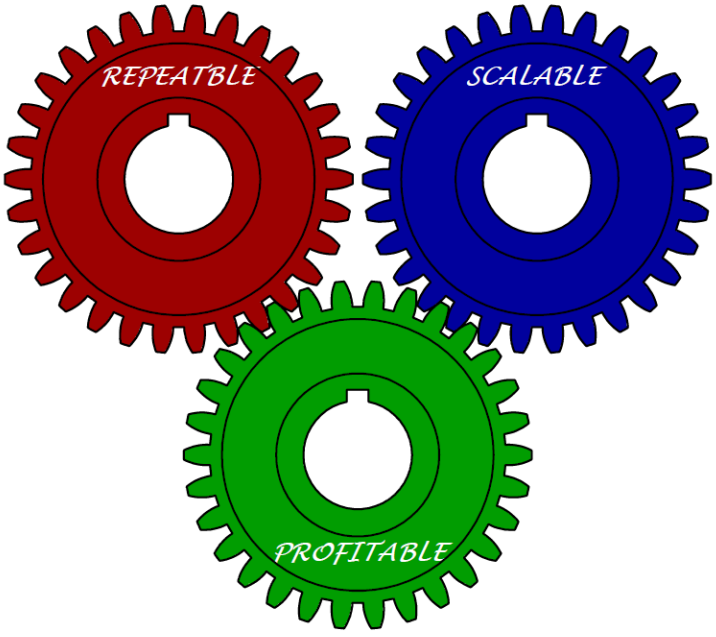
[IC 501 ENT 2024-25]

5Th Semester

Course Review



2024-25 session IC 501 ENT
Entrepreneurship Course Content Review

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1: What is the difference between a startup and an established business?

A **startup** is searching for Business Model which is Repeatable, Scalable and Profitable.

An **established business** executes a known Business Model

2: What is a startup?

A startup is temporary organization searching for a Scalable, Repeatable and Profitable Business Model. It has bunch of hypotheses.

3: Businesses with demonetization model provided their services at no cost to user

Examples of Demonetization. WhatsApp, YouTube, Facebook and all social media, Search Engines….

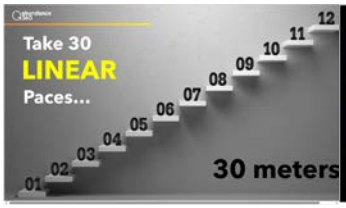
Businesses with "Demonetization" focus earn revenue? The businesses earn revenue by providing Advertising services, providing potential customer leads and other services.

4: **What are three objectives a startup should achieve to be successful?**

1: Repeatable 2: Scalable 3: Profitable
1: Repeatable: The design and process of product is such that it can be made over and over again meeting same specifications.
2: Scalable: The design and process of product is such that increase in production does not require addition expenses.
3: Profitable: The start business must be profitable

5: As an "Entrepreneur" or a "Business leader" what "Customer's Problem" you want to solve?

6: Linear & Exponential steps



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6D

7: Start up "A" has revenue of INR 1000 in year 24 and is growing Linearly. Start up "B" has revenue of INR 100 in year 24 and is growing Exponentially. In What year Rev of Startup "B" will exceed Rev of Startup "A"

Rev	24	25	26	27	28	29	30	31	32	33
"A"	1000	2000	3000	4000	5000	6000	7000	8000		
"B"	100	200	400	800	1600	3200	6400	12800		

1: Digitize. The product is delivered to the user over the internet and thus saving physical packaging, Shipping cost. An upgrade is completed online. Digitized product can be sent to the customer instantly,

2: Deceptive. The new technology or process is introduced however all of it's possible application are not known as for example internet was first used for communication and today it has become the most important tool for commerce, education, communication and connecting the world together.

3: Disruptive, when a new process is offered which disrupts the market. As for example when digital cameras came to market, the traditional camera market shrunk and put Kodak the leader out of business.

4: Demonetized. Make a product which is free to use; search engines, YouTube, WhatsApp, Face Book, Twitter…… These businesses earn revenue via advertisement. Excellent for the customer discovery, Customer validation and customer acquisition.

