Innovation for Entrepreneur

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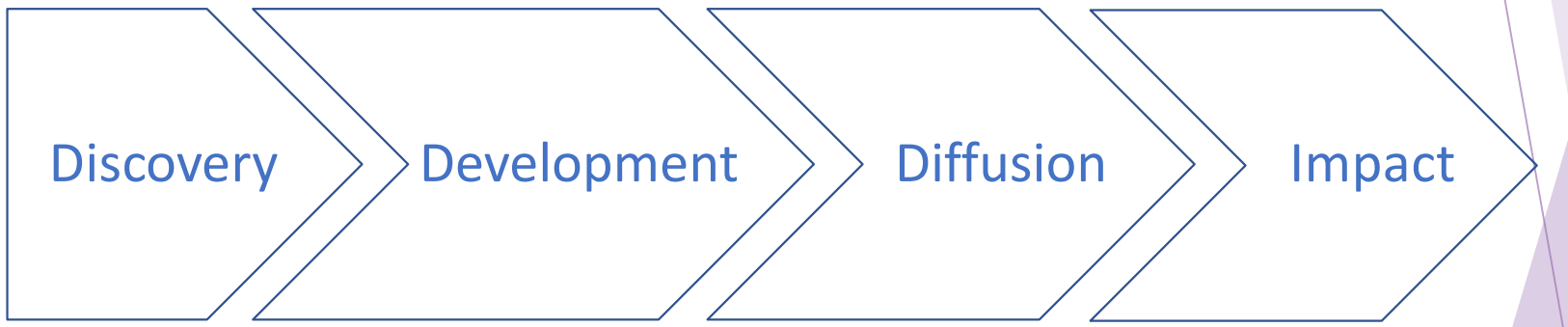
DIN147 (888147) 3(3-0-6)

Innovation Impact

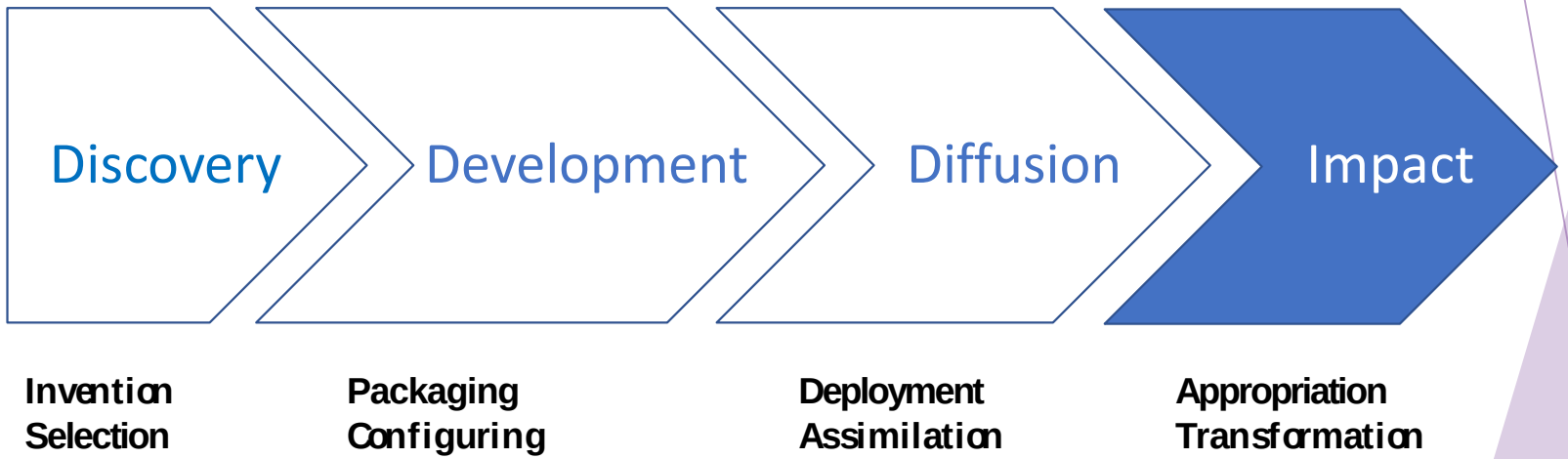
888147 - Innovation Entrepreneur

Stages of Innovation

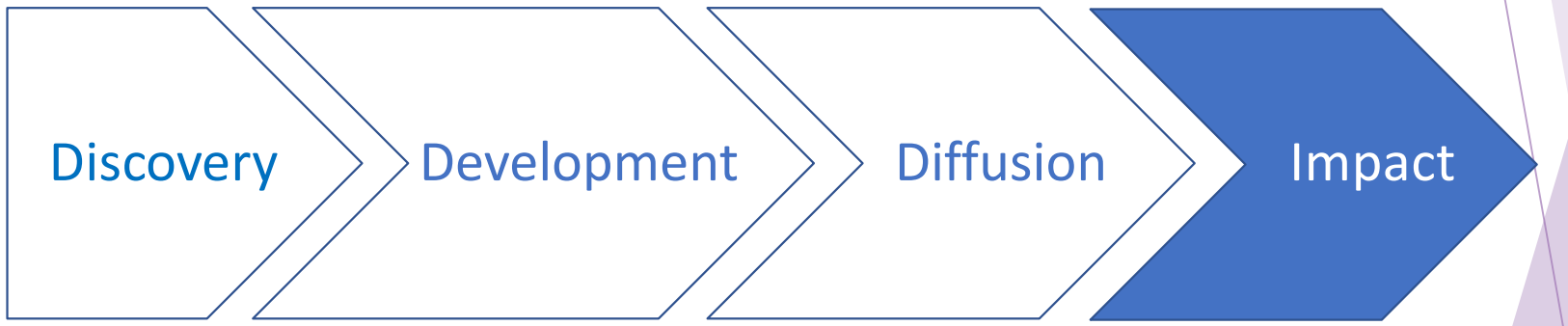


Discovery	Development	Diffusion	Impact
Invention	**Packaging**	**Deployment**	**Appropriation**
Selection	**Configuring**	**Assimilation**	**Transformation**

Stages of Innovation



Stages of Innovation



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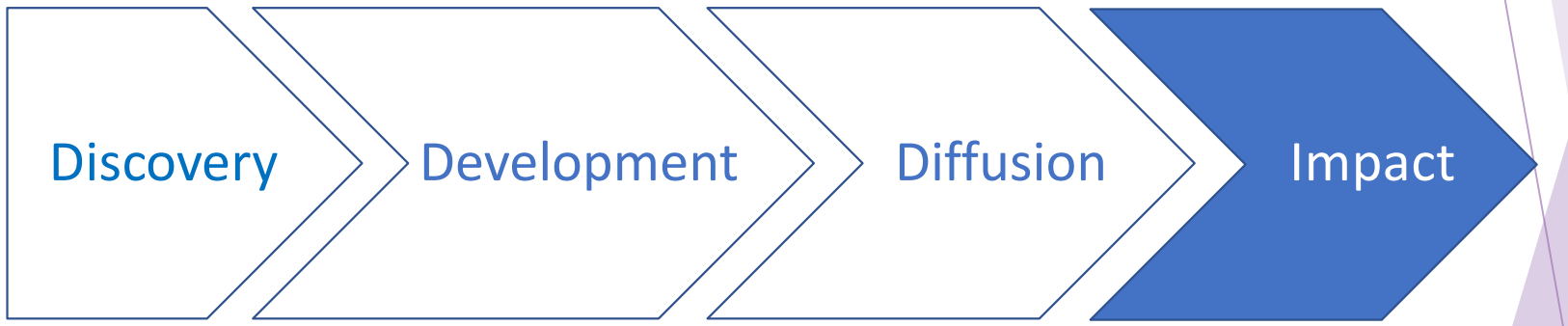


