diverse functional capacity, which also inherently provides support for those with differing ability resulting from age or disability. Furthermore, being part of the development of mainstream popular technology would ensure economies of scale, as well as widespread social acceptance of enabling-technologies, minimising stigmatisation. We then identified emerging digital technologies significant to the inherent duality of the Longevity Economy. To share our understanding of the emerging technology landscape, we concluded the best choice would be Gartner's 1995 Hype Cycle, because it is well established within the technology sector. It summarises the life-cycle status of emerging technologies in a chosen domain, in this case the Longevity Economy.



Outcomes

The most significant emerging digital technologies for the Longevity Economy, in the next two years, largely determined by the 'new abnormal' as the effects of the pandemic lessen, will include Machine Learning, Speech Recognition and Virtual Reality. For the next two to five years, largely determined by the post-pandemic environment), it will include 5G, Augmented Reality and Brain Computer Interfaces. For the next five to ten years, mostly determined by the future needs of today's 50-55 year olds in an economy with significant automation, it will include Mobility-as-a-Service, Sensor Fusion and Smart Robots. For beyond ten years, largely defined by automation in all of human existence, it will include Autonomous Driving and Homomorphic Encryption. We use a Technology Futures Roadmap, based upon a modified Hype Cycle, to present this understanding of the emerging technology landscape for our future selves.