5: Dematerialized. Reduce the number of parts used in the product. As for example, The Radio, Tape and Cassette recorder, CD's, Telephone, Video and Audio entertainment, camera, clock and many other devices have now converged into one device Smart Phone.

6: Democratized. The product should be such that it can be used by everyone in globe. The smart phones are used by farmers and others to increase their productivity taking advantage of new technology which was not there before.

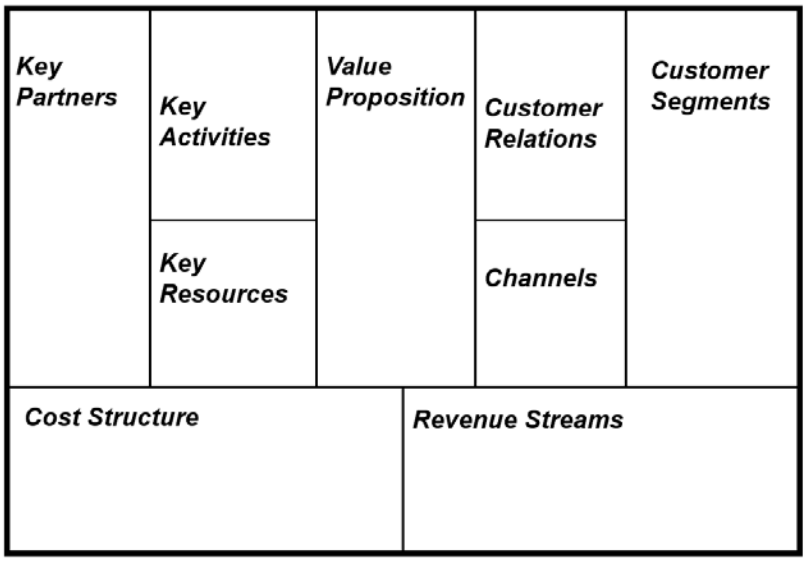
8:

Nine Blocks of the Business Model

1. Value propositions
2. Customer Segments
3. Customer relationships
4. Channels
5. Key Resources
6. Key Activities
7. Key Partners
8. Cost Structure
9. Revenue Streams

The Business Model Canvas is a strategic management tool that allows you to visualize and assess your business model on one page. It's broken down into nine building blocks that cover the key areas of a business. Here are the key elements:

Business Model Canvas BMC



1. **Value Propositions:** What value do you deliver to your customers? What problems do you solve? What needs do you satisfy? This describes the bundle of products and services that create value for a specific customer segment. Why should a customer choose you over someone else?
2. **Customer Segments:** Who are your customers? What are their needs? Which groups are you targeting? This defines the different groups of people or organizations you aim to reach and serve. It's crucial to understand your customers deeply.
3. **Channels:** How will you reach your customers? Through which channels will you deliver your value proposition? This describes how you communicate with and reach your customers to deliver your value proposition. Think about distribution, sales, and communication channels.
4. **Customer Relationships:** What type of relationship do you want to establish with your customers? How will you maintain that relationship? This describes the types of relationships you establish with specific customer segments. From personal assistance to automated services, this defines how you interact with your customers.
5. **Revenue Streams:** How will you make money? What are customers willing to pay for? This represents the cash a company generates from each customer segment (e.g., sales, subscriptions, licensing). It explores the different ways you generate revenue.
6. **Key Activities:** What key activities do you need to perform to make your business model work? What are the most important things you need to do? This describes the most important things a company must do to make its business model work. These are the core actions your business takes.
7. **Key Resources:** What are the most important assets you need to make your business model work? This describes the most important assets a company needs to make its business model work. These can be physical, intellectual, human, or financial.
8. **Key Partnerships:** Who are your key partners and suppliers? What resources do they provide? This describes the network of suppliers and partners that make the business model work. Who helps you deliver your value proposition?
9. **Cost Structure:** What are the most important costs involved in your business? This describes all costs incurred by a business to make its business model work. From production to marketing, this covers all your expenses

9: The **customer discovery's** phase primary goal is to validate or invalidate assumptions about the problem you're trying to solve and who your potential customers are.