Discovery	Development	Diffusion	Impact
Invention	Packaging	Deployment	Appropriation
Selection	Configuring	Assimilation	Transformation

Innovation Impact

In this stage, the focus is on the effects (intended and unintended) that digital innovations, once diffused, have on individuals, organizations, markets and society.

Digital innovation can positively impact

- the cost side
  - via improved efficiency
- the revenue side
  - by enabling differentiated products and business models

Innovation Impact – intellectual property

Key activities in this stage include *value appropriation* and *transformation*.

For product and business model innovators,

Appropriation involves such tasks as managing intellectual property and the ecosystem of complementary products and services so that profits are protected from suppliers, customers, and imitators.

Innovation Impact – digital transformation

For organizational innovators,

value appropriation involves continuously transforming the technology and organization to take advantage of the new opportunities brought about by the innovation.

Transformations can also happen at the market and societal levels.

Intellectual Property
IP

Types of IP

1) Copyright
2) Patents
3) Trademarks
4) Trade secrets

Others can include Industrial design rights.

Some countries differ on regulations and enforcement

What is IP?

Intellectual property (IP) is a category of property that includes intangible creations of the human intellect.

IP benefits

- Financial incentive
- Economic growth
- Morality
- Security

Trademark

Trademark protects words, phrases, symbols, sounds, smells and color schemes.

Copyright

Copyrights do not protect ideas, but rather the manner in which ideas are expressed (“original works of authorship”) - written works, art, music, architectural drawings, or even programming code for software

Trade secrets

Information created in an organization that it values and does not want competitors to have.

e.g. KFC / Coca Cola recipes

Patent

Patent protects inventive ideas or processes

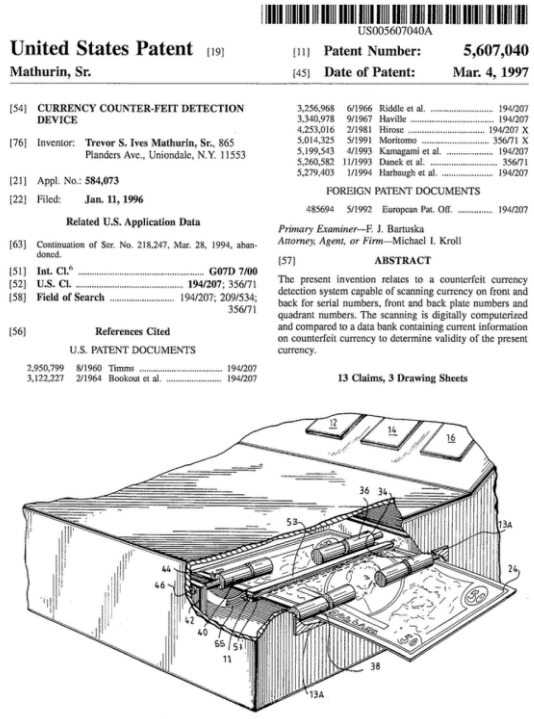
<u>Requirement</u>:

1. Novelty
2. Usefulness, and Non-obviousness

Patent

- A patent is an intellectual PROPERTY RIGHT
- granted by the government of THE COUNTRY
- to an inventor
- to exclude others from making, using, offering FOR SALE, or selling the invention
- throughout the country or importing the invention into the country
- FOR A LIMITED TIME
- in exchange for public closure of the invention when the patent is granted.

Patent



US005607040A

United States Patent [19]

Mathurin, Sr.

[11] **Patent Number: 5,607,040**

[45] **Date of Patent: Mar. 4, 1997**

[54] **CURRENCY COUNTER-FEIT DETECTION DEVICE**

[76] Inventor: **Trevor S. Ives Mathurin, Sr.**, 865 Planders Ave., Uniondale, N.Y. 11553

[21] Appl. No.: **584,073**

[22] Filed: **Jan. 11, 1996**

Related U.S. Application Data

[63] Continuation of Ser. No. 218,247, Mar. 28, 1994, abandoned.

[51] **Int. Cl.**[6] **G07D 7/00**

[52] **U.S. Cl.** **194/207**; 356/71

[58] **Field of Search** 194/207; 209/534; 356/71

[56] **References Cited**

U.S. PATENT DOCUMENTS

2,950,799	8/1960	Timms	194/207
3,122,227	2/1964	Bookout et al.	194/207
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FOREIGN PATENT DOCUMENTS

485694	5/1992	European Pat. Off.	194/207

Primary Examiner—F. J. Bartuska
Attorney, Agent, or Firm—Michael I. Kroll

[57] **ABSTRACT**

The present invention relates to a counterfeit currency detection system capable of scanning currency on front and back for serial numbers, front and back plate numbers and quadrant numbers. The scanning is digitally computerized and compared to a data bank containing current information on counterfeit currency to determine validity of the present currency.

