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SCOPE OF THE PRESENTATION



01 Innovation in the pandemic era

02 Innovation trends

Resilience in the new age

04 Tools to consider

05 Outlook for business

01

INNOVATION IN THE PANDEMIC ERA

OPPORTUNITY FROM CRISIS

The pandemic has exposed **weaknesses** in business processes, practices and supply chains.

Resilient businesses will learn from this, and change forever.



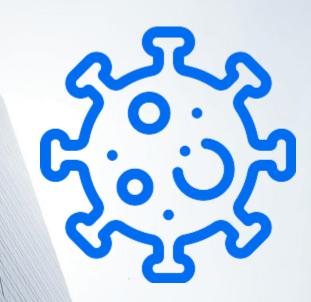
INNOVATION POST PANDEMIC

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Businesses who seek to "come back to the office", "go back to normal", "snap back", etc are fundamentally missing the opportunities the pandemic have provided.

You will **never have a better time** to innovate on the way you work.

You will **never have a better time** to develop resilience against the next crisis.



FUN FACTS ON VIRUSES / DISEASE



75% of existing human viruses come from animals

The rate of zoonotic transmission is increasing

We were
lucky that
Covid-19 had a
low infectionfatality rate

Next global pandemic anticipated within 30 years



OTHER SOURCES OF DISRUPTION



Climate change Cybercrime

War (cold or active)

Market collapse

IT'S NOT ALL BAD NEWS

The pandemic has already generated significant innovation, specifically designed to support resilience.



INNOVATION DURING THE PANDEMIC



BEFORE

Black sky:

- Business practice based on habit, "this is the way we do things"
- Centralised control
- Distrust of technology
- Failed in pandemic because too reliant on people / F2F

AFTER

Blue sky:

- Trust in remote working
- Transparent and sustainable business prioritised
- Greater reliance on operationalised Al
- Flexible experience design



How is innovation changing?

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INNOVATION TRENDS

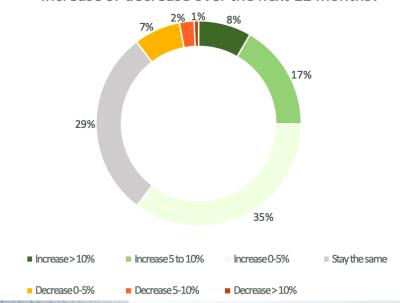
GENERAL TRENDS

Expenditure on innovation has dropped dramatically during the pandemic, but this is to be expected.

As countries and companies emerge from restricted travel, activity and trade, for the majority of businesses (62%), innovation expenditure is anticipated to rise for the 2022 calendar year.



How much do you expect your company's overall innovation spending (including R&D spend) to increase or decrease over the next 12 months?



SOURCE: https://venturebeat.com/2021/09/24/60-of-companies-banked-on-innovation-during-the-pandemic-but-will-they-see-results/

SPECIFIC TRENDS: EY

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- Cloud infrastructure and digital foundations
- 2. Pivoting around data
- Customer experience; human centred design and customer centred design
- 4. Partnering for skills shortages
- 5. Security and Privacy

Tools and peopleoriented innovation



\$OURCE: https://www.ey.com/en_au/consulting/five-major-trends-which-will-underpin-another-decade-of-digital-innovation

SPECIFIC TRENDS: BAIN



- 1. Nudging customers
- 2. Gamified reskilling
- 3. Diverse recruitment
- 4. Owned marketplaces
- 5. Integrated business planning for supply chains
- 6. Al enabled intelligence
- 7. Transparent sustainability
- 8. Quantum computing
- 9. Non-fungible tokens.

Behaviour and values oriented innovation



SOURCE: https://www.bain.com/insights/nine-tech-innovation-trends-leading-the-executive-agenda-in-2021/

SPECIFIC TRENDS: BUSINESS2COMMUNITY

- Health technology
- 2. Cold chain distribution
- 3. Remote collaboration
- 4. Supply chain visibility on agriculture
- 5. Al assisted driving
- 6. Remote education
- 7. Technology supporting sustainability

Human-centered, technology-supported innovation



\$0URCE: https://www.business2community.com/brandviews/pure-storage/7-innovation-trends-gaining-speed-in-2021-02400449

SPECIFIC TRENDS: ERICSSON



- 1. Digital workplaces
- 2. Online learning
- 3. Telehealth
- 4. Contactless payments / touchfree environments
- 5. Al-generated content

Social distancing oriented innovation



SPECIFIC TRENDS: GARTNER



- Responsible Al
- 2. Small / wide data capitalisation
- 3. Operationalising AI platforms
- 4. Efficient use of resources