- **Validate the problem:** Does the problem you think you're solving actually exist? Is it a significant pain point for enough people? Customer discovery helps you avoid building a product nobody wants by confirming that there's a real need for your solution.
- **Identify your target customer:** Who are the people experiencing this problem? What are their demographics, behaviors, and needs? Understanding your ideal customer is essential for tailoring your product and marketing efforts effectively.
- **Understand customer needs and motivations:** What are the underlying reasons why people experience this problem? What are they looking for in a solution? Gaining deep insights into customer motivations helps you create a product that truly resonates with them.
- **Gather feedback on your proposed solution:** How do potential customers react to your initial ideas or prototypes? What features are most appealing? What concerns do they have? This feedback helps you refine your solution and make it more valuable.
- **De-risk your venture:** By validating your assumptions early on, you reduce the risk of investing time and resources into a product that doesn't meet customer needs or solve a real problem.

By prioritizing customer discovery, you can significantly increase your chances of building a successful product that meets a real need in the market.

10: The **customer validation phase** is about gathering concrete evidence that your product or service resonates with your target customers and that they are willing to use or pay for it.

Building on Customer Discovery:

- **Customer discovery** focuses on understanding the problem and who your potential customers are.
- **Customer validation** takes it a step further by testing your proposed solution with those customers. Does your product or service actually solve the problem you identified in customer discovery? Do customers find it valuable and useful?

How to Conduct Customer Validation:

- **Minimum Viable Product (MVP):** Create a basic version of your product with just enough features to test your key assumptions.

Key Differences between Customer Discovery and Customer Validation:

Feature	Customer Discovery	Customer Validation
Focus	Understanding the problem and the customer	Testing the solution and the business model
Methods	Interviews, surveys, observations	MVP, prototype testing, A/B testing, pilot programs
Outcome	Insights about customer needs and problems	Evidence that the solution is valuable and viable

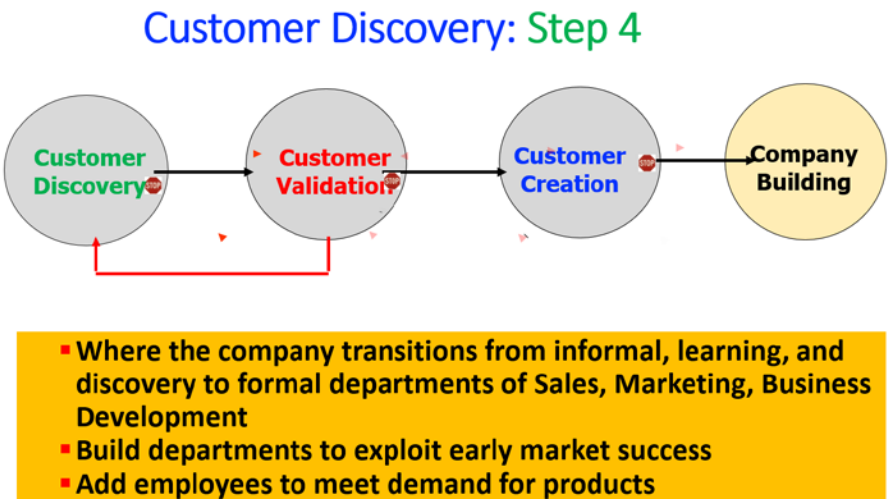
Export to Sheets

Customer Validation Phase is an iterative process.
You may need to go through multiple rounds of testing and refinement before you have a product that truly meets customer needs and has a viable business model

The **Customer Acquisition phase** is all about getting new customers to your business. It's the process of attracting potential customers, nurturing their interest, and converting them into paying customers. This phase is crucial for any business because without new customers, a business can't grow and thrive.