13 Claims, 3 Drawing Sheets

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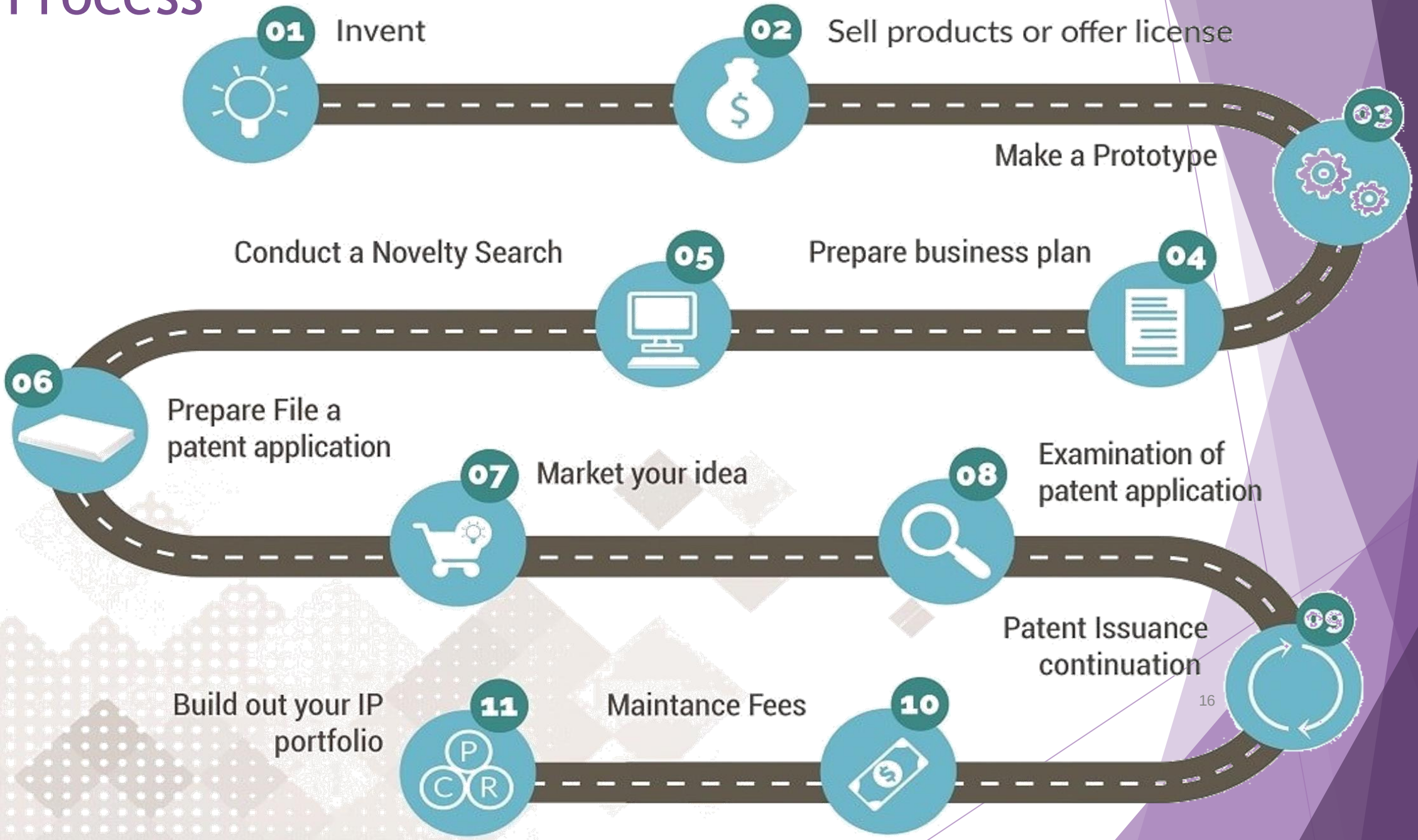
IP Process


01
Invent
02
Sell products or offer license
03
Make a Prototype
04
Prepare business plan
05
Conduct a Novelty Search
06
Prepare File a
patent application
07
Market your idea
08
Examination of
patent application
09
Patent Issuance
continuation
10
Maintance Fees
11
Build out your IP
portfolio
P
C
R

Patent rights

Right to exclude others

Protection period

Maintenance fees

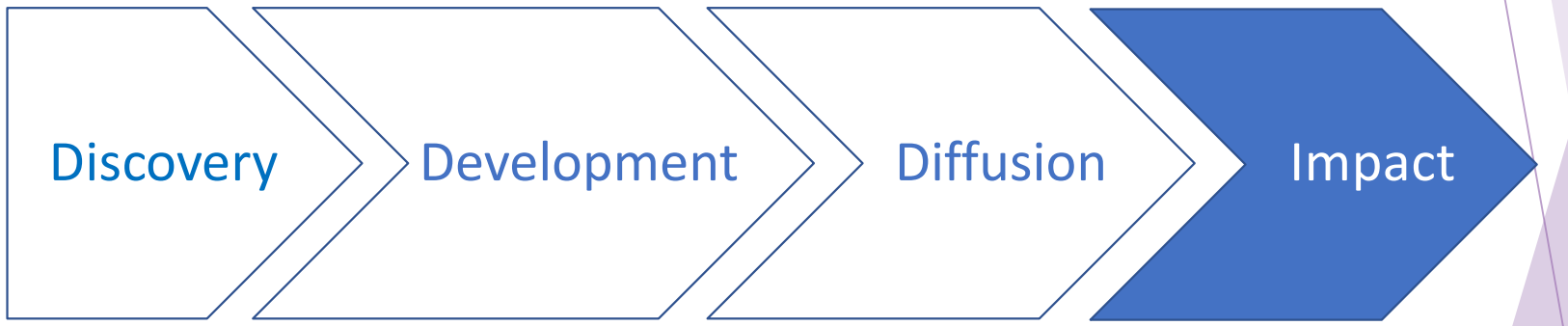
infringements

- Violation of intellectual property rights are called "infringement"
- with respect to patents, copyright, and trademarks, and "misappropriation" with respect to trade secrets,
- may be a breachof civil law or criminal law,
- depending on the type of intellectual property involved, jurisdiction, and the nature of the action.

infringements

- Make
- Use
- Offer for sale
- Sell any patented item without the patent owner's permission

Stages of Innovation



Invention
Selection

Packaging
Configuring

Deployment
Assimilation

Appropriation
Transformation

Digital transformation

Innovation Impact – digital transformation

Digital transformation is the process of using digital technologies to create new — or modify existing — business processes, culture, and customer experiences to meet changing business and market requirements.

This reimagining of business in the digital age is digital transformation.

Innovation Impact – digital transformation

Digitization is the move from analog to digital.

Digitalization is using digital data to simplify how you work.

Digital transformation adds value to every customer interaction

digital transformation goals

- Increasing speed to market with new products and services;
- Increasing employee productivity;
- Increasing responsiveness to customer requests;
- More insights into individual customers to better anticipate and personalize products and services; and
- Improved customer service, especially in providing more intuitive and more engaging customer experiences.

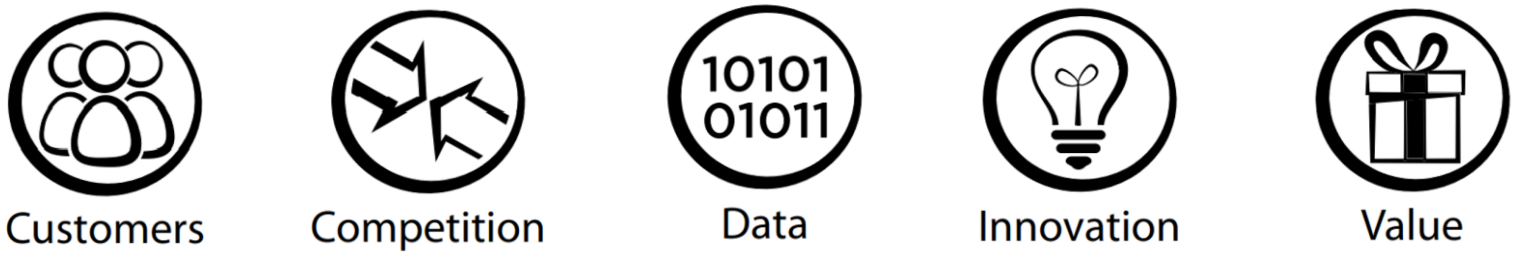
digital transformation need ?