AI & Governance oriented innovation

Gartner

\$OURCE: https://www.gartner.com/en/newsroom/press-releases/2021-09-07-gartner-identifies-four-trends-driving-near-term-artificial-intelligence-innovation

SPECIFIC TRENDS: MCKINSEY (1)



- Process automation & virtualisation
- 2. Future connectivity (5G, IoT)
- Distributed infrastructure (multicloud)
- 4. Next gen computing (quantum)
- 5. Applied Al
- 6. Machine-learning driven software development

Architecture oriented innovation

McKinsey & Company

SOURCE: https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/innovation-in-a-crisis-why-it-is-more-critical-than-ever

SPECIFIC TRENDS: MCKINSEY (2)



Trust architecture ledgers (blockchain)

8. Bio revolution (hyperpersonalised

medicine)

 Next gen materials (nanoparticles)

10. Future of clean tech (energy distribution,

transport,

smart spaces)

Architecture oriented innovation

McKinsey & Company

SOURCE: https://www.mckinsey.com/business-functions/strategy-and-corporatefinance/our-insights/innovation-in-a-crisis-why-it-is-more-critical-than-ever

WHAT DO THESE TRENDS MEAN?

Most commentary on current innovation trends indicates a change in behaviour and values, and acknowledges need for data based decisioning



SO WHAT?



"Getting back into blue skies" means a significant shift in thinking around **how** we do business.

Competition is based on transparency, sharing and access to reliable information sources.

NOTES ON INNOVATION



- Innovation starts with problems worth solving
- Rapid prototyping around defined problems works
- Innovation development from prototypes is still a slow process
- Best performing teams tend not to include smartest people

Innovation resourcing is not well understood



IMPORTANCE OF AGILE

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- Agile processes are key to identifying opportunities for innovation
- Most organisations don't know what agile involves at all
- Many organisations that think they are agile, actually aren't
- Continuous integration and continuous deployment of innovation is needed for competitive advantage.

Without Agile methods, ROI of innovation is limited.





What is considered 'resilient' now?

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RESILIENCE IN THE NEW AGE

WHAT IS RESILIENCE?



Resilience can be:

- Personal, or
- Business oriented.

Both involve adaptive thinking, and adapting, risk identification and effective responses to disruption.

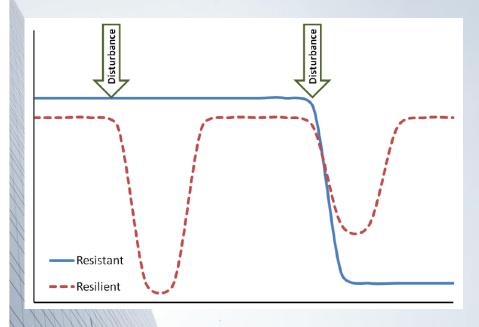
Resilience is not resistance.

Resilience requires adaptation, and is not characterised by resisting change.

RESILIENCE IN BUSINESS

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- Financial: financial reserves, insurance, flexible workforce
- Operational: supply chain continuity, service flexibility, remote workforce productivity
- Technological: critical systems backups, network diversity, security and privacy



SOURCE: Graphical depiction of resistance versus resilience in response to functional service provided (y-axis) and time (x-axis). Stovall 2012,

https://www.lesearchgate.net/figure/Graphical-depiction-of-resistance-versus-resilience-in-response-to-functional-service_fig1_261797595

RESILIENCE IN BUSINESS

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- Organisational: flexible/elastic workforce, culture of trust, agile processes, creative thinking
- Reputational: templated responses to crisis, clear flows of information, clear articulation and regular reviews of stakeholder expectations
- Business Model: scenario mapping around uncertainties, canvas-based redesign, value proposition clarity

Resilience	Definition	Emphasis	Key references
Engineering resilience	System's speed of return to equilibrium following a shock	Return time to recover, efficiency, equilibrium	Pimm (1984)
Ecological resilience	Ability of a system to withstand shock and maintain critical relationships and functions	Buffer capacity, withstand shock, persistence, robustness	Holling (1996)
Social-ecological resilience	(i) Amount of disturbance a system can absorb and remain within a domain of attraction; (ii) capacity for learning and adaptation (iii) degree to which the system is capable of self- organizing	Adaptive capacity, learning, innovation	Carpenter et al. (2001)
Social resilience	Ability of groups or communities to cope with external stresses and disturbances as a result of social, political and environmental change	Social dimensions, heuristic device	Adger (2000)
Development resilience	Capacity of a person, household or other aggregate unit to avoid poverty in the face of various stressors and in the wake of myriad shocks over time	Vulnerability, robustness	Pasteur (2011) and Barrett & Constas (2014)
Socioeconomic resilience	Socioeconomic resilience refers to the policy- induced ability of an economy to recover from or adjust to the negative impacts of adverse exogenous shocks and to benefit from positive shocks	Economic response capacity	Mancini et al. (2012)
Community resilience	A process linking a set of adaptive capacities to a positive trajectory of functioning and adaptation after a disturbance	Adaptive capacity, disturbance, social	Norris et al. (2008)