Here's a breakdown of what the customer acquisition phase involves:

- **Attract potential customers:** This involves reaching out to your target audience and making them aware of your brand and what you offer.
- **Generate leads:** Capture the contact information of potential customers who have shown interest in your product or service.
- **Convert leads into customers:** Nurture those leads and guide them through the sales process until they make a purchase.



11: Key Metrics:

- **Customer Acquisition Cost (CAC):** This measures how much it costs to acquire a new customer.
- **Conversion rate:** This measures the percentage of leads that convert into customers.
- **Customer lifetime value (CLTV):** This measures the total revenue a customer is expected to generate over their relationship with your business.

By focusing on customer acquisition, you can ensure the long-term growth and success of your business.

12: The goal of Startup is to find a business model which is Repeatable, Scalable and Profitable

- **Repeatable:** This means the business processes and systems can be consistently replicated with similar results. If something works once, it should work again and again. Repeatability creates predictability and reliability in operations.

- **Scalable:** This refers to the ability to significantly grow the business without a proportional increase in resources or effort. A scalable business can handle a much larger volume of customers, sales, or production without being overwhelmed or experiencing a dramatic rise in costs.

- **Profitable:** It means the business generates more revenue than it spends on expenses. Profitability is essential for long-term survival and growth. A business that is repeatable, scalable, and profitable has a powerful foundation for success. It suggests:

13: Bootstrap:

In the startup world, "bootstrapping" means building a company from the ground up using only personal finances or revenue generated by the business. It's about being resourceful and scrappy, making the most of limited resources, and avoiding external funding like venture capital or loans.

Bootstrapping involves:

- **Personal savings:** Founders often invest their own money to get the business started.
- **Reinvesting revenue:** Early profits are plowed back into the business to fuel growth.
- **Lean operations:** Keeping expenses to a minimum, often by working from home, using cost-effective tools, and minimizing overhead.
- **"Sweat equity":** Founders and early team members often work long hours and take on multiple roles to save on hiring costs.
- **Creative funding alternatives:** Some bootstrapped startups might use methods like pre-sales, crowdfunding, or bartering to generate cash.

14: Building a Team

1. Self-Awareness:

- Know your strengths and weaknesses: Be honest about your own skills and where you need support. This will help you identify the gaps you need to fill in your team.
- Define your vision and values: What are you trying to achieve? What principles will guide your company's culture and decision-making? These will be essential in attracting the right people.
- Hiring based solely on personal relationships is not recommended

- Prioritize essential functions: What are the most critical roles needed to get your business off the ground? Focus on these first.
- Consider both hard and soft skills: You need people with the technical expertise to do the job, but also the soft skills like communication, collaboration, and problem-solving to work effectively in a team.

Define Clear Roles and Responsibilities:

Foster a Culture of Growth and Development:

- Encourage feedback and open communication: Create a safe space for team members to share their ideas, concerns, and feedback.

15: Three most important components of New Product Introduction NPI Process :

DFM: Design for Manufacturing: Manufacturing is the process of designing parts, components, or products with the goal of making them easier and more cost-effective to manufacture. By reducing costs and improving efficiency, DFM allows companies to offer products at competitive prices.

DFT: Design for Testing: It is the process of designing products with the goal of making them easier and more effective to test during manufacturing and after they are deployed. It involves incorporating testability features into the design to ensure that the product functions as intended and meets quality standards. In simpler terms, it's about designing products in a way that makes them easy to check for errors or defects.

DFA: Design For Assembly: It is the process of designing products with the goal of making them easier and more efficient to assemble. It involves considering assembly constraints and capabilities early in the design phase to prevent potential problems and inefficiencies during production. In simpler terms, it's about designing products in a way that makes them easy to put together.

Most important step for startup : Defining problem statement of customer.