- You’re not getting the referrals that you used to get.
- Repeat business isn’t repeating like it used to.
- Tried-and-true promotions are no longer generating leads.
- Cross-departmental complaints are mounting about a lack of collaboration and information sharing, teams operating in silos, and so on.
- Your technology systems feel old — employees are asking for features they’re used to from consumer apps

digital transformation causes

- Customer behavior and expectations
- New economic realities
- Societal shifts (e.g. aging populations)
- Ecosystem/industry disruption and
- Emerging or existing digital technologies

Domains of Digital Transformation



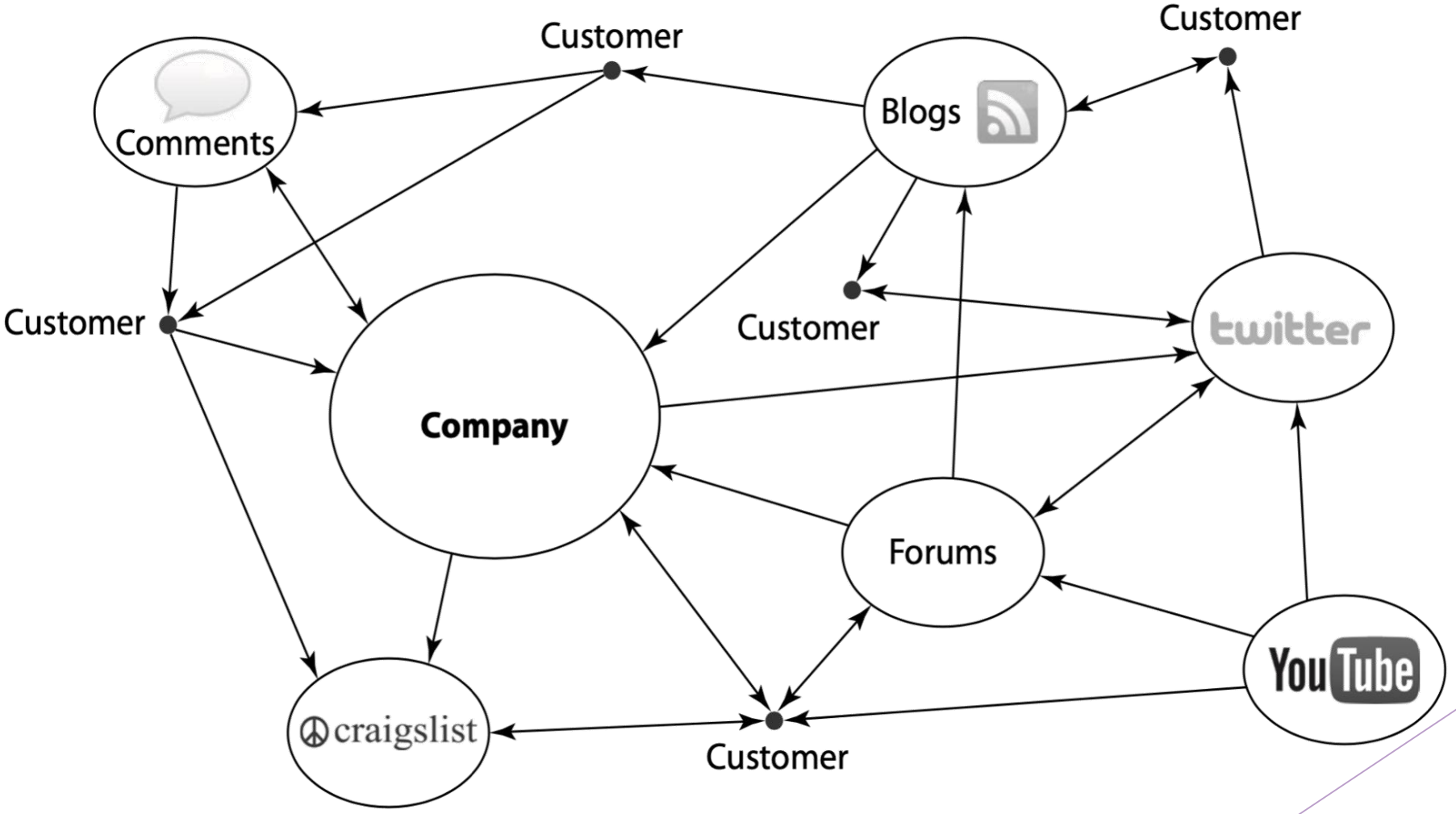
Domains of Digital Transformation

Customers

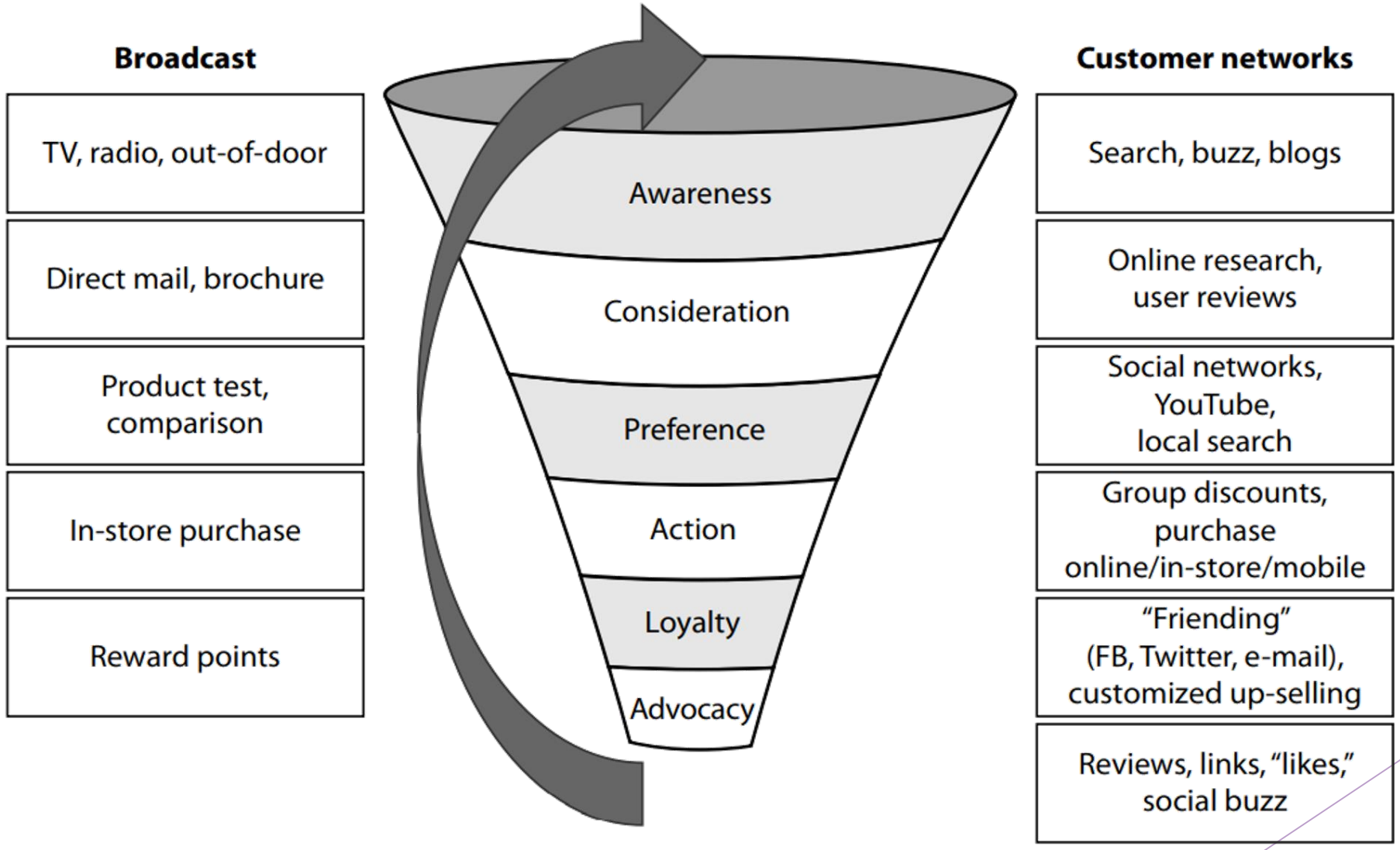
Customer Change in Assumptions

From	To
Customers as mass market	Customers as dynamic network
Communications are broadcast to customers	Communications are two-way
Firm is the key influencer	Customers are the key influencer
Marketing to persuade purchase	Marketing to inspire purchase, loyalty, advocacy
One-way value flows	Reciprocal value flows
Economies of (firm) scale	Economies of (customer) value

