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DESIGN & INNOVATION

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DESIGN INNOVATION



Why Companies' Innovation Efforts Fail — And How To Succeed Instead

"This is the crux of disruptive innovation: that by listening to their best customers, constantly improving their existing offerings and driving cost out of the system, managers become so focused on doing what they know that they miss or dismiss the startups that are redefining the market."

Source: Forbes

10 new rules of design

"We talked to a dozen brilliant designers to build new rules for design. Think of it as a new manifesto for the design world, and a critical response to the oft-cited 10 Principles of Good Design by Dieter Rams. Rams, who led design at the consumer products company Braun for more than 30 years, can trace philosophical roots to the fabled Bauhaus School in Germany, which ushered in the modern era of graphic and product design with a sensibility that Apple still champions today. Many powerful companies, not just Apple, consider these rules to be holy writ."

Source: Fast Company

DESIGN EDUCATION

DESIGN THINKING



The Theoretical Framework of Design Thinking Behavior Model

"our paper approached a multidisciplinary organization to present a theoretical framework for studying the character of the design thinking behavior model from different knowledge domains involving a new product development process (NPD)."

Source: IMDES 2020

Future Space Architecture:

Cross-Functional Multidisciplinary Design and Engineering

"The partnership centered on the need for international cooperation to support innovative concepts and technology program capabilities that bring commercial and government closer together, fostering new ideas that align with reaching exploration goals toward the utilization of space resources and human access to planetary surfaces including the Moon and Mars."

Source: AIAA

Exploration and Research on New Engineering Design and Maker Education Model

"This paper focuses on the training of design thinking in iterative innovation and the design management of design projects and maker platforms and emphasizes the renewal of

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Innovation in South and South East Asia 2020

"In this report, you will find out the current innovation landscape in this region and what has been done by the government research institutions, academic institutions and corporations to create innovation-driven economies in order to create sustainable growth. You will be able to see the list of top innovators in this region."

Source: Clarivate Derwent

Tech Trends 2021

"Deloitte's 12th annual Tech Trends report identifies nine trends that are likely to transform businesses in the next 18 to 24 months, with insights around strategy, risk, and finance implications that can empower technology leaders, business leaders, and board members."

Source: Deloitte



What the Future of Education Looks Like from Here

“Demographic and technology changes, firmer mandates for access and equity, and whole-child, human-centered commitments — amid growing global connections.”

Source: Harvard

INNOVATION



How Does Telecommuting Change Startup Innovation?

“Without the physical spaces where collaboration and innovation naturally occur, how will innovation continue? Below we'll dig into the three ways that startups can continue to foster an innovative work culture while telecommuting.”

Source: Forbes

It's Time For Innovation Or Stagnation

“From delays of product launches to business expansions put on hold, Covid-19 has caused many organizations to scrap plenty of their plans. In fact, we have noticed that many have shifted from planning for the future to putting out immediate fires — thus putting innovation at risk. Yet, I'm also seeing a number of companies muscling through these uncertain times and announcing major directional shifts, expanded business operations, or launching new products or services.”

Source: Forbes

How The Pandemic Changed 3M's Approach To Innovation

“The pandemic has changed how we think about innovation. We've gone from being somewhat insular to being very open to connecting with external companies; from a place where 3M has the technology, the capabilities, the ability to solve the problem on our own — to a model where there are partners who can teach us some things and help us move even faster.”

Source: Forbes

DESIGN THINKING

knowledge system and the cultivation of students' ability of design innovation thinking. The application and practice of the maker platform is undoubtedly a beneficial exploration and attempt of the new engineering design education in the new era.”

Source: Education and Awareness of Sustainability

Becoming a design thinker: Exploring the learning of design thinking with non-designers

“This thesis studies how non-designers learn design thinking through design experiences and what drives their adoption of the new, human-centered concept that is fundamentally different from their prior professional experience. The literature review reveals that design learning of non-designers remains understudied topic, which is responded by an empirical research conducted in a case company whose employees are facing demands to adopt design as a new practice. The thesis builds on the framework of experiential learning cycle throughout the process, from setting a theoretical lens of research questions to interview design.”

Source: International Design Business Management

Design Thinking for Cyber Deception

“In this paper we trial design thinking as a way of delivering this fused approach. We detail the results from a design thinking workshop conducted using deception experts from different fields. The workshop outputs include a critical analysis of design provocations for cyber deception and a journey map detailing considerations for operationalising cyber deception scenarios that fuse deception techniques from other contexts. We conclude with recommendations for future research.”