You do this by talking to customers

Customer discovery

Customer Validation

Customer Acquisition

16: Terms Used Commonly

SG&A, Sales General and Administrative expense

COGS, Cost of Goods Sold

REV, Revenue received from sale/lease of product and service

Gross Profit, Gross Profit = (Revenue – COGS)

Cash Flow, Cash required to meet the monthly/quarterly expenses (rev – expenses)

Burn Rate, How much expense is incurred in a month or Quarter

CAC, Customer Acquisition Cost

CLTV, Customer Life time Value of

Unit Economy, What is cost of each unit of product

17: Financial Documents gives financial status of start-up

I. Income Statement
II. Financial Statement
III. Cash Flow statement

18: Criteria for a company to meet India Government defined startup criteria

i. A company is identified as a start up for up to 10 years from the date of its incorporation
ii. Turn over (Revenue for any financial year has not exceeded INR100 Crores

19: Intellectual property of startup are:

i. Patent
ii. Trade Mark
iii. Design and process

iv. Copyrights

20: Top 10 Reasons Why Startup Fail

i. Lack of Market Need
ii. Running Out of Cash
iii. Team Issues
iv. Poor Product
v. Competition
vi. Pricing/Cost Issues
vii. Lack of a Business Model
viii. Marketing Problems
ix. Failure to Pivot

21: Market Validation Filter, 5 things that really matters (Stanford Venture Program)

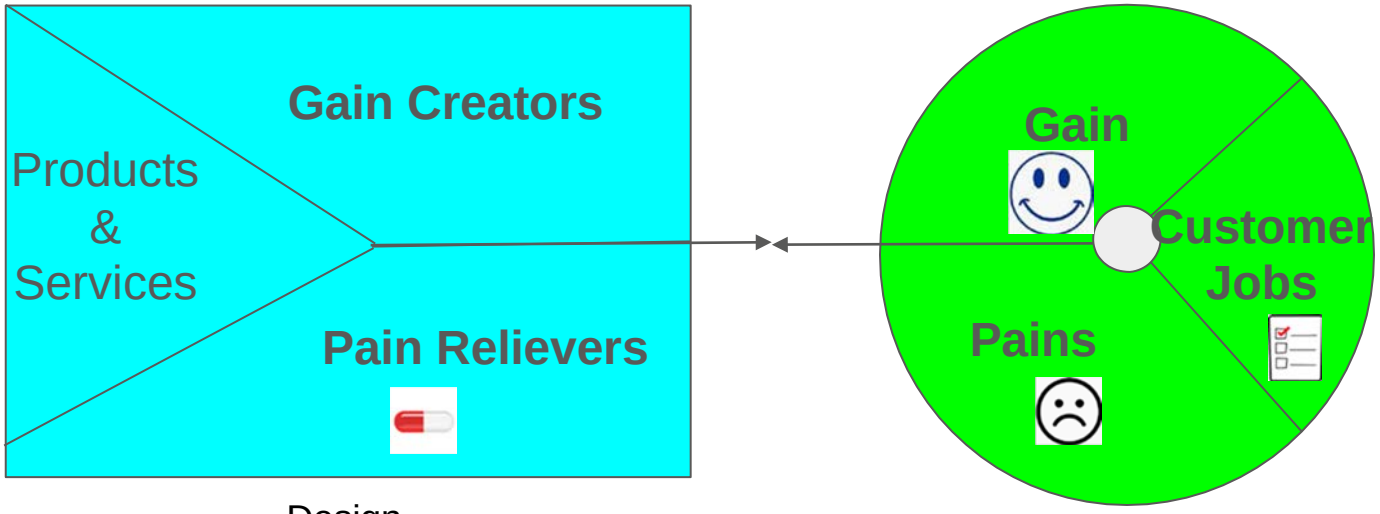
i. Unmet Need
ii. Big Opportunity
iii. Sustainable Competitive Positioning
iv. Scalable Business
v. Why Us and Why Now?