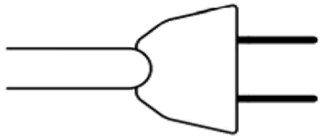
Customer Market Model



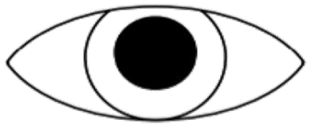
Marketing Funnel



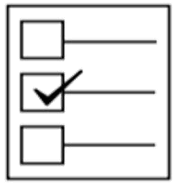
Customer Network Behaviors



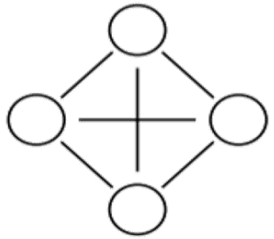
Access → Be faster, be easier, be everywhere, be always on



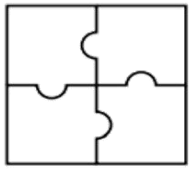
Engage → Become a source of valued content



Customize → Make your offering adaptable to your customers' needs



Connect → Become a part of your customers' conversations



Collaborate → Invite your customers to help build your enterprise

Domains of Digital Transformation

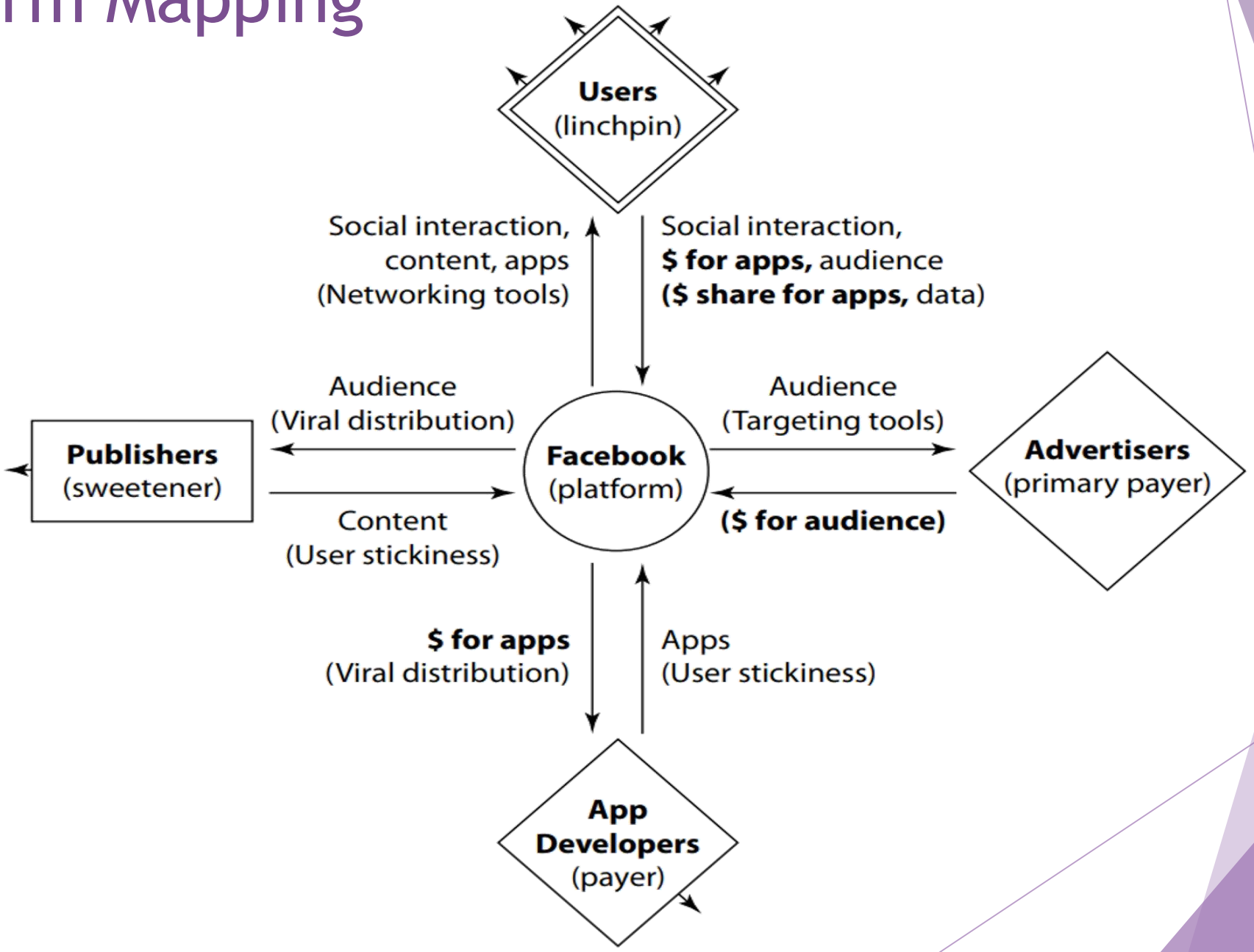
Competition Change in Assumptions

From	To
Competition within defined industries	Competition across fluid industries
Clear distinctions between partners and rivals	Blurred distinctions between partners and rivals
Competition is a zero-sum game	Competitors cooperate in key areas
Key assets are held inside the firm	Key assets reside in outside networks
Products with unique features and benefits	Platforms with partners who exchange value
A few dominant competitors per category	Winner-takes-all due to network effects