RESILIENCE IN DIFFERENT DOMAINS - SOURCE:

https://www.researchgate.net/figure/Resilience-definitions-in-different-domains_tbl1_309042818

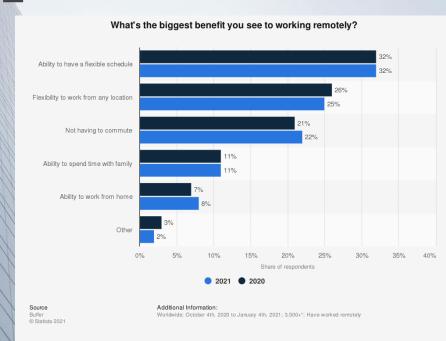
FINANCIAL RESILIENCE: FLEXIBLE WORKFORCE



The pandemic has demonstrated that roles and industries previously considered unsuited to flexible work can be adapted.

Flexibility involves hours, location of work, cloud infrastructure and adaptive enterprise agreements.

Presenteeism is dead. Get over it.



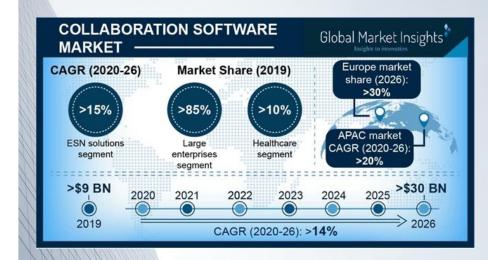
SOURCE: https://www.statista.com/statistics/1111309/biggest-benefits-to-working-remotely/

OPERATIONAL RESILIENCE: REMOTE PRODUCTIVITY



Remote collaboration is more than just virtual conferencing. Real time collaboration on a single document is required.

Asynchronous as well as synchronous collaboration needs to be built in - rather than added on - to existing practice.



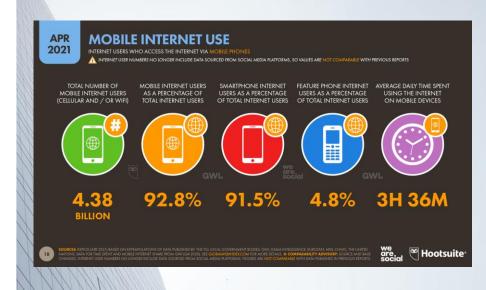
SOURCE: https://www.gminsights.com/industry-analysis/collaboration-software-market

TECHNOLOGICAL RESILIENCE: NETWORK DIVERSITY



All workers need a diversity of channels for communication. Not just mobile phone and internet, but multiple internet options. Diversity needs to be built into Service Level Agreements.

Resist the Microsoft/Apple 'Shop'. Software diversity also needed.



SOURCE: https://datareportal.com/reports/6-in-10-people-around-the-world-now-use-the-internet

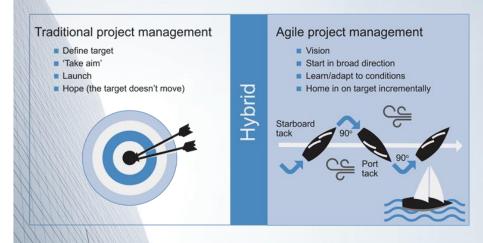
OPERATIONAL RESILIENCE: AGILE PROCESSES



Agile processes are a shift away from large scale projects to smaller, incremental deployments.

Need to review and embed frameworks and support tools that suit the business. Eg: <u>Scrum</u>, <u>Lean</u>.

Agile requires growing risk tolerance.



SOURCE: https://www.apm.org.uk/resources/find-a-resource/agile-project-management/

REPUTATIONAL RESILIENCE: INFORMATION FLOWS

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Information design is crucial to reputation management, and automation of messaging is needed for detecting risk, engaging in timesensitive discussions, triggering change in business practice and maintaining trust.

Machine learning is increasingly being used for **resilient automation**.