22: Identifying Opportunity 5 C's

i. Circumstance
ii. Context
iii. Constraints
iv. Compensating Behaviors
v. Criteria

23:

Value Proposition Design



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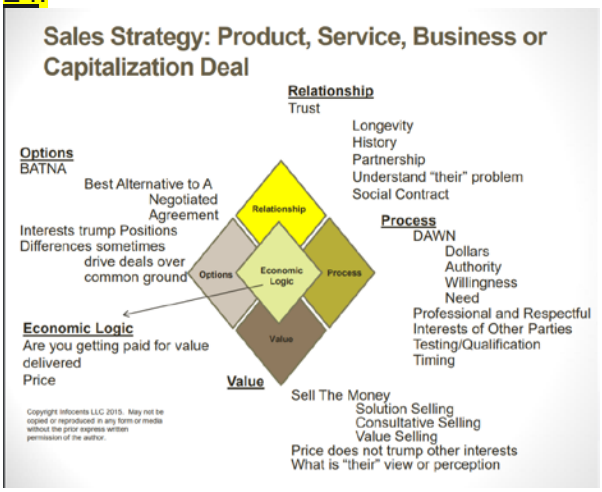

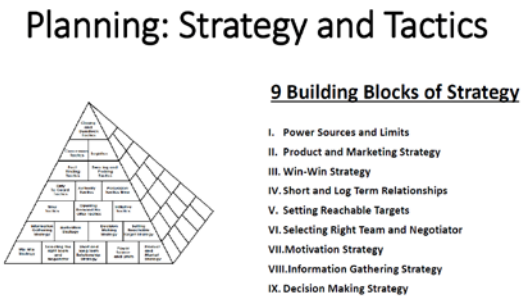

24: **20 METATRENDS FOR THE 2020S**

(1) Continued increase in global abundance: The number of individuals in extreme poverty continues to drop, as the middle-income population continues to rise. This metatrend is driven by the convergence of high-bandwidth and low-cost communication, ubiquitous Artificial Intelligence on the cloud, growing access to AI-aided education and AI-driven healthcare. Everyday goods and services (finance, insurance, education and

entertainment) are being digitized and becoming fully demonetized, available to the rising billion on mobile devices.

(2) Global gigabit connectivity will connect everyone and everything, everywhere, at ultra-low cost: The deployment of both licensed and unlicensed 5G, plus the launch of a multitude of global satellite networks (OneWeb, Starlink, etc.), allow for ubiquitous, low-cost communications for everyone, everywhere— not to mention the connection of *trillions* of devices. And today's skyrocketing connectivity is bringing online an addition 3 billion individuals, driving tens of trillions of dollars into the global economy. This metatrend is driven by the convergence of: low-cost space launches, hardware advancements, 5G networks, artificial intelligence, materials science, and surging computing power.

(3) The average human healthspan will increase by 10+ years: A dozen game-changing biotech and pharmaceutical solutions (currently in Phase 1, 2, or 3 clinical trials) will reach consumers this decade, adding an additional decade to the human healthspan. Technologies include stem cell supply restoration, *wnt* pathway manipulation, Senolytic Medicines, a new generation of Endo-Vaccines, GDF-11, supplementation of NMD/NAD+, among several others. And as machine learning continues to mature, AI is set to unleash countless new drug candidates, ready for clinical trials. This metatrend is driven by the convergence of: genome sequencing, CRISPR technologies, Artificial Intelligence, quantum computing, and cellular medicine.

(4) An age of capital abundance will see increasing access to capital everywhere: From 2016 - 2018 (and likely in 2019), humanity hit all-time highs in the global flow of seed capital, venture capital and sovereign wealth fund investments. While this trend will witness some ups and downs in the wake of future recessions, it is expected to continue its overall upward trajectory. Capital abundance leads to the funding and testing of 'crazy' entrepreneurial ideas, which in turn accelerate innovation. Already, $300 billion in crowdfunding is anticipated by 2025, democratizing capital access for entrepreneurs worldwide. This metatrend is driven by the convergence of: global connectivity, dematerialization, demonetization and democratization.

(5) Augmented Reality and the Spatial Web will achieve ubiquitous deployment: The combination of Augmented Reality (yielding Web 3.0, or the Spatial Web) and 5G networks (offering 100Mb/s - 10Gb/s connection speeds) will transform how we live our everyday lives, impacting every industry from retail and advertising, to education and entertainment. Consumers will play, learn and shop throughout the day in a newly intelligent, virtually overlaid world. This metatrend will be driven by the convergence of: hardware advancements, 5G networks, artificial intelligence, materials science, and surging computing power.