Platform Business Models

Type of platforms	Pre-digital examples	Digital examples
Exchange	Real estate brokers Shopping malls Nightclubs	Product marketplaces (eBay, Etsy) Service marketplaces (Airbnb, Uber) Dating websites (eHarmony)
Transaction system	Credit cards Debit cards	Digital payment systems (PayPal) Digital currencies (Bitcoin)
Ad-supported media	Newspapers (subsidized or free due to ads) Broadcast TV	Websites with ads Social networks with ads
Hardware/software standard	Color TVs (RCA vs. CBS) Videocassettes (VHS vs. Betamax) Motor fuels (diesel vs. ethanol)	Videogame consoles (Xbox, PlayStation) Mobile operating systems (iOS, Android)

Platform Mapping



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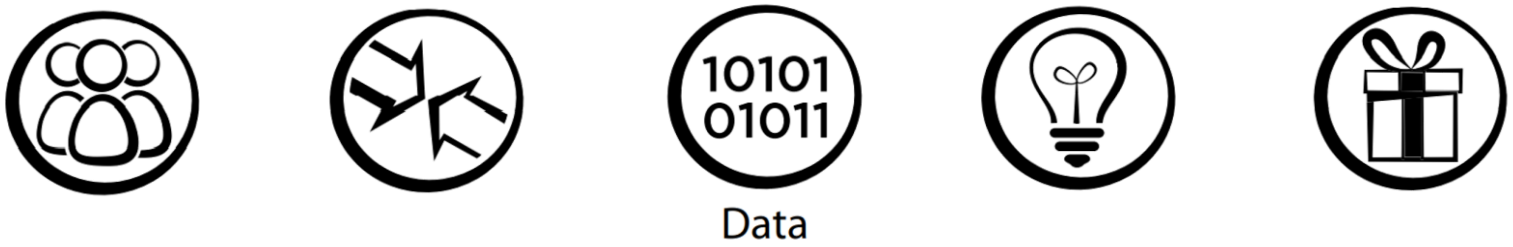


Data Change in Assumptions

From	To
Data is expensive to generate in firm	Data is continuously generated everywhere
Challenge of data is storing and managing it	Challenge of data is turning it into valuable information
Firms make use only of structured data	Unstructured data is increasingly usable and valuable
Data is managed in operational silos	Value of data is in connecting it across silos
Data is a tool for optimizing processes	Data is a key intangible asset for value creation

The FOUR V's of Big Data

From traffic patterns and music downloads to web history and medical records, data is recorded, stored, and analyzed to enable the technology and services that the world relies on every day. But what exactly is big data, and how can these massive amounts of data be used?

As a leader in the sector, IBM data scientists break big data into four dimensions: **Volume, Velocity, Variety and Veracity**

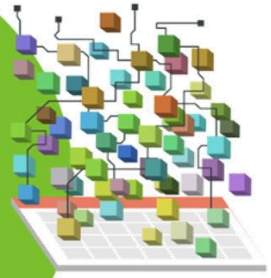
Depending on the industry and organization, big data encompasses information from multiple internal and external sources such as transactions, social media, enterprise content, sensors and mobile devices. Companies can leverage data to adapt their products and services to better meet customer needs, optimize operations and infrastructure, and find new sources of revenue.

By 2015
4.4 MILLION IT JOBS
will be created globally to support big data, with 1.9 million in the United States

Volume
SCALE OF DATA

40 ZETTABYTES
[43 TRILLION GIGABYTES]
of data will be created by 2020, an increase of 300 times from 2005

It's estimated that
2.5 QUINTILLION BYTES
[2.3 TRILLION GIGABYTES]
of data are created each day



6 BILLION PEOPLE
have cell phones

WORLD POPULATION: 7 BILLION

Most companies in the U.S. have at least
100 TERABYTES
[100,000 GIGABYTES]
of data stored

Velocity
ANALYSIS OF STREAMING DATA

The New York Stock Exchange captures
1 TB OF TRADE INFORMATION
during each trading session

Modern cars have close to
100 SENSORS
that monitor items such as fuel level and tire pressure

By 2016, it is projected there will be
18.9 BILLION NETWORK CONNECTIONS
– almost 2.5 connections per person on earth

Variety
DIFFERENT FORMS OF DATA

As of 2011, the global size of data in healthcare was estimated to be
150 EXABYTES
[161 BILLION GIGABYTES]

30 BILLION PIECES OF CONTENT
are shared on Facebook every month

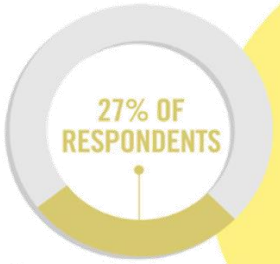
By 2014, it's anticipated there will be
420 MILLION WEARABLE, WIRELESS HEALTH MONITORS

4 BILLION+ HOURS OF VIDEO
are watched on YouTube each month

400 MILLION TWEETS
are sent per day by about 200 million monthly active users

Veracity
UNCERTAINTY OF DATA

1 IN 3 BUSINESS LEADERS
don't trust the information they use to make decisions



in one survey were unsure of how much of their data was inaccurate

Poor data quality costs the US economy around
$3.1 TRILLION A YEAR

Templates of Value Creation

Insights: Revealing the Invisible

Targeting: Narrowing the Field

Personalization: Tailoring to Fit

Context: Providing a Reference Frame

Domains of Digital Transformation

Innovation Changes in Assumptions

From	To
Decisions made based on intuition and seniority	Decisions made based on testing and validating
Testing ideas is expensive, slow, and difficult	Testing ideas is cheap, fast, and easy
Experiments conducted infrequently, by experts	Experiments conducted constantly, by everyone
Challenge of innovation is to find the right solution	Challenge of innovation is to solve the right problem
Failure is avoided at all cost	Failures are learned from, early and cheaply
Focus is on the "finished" product	Focus is on minimum viable prototypes and iteration after launch

Convergence and Divergent Experiment

Convergent Experiments	Divergent Experiments
Example: A/B feature testing or a pricing test	Example: putting a prototype in the hands of customers
Formal (scientific) experimental design	Informal experimental design
Asks a precise question or finite set of questions	Poses an unknown set of questions
Seeks to provide an answer	May provide an answer or raise more questions
Needs a representative customer sample (test and control groups)	Needs the right customers (who might not be average customers)
Needs a statistically valid sample	Sample size may vary
Focused on direct causality	Focused on gestalt effects and meaning
Goal is to test the thing itself	Goal is to test as rough a prototype as possible for the question ("good enough")
Confirmatory	Exploratory
Useful for optimization	Useful for idea generation
Common in late stages of an innovation	Common in early stages of an innovation

