

#### Transforming The Post-Pandemic World

Webinar

Monday 13 July 2020





## A Word From Our Chairman



#### Professor Michael Mainelli

**Executive Chairman** 

Z/Yen Group





# Agenda

11:00 – 11:05 Chairman's Introduction
11:05 – 11:30 Keynote Address
11:30 – 11:45 Questions & Answers





#### Transforming The Post-Pandemic World



#### Dr Robert Hercock

Chief Research Scientist

British Telecommunications Security Research Practice

# Transforming The Post-Pandemic World

DR ROBERT HERCOCK CHIEF RESEARCHER BT LABS 2020

## Where are we?



## Lifespans

The average company only lives for ten years- even large corporates perish after approximately four decades. A company that hits its 100th birthday has done rather well indeed. And, yet the cities of London or Paris, Rome or Beijing, have existed for millennia.

West G. (2011) TED talk on "The Surprising Maths Of Cities And Corporations" <u>https://www.ted.com/talks/geoffrey\_west\_the\_surprising\_math\_of\_cities\_a</u> <u>nd\_corporations/transcript</u>

West G.(2018) "Scale: The Universal Laws of Life and Death in Organisms, Cities and Companies"

## Cities not Companies

Post Covid-19, we should, therefore, refocus our attention on what makes for prosperous cities and towns. These are the real engines of long-term economic development; not the in-vogue digital giants, nor even the elder denizens of industry, e.g. Mercedes, GE, BP or Sony.

These commercial entities will all be historical footnotes within a single human lifespan.

## Rocket Science

We may compare whole economies to the process of engine design: they need fuel (resources and labour), oxygen (capital), and most importantly a spark of innovation to kick-start the whole cycle of creation, distribution, and productive engagement. We typically possess some mixture of labour and capital in any given economy, what appears to be lacking, is real innovation.



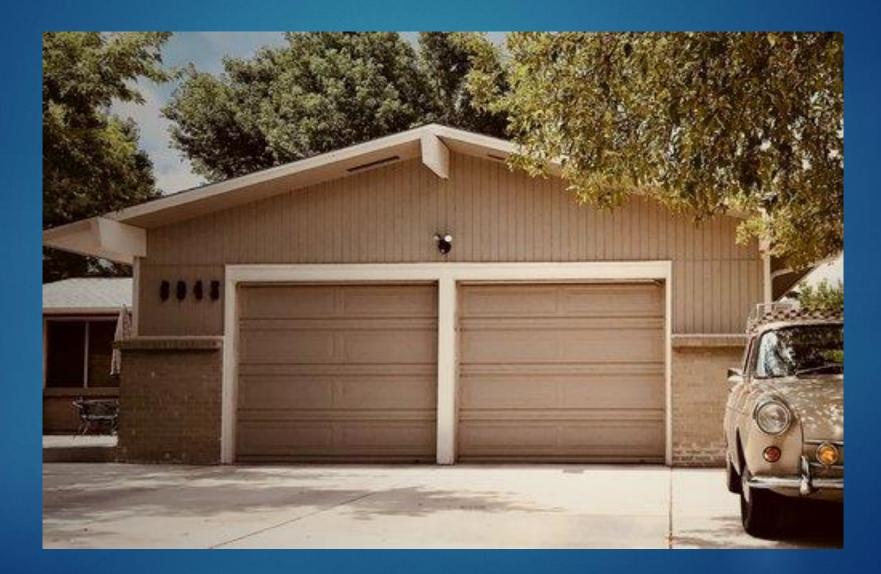
### Media Labs & Santa Fe Institute

The referenced papers by Cezar Hidalgo are a useful introduction to how networks shape economics and the productivity of nations. I also highly recommend his TED talks to get a feel for the subject.

His work closely intersects the research by Prof. West, in addressing the evolution of cities and urban economic models.

Hidalgo C., and Hausmann R. (2009) "The building blocks of economic complexity". Proceedings of the National Academy of Sciences of the United States of America, 106, 10570-10575

## Garage Argument



# Inventing in a garage

"In a 1998 interview, Bezos said, "I know why people move out of garages. It's not because they ran out of room. It's because they ran out of electric power. They have so many computers in the garage that circuit breakers kept flipping ... we couldn't plug in a vacuum cleaner, or a hair dryer anymore in the house."

Unfortunately, that world is:

a. no longer available to many in the shrinking socio-economic space of the US middle classes, and;

b. completely lacking from most urban areas in the rest of the world.

## Growth

If you are running a city, or state, and seeking to create new companies that will flourish, then innovators need cheap and accessible space in which to invent, tinker and build. By cheap, I mean free.

Also, don't try applying commercial taxes on them in this phase, that's another reason to start in a garage. Some attempts to drive this process have been formed, such as Maker spaces in the USA.

## Coffee Shops & Mail

Where did the Enlightenment flourish? A short answer is in the coffee houses of 17th century Europe and America. They enabled entrepreneurs, scientists, inventors and investors to mix, socialise and receive postal mail.

In the present age, coffee chains, such as Starbucks, have become the new social space, where people mix, receive email, and use them as low-cost hot desk spaces. So mix coffee bars with Garages/Maker spaces and Artistic spaces.

## Clusters

Most successful clusters in the present day have actually been centres of innovative thinking for centuries: for example, Cambridge UK and Boston in the US.

A cluster centre must therefore be genuinely attractive, with one or more dynamic research-oriented universities.