(6) Everything is smart, embedded with intelligence: The price of specialized machine learning chips is dropping rapidly with a rise in global demand. Combined with the explosion of low-cost microscopic sensors and the deployment of high-bandwidth networks, we're heading into a decade wherein every device becomes intelligent. Your child's toy remembers her face and name. Your kids' drone safely and diligently follows and videos all the children at the birthday party. Appliances respond to voice commands and anticipate your needs.

(7) Artificial Intelligence will achieve human-level intelligence: As predicted by technologist and futurist Ray Kurzweil, artificial intelligence will reach human-level performance this decade (by 2030). Through the 2020s, AI algorithms and machine learning tools will be increasingly made open source, available on the cloud, allowing any individual with an internet connection to supplement their cognitive ability, augment their problem-solving capacity, and build new ventures at a fraction of the current cost. This metatrend will be driven by the convergence of: global high-bandwidth connectivity, neural networks, and cloud computing. Every industry, spanning industrial design, healthcare, education, and entertainment, will be impacted.

(8) AI-Human Collaboration will skyrocket across all professions: The rise of "AI as a Service" (AIaaS) platforms will enable humans to partner with AI technology in every aspect of their work, at every level, in every industry. AIs will become entrenched in everyday business operations, serving as cognitive collaborators to employees — supporting creative tasks, generating new ideas, and tackling previously unattainable innovations. In some fields, partnership with AI technology will even become a requirement. For example: in the future, making certain diagnoses without the consultation of AI may be deemed malpractice.

(9) Most individuals adapt a *JARVIS*-like "software shell" to improve their quality of life: As services like Alexa, Google Home and Apple Homepod expand in functionality, such services will eventually travel beyond the home and become your cognitive prosthetic 24/7. Imagine a secure JARVIS-like software shell that you give permission to listen to all your conversations, read your email, monitor your blood chemistry, etc. With access to such data, these AI-enabled software shells will learn your preferences, anticipate your needs and behavior, shop for you, monitor your health, and help you problem-solve in support of your mid- and long-term goals.

(10) Globally abundant, cheap renewable energy: Continued advancements in solar, wind, geothermal, hydroelectric, nuclear and localized grids will drive humanity towards cheap, abundant, and ubiquitous renewable energy. The price per kilowatt-hour will drop below *1 cent per kilowatt-hour* for renewables, just as

storage drops below a mere 3 cents per kilowatt-hour, resulting in the majority displacement of fossil fuels globally. And as the world's poorest countries are also the world's sunniest, the democratization of both new and traditional storage technologies will grant energy abundance to those already bathed in sunlight.

(11) The insurance industry transforms from "recovery after risk" to "prevention of risk:" Today, fire insurance pays you *after* your house burns down; life insurance pays your next-of-kin *after* you die; and health insurance (which is really sick insurance) pays only *after* you get sick. This next decade, a new generation of insurance providers will leverage the convergence of machine learning, ubiquitous sensors, low-cost genome sequencing and robotics to detect risk, *prevent* disaster, and guarantee safety before any costs are incurred.

(12) Autonomous vehicles and flying cars will redefine human travel (soon to be far faster and cheaper): Fully autonomous vehicles, car-as-a-service fleets, and aerial ride-sharing (flying cars) will be fully operational in most major metropolitan cities in the coming decade. The cost of transportation will plummet 3-4X, transforming real estate, finance, insurance, the materials economy, and urban planning. Where you live and work, and how you spend your time, will all be fundamentally reshaped by this future of human travel. Your kids and elderly parents will never drive. This metatrend will be driven by the convergence of: machine learning, smart sensors, materials science, battery storage improvements, and ubiquitous gigabit connections.

(13) On-demand production and on-demand delivery will birth an "instant economy of things:" Urban dwellers will learn to expect "instant fulfillment" of their retail orders as drone and robotic last-mile delivery services carry products from local supply depots directly to your doorstep. Further riding the deployment of regional on-demand digital manufacturing (3D printing farms), individualized products can be obtained within hours, anywhere, anytime. This metatrend is driven by the convergence of: networks, 3D printing, robotics and artificial intelligence.