Principles of Experiment

Learn early

Be fast and iterate

Fall in love with the problem, not the solution

Get credible feedback

Measure what matters now

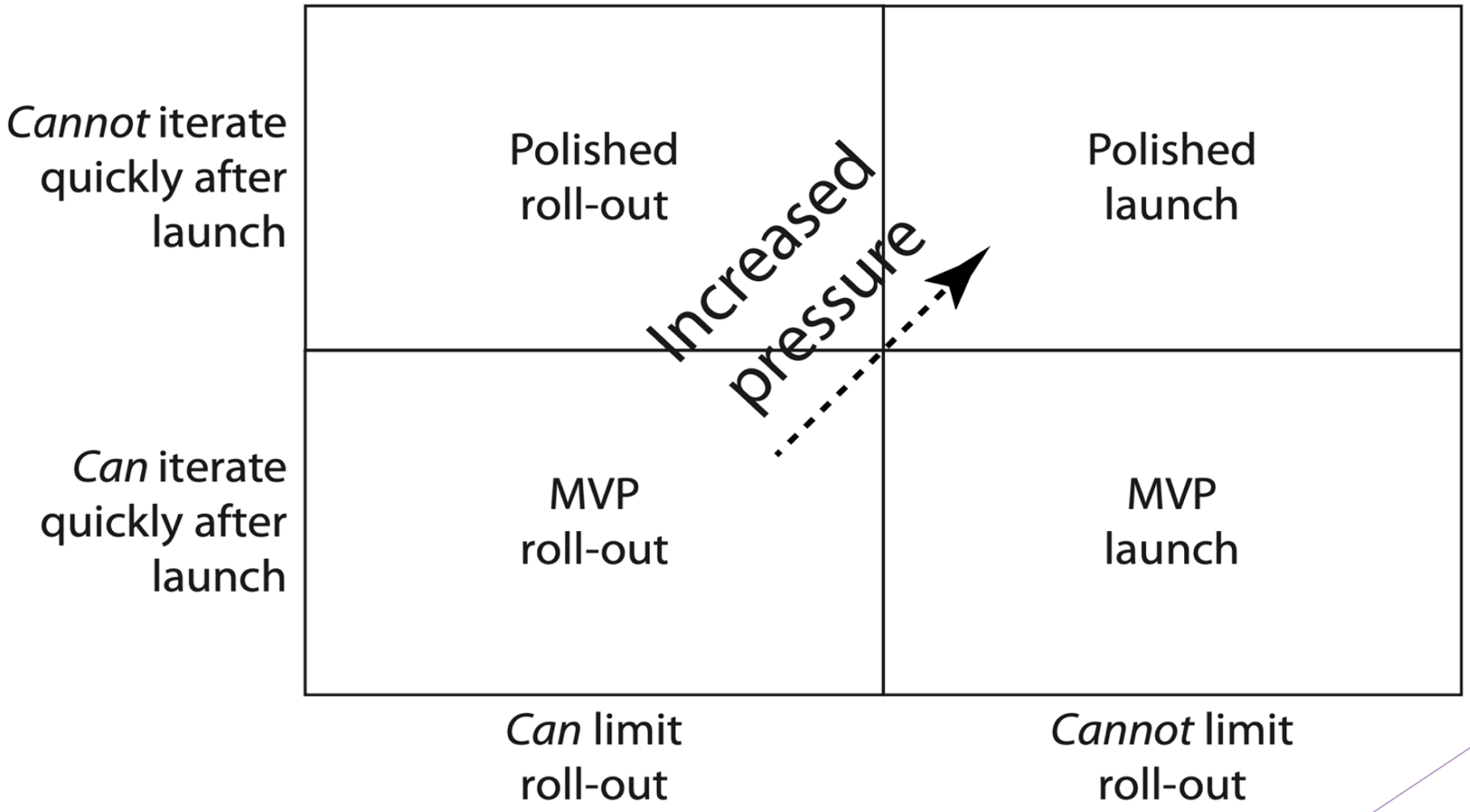
Test your assumptions

Fail smart

Minimum Viable Prototype

Minimal Cost + Maximum Learning

Paths to Scale up



Domains of Digital Transformation

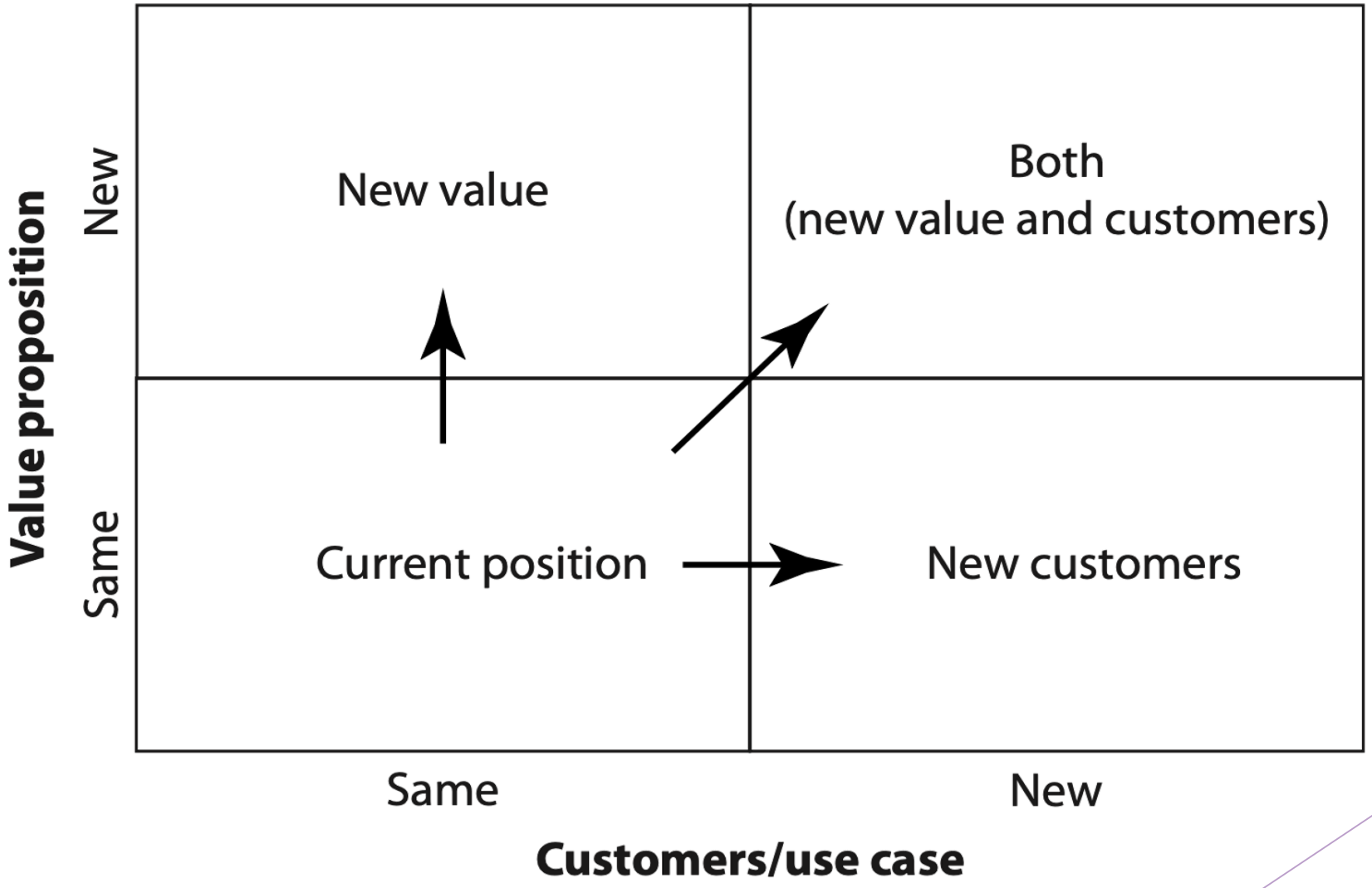
Value Change in Assumptions

From	To
Value proposition defined by industry	Value proposition defined by changing customer needs
Execute your current value proposition	Uncover the next opportunity for customer value
Optimize your business model as long as possible	Evolve before you must, to stay ahead of the curve
Judge change by how it impacts your current business	Judge change by how it could create your next business
Market success allows for complacency	"Only the paranoid survive"

Concepts of Market Value

Concept	Concept pros and *cons (in italics)*	Examples as applied to automotive
Product	Important in portfolio decisions *Ignores customers and value to them* *Leads to strategic myopia*	SUV Sedan Minivan
Customer	Customer-centric Helps identify whom to focus on *Not focused on value*	College student drivers Parents with small kids
Use case	Value-centric and customer-centric Helps with better segmentation *Obscures that a customer may have multiple use cases*	Night out with friends Driving and carpooling with kids
Job to be done	Value-centric and customer-centric Helps identify nontraditional competitors *Lacks concrete specifics*	Safely and comfortably transport several kids from points A to B