Source: Cyber Deception and Cyber Psychology for Defense

Computational Design Thinking through Cellular Automata: Reflections from Design Studios

“The purpose of this study is to discuss how Cellular Automata can be utilized in design studios to develop computational design thinking, through the examination of Frazer's and Herr's studio works. After finding matching concepts and comparisons of Cellular Automata methods used in two design studios, the concept of 'computation' in Cellular Automaton studies and contributions of using this



How design thinking has helped in tackling 2020's problems

"Businesses have been applying design thinking all year – companies have been testing Zoom and Microsoft Teams, testing homeworking on a mass scale, exploring how to get hand sanitiser at tube stations, how to migrate sales to online, how home delivery can be scaled, how to set up COVID testing sites. Endless problem-solving."

Source: WARC

Ethical design thinking: empowering designers to drive ethical change

"Design thinking, starting with empathy or the understanding of the human, needs to be at the forefront of future technology innovations and services. We need to flip the current model. Instead of leveraging technology to achieve business goals without taking the human impact into consideration, we need to put the human at the centre of our technology endeavours."

Source: Information Age

ENTREPRENEURSHIP



States of growth: When and where entrepreneurship has thrived

"As the study shows more broadly, ambitious startups remain a vital part of the American economy. New business registrations have experienced a long-term drop in the U.S., but the number of startups capable of high-impact growth has risen. Such firms particularly flourished in the mid-1990s and mid-2010s — though even when the ranks of high-growth startups have thinned, including in 2008 and 2009, they have still been founded at higher rates than they were in the 1980s. "

Source: MIT

How Startup Entrepreneurship Will Change Post-Covid-19

"One of the most obvious transitions forced by the COVID-19 pandemic has been the transition to work from home. Businesses that have considered the idea of going fully remote made the full transition to stall the spread of the coronavirus, and

generative method in design studio will be discussed. In other words, this study will examine the content of Computational Design Thinking through Cellular Automata applications and their contributions to design education. As a result, since Cellular Automata methods are exploratory processes. They enhance seeing, reaching the whole from the parts, noticing the relationships and patterns between the parts and re-inventing them during and after the generative process. For these reasons, Cellular Automata have an important role in the development of computational design thinking in design studios with different concepts and setups"

Source: Journal of Design Studio

DESIGN EDUCATION



Educational Change by Design: Creating a School of the Future

"This case study, framed within a school–university partnership, highlights the tensions inherent to employing design-based approaches for educational change. The case illustrates core tensions between an abductive, open-ended, design-based approach to change versus more traditional (deductive/inductive) approaches to managing change in schools. The design process serves as a way to break away from the traditional "grammar of schooling" (Tyack & Tobin) in a system unaccustomed to radical change. The case highlights the challenges of maintaining fidelity to the design process within a range of logistical and resources constraints, such as the time available to participants to engage in the process, and the difficulty of rapidly prototyping a new school model within an existing educational ecosystem."

Source: Journal of Cases in Educational Leadership

Making on the Move: Mobility, Makerspaces, and Art Education

"Our project combines this notion of curricular spectacle and a mobile makerspace platform, to develop strategies in how to meet the novice user almost anywhere and to entice them into a series of hands-on activities that would give them a range of knowledge and aptitude for additive techniques in digital fabrication. We review the

even businesses that were staunchly against the idea of remote work have adopted a new model.”

Source: Entrepreneur

component parts of our Material to Form curriculum and explore thematic connections between the maker movement and art education including STEAM and interdisciplinarity; design thinking and kinaesthetic learning; and place-based education and the mobile platform.”

Source: The International Journal of Art & Design Education

INNOVATION



Research on the Innovative Application of Bamboo in Modern Product Design with the Aid of Computer Simulation Software

“The intrinsic meaning of bamboo is consistent with the ideas of many people, and the bamboo industry has also become the origin of bamboo in China. It provides some references for the design innovation of bamboo products in the future. Based on this, this paper uses computer simulation software to assist in the research on the innovative application of bamboo in modern product design.”

Source: Journal of Physics: Conference Series

Design Innovation to Upscale the Traditional Textiles of Karnataka

“Innovations in the form of product designs, styles, outfits, embellishments and accessories can bring in more demand for these traditional textiles and can find routes beyond boundaries that are diversified irrespective of age, tradition, culture and community.”

Source: Journal of Textile and Clothing Science