(14) Ability to sense and know anything, anytime, anywhere: We're rapidly approaching the era wherein 100 billion sensors (the Internet of Everything) is monitoring and sensing (imaging, listening, measuring) every facet of our environments, all the time. Global imaging satellites, drones, autonomous car LIDARs, and forward-looking augmented reality (AR) headset cameras are all part of a global sensor matrix, together allowing us to know anything, anytime, anywhere. This metatrend is driven by the convergence of: terrestrial, atmospheric and space-based sensors, vast data networks, and machine learning. In this future, it's not "what you know," but rather "the quality of the questions you ask" that will be most important.

(15) Disruption of advertising: As Artificial Intelligence becomes increasingly embedded in everyday life, your custom Artificial Intelligence will soon understand what you want better than you do. In turn, we will begin to both trust and rely upon our AIs to make most of our buying decisions, turning over shopping to AI-enabled personal assistants. Your AI assistant might make purchases based upon your past desires, current shortages, conversations you've allowed your AI assistant to listen to, or by tracking where your pupils focus on a virtual interface (i.e. what catches your attention). As a result, the advertising industry—which normally competes for *your* attention (whether at the Superbowl or through search engines)—will have a hard time influencing your AI. This metatrend is driven by the convergence of: machine learning, smart sensors, augmented reality, and 5G/networks.

(16) Cellular agriculture moves from the lab into inner cities, providing high-quality protein that is cheaper and healthier: This next decade will witness the birth of the most ethical, nutritious, and environmentally sustainable protein production system devised by humankind. Stem cell-based 'cellular agriculture' will allow the production of beef, chicken and fish *anywhere*, on-demand, with far higher nutritional content, and a vastly lower environmental footprint than traditional livestock options. This metatrend is enabled by the convergence of: biotechnology, materials science, machine learning, and AgTech.

(17) High-bandwidth Brain-Computer Interfaces (BCI) will come online for public use: Technologist and futurist Ray Kurzweil has predicted that in the mid-2030s, we will begin connecting the human neocortex to the cloud. This next decade will see tremendous progress in that direction, first serving those with spinal cord injuries, whereby patients will regain both sensory capacity and motor control. Yet beyond assisting those with motor function loss, several BCI pioneers are now attempting to supplement their baseline cognitive abilities, a pursuit with the potential to increase their sensorium, memory and even intelligence. This metatrend is fueled by the convergence of: materials science, machine learning, and robotics.

(18) High-resolution Virtual Reality will transform both retail and real estate shopping: High-resolution, lightweight virtual reality headsets will allow individuals at home to shop for everything from clothing to real estate from the convenience of their living room. Need a new outfit? Your AI assistant knows your detailed body measurements and can whip up a fashion show featuring your avatar wearing the latest 20 designs on a runway. Want to see how your furniture might look inside a house you're viewing online? No problem! Your AI assistant can populate the property with your virtualized inventory and give you a guided tour. This metatrend is enabled by the convergence of: Virtual Reality, machine learning, and high-bandwidth networks.

(19) Increased focus on sustainability and the environment: An increase in global environmental awareness and concern over global warming will drive companies to invest in sustainability, both from a necessity standpoint and for marketing purposes. Breakthroughs in materials science, enabled by AI, will allow companies to drive tremendous reductions in waste and environmental contamination. One company's waste will become another company's profit center. This metatrend is enabled by the convergence of: materials science, artificial intelligence, and broadband networks.

(20) CRISPR and gene therapies will minimize disease: A vast range of infectious diseases, ranging from AIDS to Ebola, are now curable. In addition, gene-editing technologies continue to advance in precision and ease of use, allowing families to treat and ultimately *cure* hundreds of inheritable genetic diseases. This metatrend is driven by the convergence of: various biotechnologies (CRISPR, Gene Therapy), genome sequencing, and artificial intelligence.