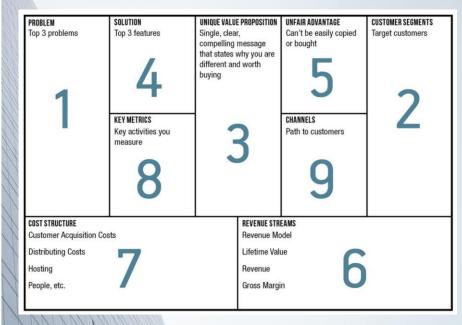
SOURCE: https://chiefmartec.com/2020/04/marketing-technology-landscape-2020-martech-5000/

BUSINESS MODEL RESILIENCE: CANVASES



The Lean Canvas revolutionised business plans. This single page, low-text, entirely coherent canvas enabled easy communication of value and fast comprehension of business strategy.

Customised canvas design is a new skill, and continues to be a vital tool for business model optimisation.



SOURCE: https://blog.leanstack.com/what-is-the-right-fill-order-for-a-lean-canvas/

RESILIENCE PREPARATION

attitude flexibility and creative thinking is needed for businesses to be able to recover more quickly.





How might we improve resilience?

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TOOLS TO CONSIDER

WHEN TOOLS ARE USEFUL

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Both innovation and resilience can be supported by tools, but they are no replacement for innovation change management.

Tools can inspire change in practice and thinking, but they need to be used with caution. As trends shift, tools need to shift with them.

Adaptability is key.



VARIATIONS OF TOOLS

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Human behaviour tools: useful in creating positive mindset, creative thinking

Process tools: useful in developing agile capabilities

Technology tools: useful in repetitive task development

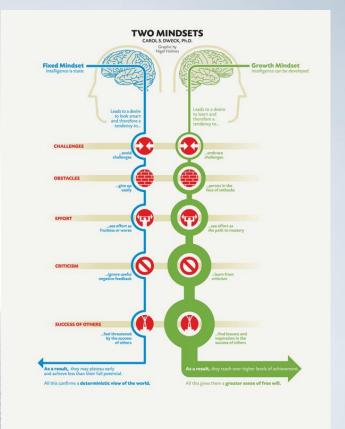


HUMAN BEHAVIOUR TOOLS

Carol Dweck's (2006) description of the growth mindset (as opposed to fixed), is a useful springboard for development of human resilience.

But this requires recognition of when the fixed mindset persona appears.

Resilience can also be developed through retrospectives and storytelling, mindfulness, purpose exercises and personal rewards.



SOURCE: https://fs.blog/2015/03/carol-dweck-mindset/

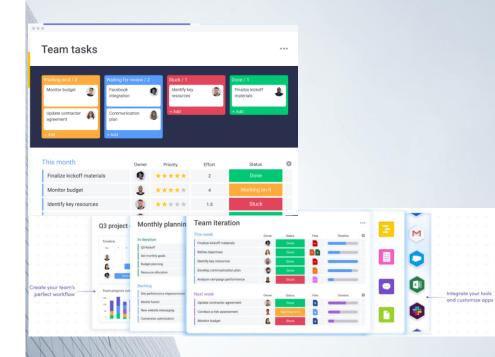
PROCESS TOOLS

Agile support tools like <u>Kanbans</u> are useful tracking of business tasks. <u>Trello</u> is best known. <u>Monday.com</u> useful for customisation. <u>Dozens of others</u> including open source alternatives.

The British Library maintain a

<u>Business Resilience toolkit</u> for small business to help businesses identify how best to improve resilience.





SOURCE: https://monday.com/

TECHNOLOGY TOOLS

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Software resilience can be tested through mapping of infrastructure across all business activities, and applying the ISO/IEC 25010 quality model.

Device resilience and load testing of cloud infrastructure is best conducted as an annual IT audit.



SOURCE: https://www.it-cisq.org/pdf/How-Do-You-Measure-Software-Resilience-CISO.pdf



What blue skies are ahead?

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OUTLOOK FOR BUSINESS

REMINDER

We noted that current innovation trends have indicated a change in behaviour and values in business, and more data-based (and machine learning-driven) decision making.

We noted **resilience** requires preparation and adaptation, not resistance.

We noted the next sources of disruption are **statistically imminent.**





OUTLOOK

Automation and machine learning have advanced to the point that they provide foundations for greater resilience in business.

Processes based on agile frameworks enable more risk-responsive businesses.

Flexible, remote workforce is a positive outcome of the pandemic.



Outlook is promising for both business resilience and growth.

66 Because, you know, resilience if you think of it in terms of the Gold Rush, then you'd be pretty depressed right now because the last nugget of gold would be gone. But the good thing is, with innovation, there isn't a last nugget. Every new thing creates two new questions and two new opportunities. ??

Jeff Bezos



GETTING BACK INTO BLUE SKIES

Invest in innovation that supports resilience.

Embrace change in the way you work.

Use tools to inspire interest in change.





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