Value proposition	Value-centric and customer-centric Helps assess threats and ideate new innovations outside of existing products More concrete and specific (includes multiple elements)	Reliable transportation Accommodates several passengers Safety in an accident Personalization of car zones (e.g., for climate or audio) Communication for driver (e.g., hands-free calling) Entertainment for passengers (e.g., Wi-Fi or video)

Roll out of Shrinking Market



Human Side of Digital Transformation

Skills

Digital-first companies hire the best employees they can afford and integrate them into multiple areas so the results from one area can be shared with others. Digital productivity and collaboration tools help employees bring digital products to market with greater speed and agility.

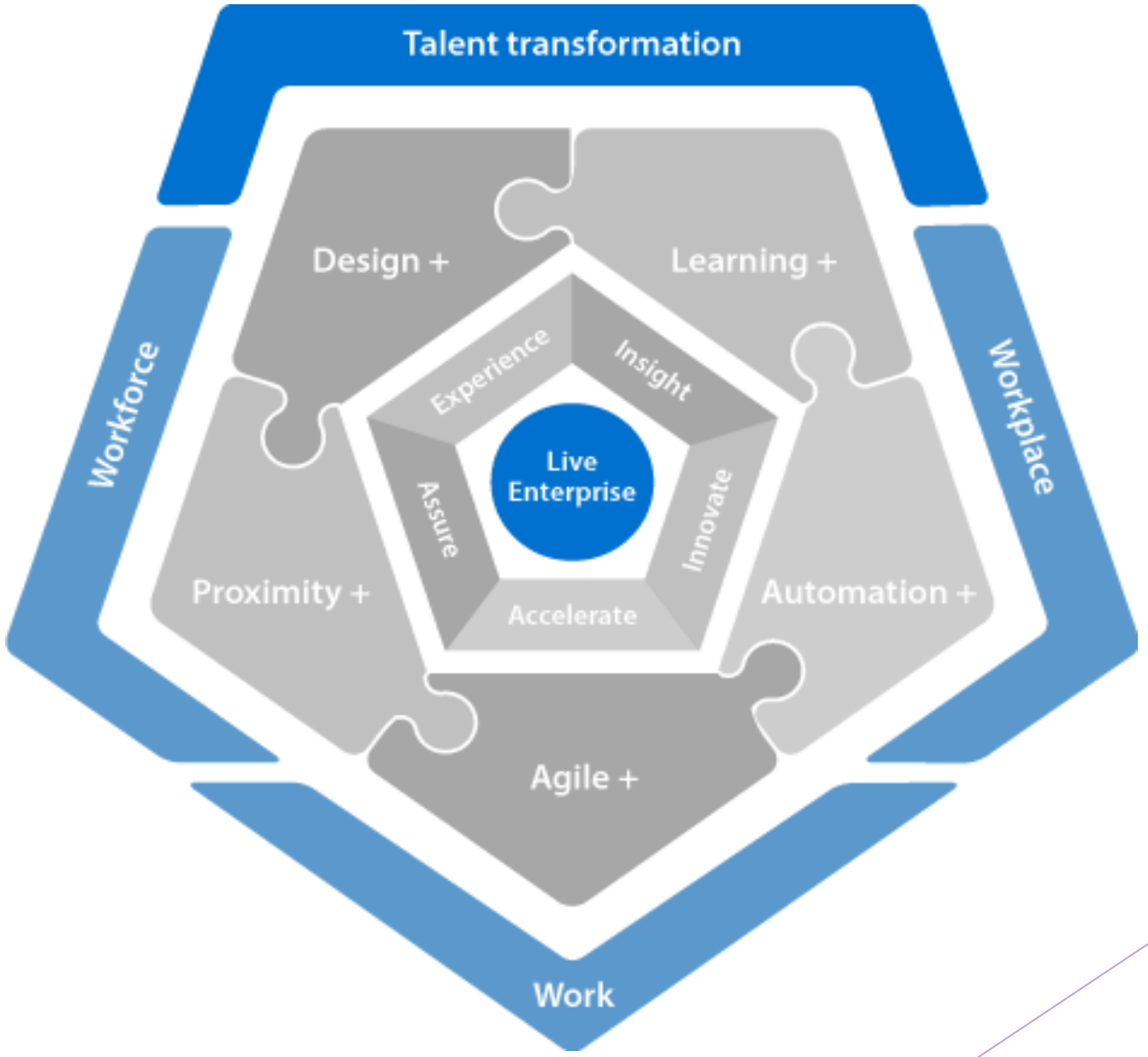
Organizational Structure

Once companies collect a few wins with digital transformation practices, they often reorganize to break down departmental silos and form cross-functional teams dedicated to serving the customer. The next step is intentionally creating an organizational structure that fosters purpose, autonomy and mastery.

Culture

Fostering a culture of innovation and continued refinement through insight-driven decision making from top to bottom is essential. Data and technology will only take a company so far. Culture and leadership must be the heart of change. With the right organizational culture, almost anything can be achieved.

Talent Transformation



Thank you!

any questions?