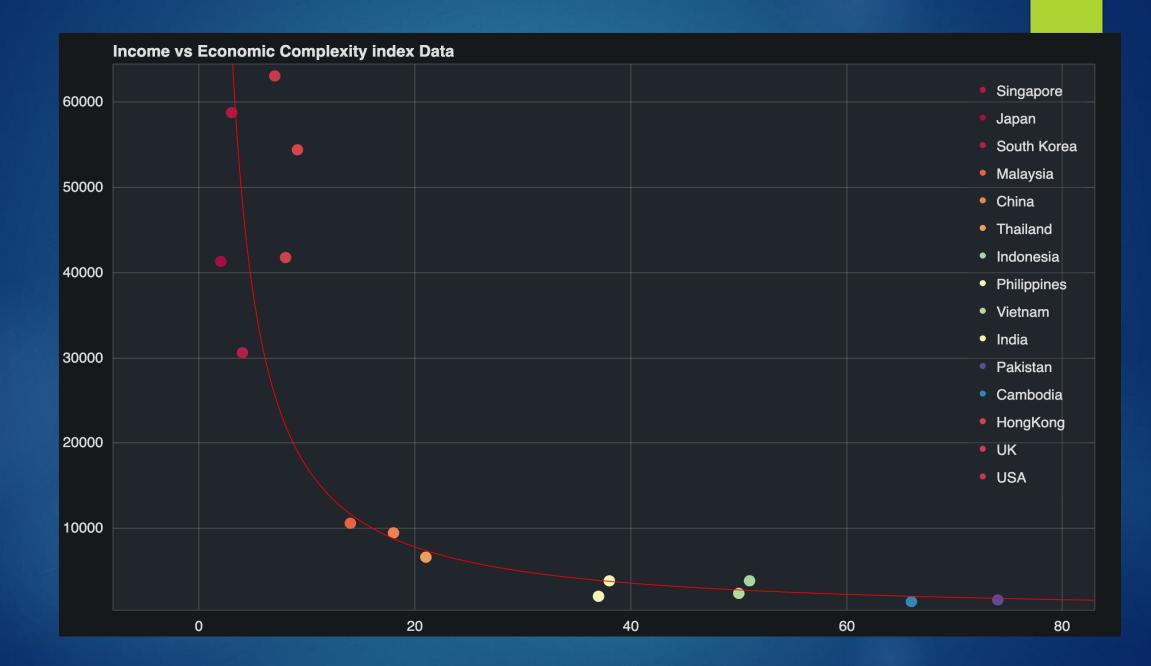
If people have been vacating a region over a pro-longed period, it's highly unlikely to become a new cluster.



## Diversity & Complexity

Research by Cezar et al [8], strongly indicates that the best strategy is to drive for economic diversity. His measures of economic complexity (ECI) and its strong correlation with GDP per capita, indicates that greater diversity in an economy is one of the dominant factors for productivity and rising income.

Following is an example of how the Economic Complexity index impacts mean Income. The y axis is mean income in US dollars, while the x axis is the ECI value scaled from 100 (low diversity) to 1.0 (high diversity).



## STEAM Engines & Invention

Arts and Craft training within a traditional STEM syllabus, is vital to achieving the innovation and renewed productivity desired by society.

Epitome of the creative STEAM genius in the 20th century was the maverick thinker, Buckminster Fuller [https://www.bfi.org/about-fuller].



## STEAM & Entropy

"When I am working on a problem, I never think about beauty but when I have finished, if the solution is not beautiful, I know it is wrong." Buckminster Fuller

A truly innovative space is at least partially disordered, messy, complex and contains many non-obvious items, that appear to have no relevance to the primary goals. Creativity stems from disorder. Order is death.

A specific example is, I have an idea for a radical new form of airship. I need a field, some hydrogen gas tanks, and nonflammable plastic. If anyone wishes to seed invest in the author setting fire to things, do let me know, (seriously).

## Art and Colour

Data analytics, visualisation and AI. The project names I gave them have often stemmed from Impressionist painters, as these have inspired my craft, (i.e. Cezanne, Degas, or Monet).

Translating data into meaningful visualisations, is part science, part storytelling, and requires some appreciation of colour palettes, light and shadow.



#### Pairs & Innovation

Few individuals ever embody the passion of both a true inventor and possess cunning business acumen. The truth is you need a pair of individuals: consider the examples of: Wheatstone and Cooke, or Steve Wozniak and Steve Jobs.

For creative souls, money is a distraction and unimportant. Vincent van Gogh is the epitome of this ethos from the art realm, where creation was the sole objective, and poverty merely an unfortunate side-effect.

## Innovation & Productivity

"the main causes of low labor productivity are a lack of exposure to global best practices and low competitive intensity."

Many in the UK argue that low productivity is due to lack of training or skills, or lack of infrastructure investment.

These are also true, but the key issue is too few in the UK are willing to benchmark themselves against the global best.

The digital age has been hyper-productive because it released vast untapped creative potential.

It has also been disruptive, but if we build on economic, (and social) diversity, then the waves of innovative disruption inherent in life, can be channelled and absorbed.



The 18th and 19th centuries gave birth to the industrial age and the field of Economics, which was wrapped in the language of the age, i.e. stability, calculus, control and capital.

However, that age also produced a tsunami of new art, music and architecture, with bold, organic design and imagery. We would benefit from an infusion of this artistic cultural well-spring, flowing into current economic models and policymaking.

In particular, in the way we design and plan human settlements at all scales, needs to encompass the creative impulse in all human beings.

#### Questions, Comments & Answer(s)?











## Thank You

#### **Forthcoming Webinars**

14 July 2020 (08:30)	Smart Centres Index Launch: The Regulatory Environment For BlockChain
	<u>Technology</u>

16 July 2020 (11:00)Tools Of Engagement: The Power Of All-Employee Plans

17 July 2020 (11:00) Portfolio Protection & Securities Class Actions: I'll Opt For A Slice!

Visit <a href="https://fsclub.zyen.com/events/webinars/">https://fsclub.zyen.com/events/webinars/</a>

More added every day..