

金融科技



Tamkang
University
淡江大學

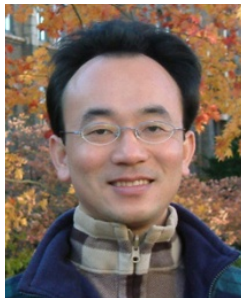
FinTech: Financial Technology

Fintech 金融科技與金融服務價值鏈 (Fintech and Financial Services Value Chain)

1052FinTech04

MIS EMBA (M2263) (8595)

Fri, 12,13,14 (19:20-22:10) (D409)



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2017-03-10



課程大綱 (Syllabus)

週次 (Week)	日期 (Date)	內容 (Subject/Topics)
1	2017/02/17	Fintech 金融科技課程介紹 (Course Orientation for Fintech: Financial Technology)
2	2017/02/24	Fintech 金融科技的演進：貨幣與金融服務 (Evolution of Fintech: Money and Financial Services)
3	2017/03/03	Fintech 金融科技：金融服務科技創新 (Fintech: Technology Innovation in Financial Services)
4	2017/03/10	Fintech 金融科技與金融服務價值鏈 (Fintech and Financial Services Value Chain)
5	2017/03/17	Fintech 金融科技商業模式創新 (Fintech Business Models Innovation)
6	2017/03/24	Fintech 金融科技個案研究 I (Case Study on Fintech I)

課程大綱 (Syllabus)

週次 (Week)	日期 (Date)	內容 (Subject/Topics)
7	2017/03/31	金融服務消費者心理與行為 (Consumer Psychology and Behavior on Financial Services)
8	2017/04/07	教學行政觀摩日 (Off-campus study)
9	2017/04/14	區塊鏈技術 (Blockchain Technology) [Invited Speaker: Dr. Raymund Lin, IBM (林俊叡 博士，IBM)]
10	2017/04/21	期中報告 (Midterm Project Report)
11	2017/04/28	Python Pandas財務大數據分析 (Finance Big Data Analytics with Pandas in Python)
12	2017/05/05	人工智慧與深度學習金融科技 (Artificial Intelligence and Deep Learning for Fintech)

課程大綱 (Syllabus)

週次 (Week)	日期 (Date)	內容 (Subject/Topics)
13	2017/05/12	Fintech 金融科技個案研究 II (Case Study on Fintech II)
14	2017/05/19	金融科技財富管理：機器人理財顧問 (Robo-Advisors for Wealth Management in Fintech)
15	2017/05/26	投資組合最佳化與程式交易 (Portfolio Optimization and Algorithmic Trading)
16	2017/06/02	金融科技智慧問答系統 (Intelligent Question Answering System for Fintech)
17	2017/06/09	期末報告 I (Final Project Presentation I)
18	2017/06/16	期末報告 II (Final Project Presentation II)

Fintech and Financial Services Value Chain

Financial Services: Digital Banking Market

Lending, Investments, And Personal Finance: 102 Startups Attacking The Retail Banking Value Chain

Financial Services: Digital Banking Market

- Marketplace Lending
- Direct Lending & Underwriting
- Online/Mobile Banking
- Personal Finance
- Bill Pay / Money Transfer
- Investment Management
 - Robo-advisor

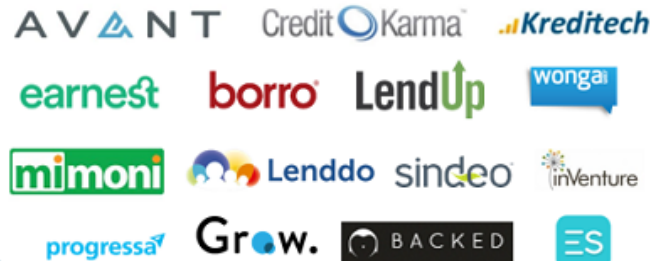
Digital Banking Market Map

The Digital Banking Market Map

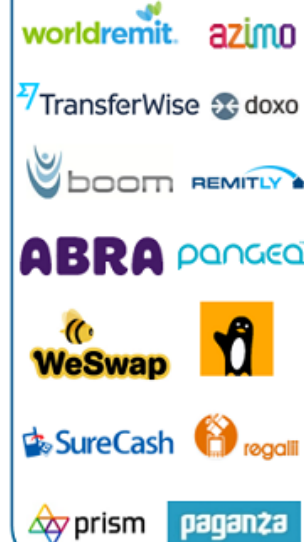
Marketplace Lending



Direct Lending & Underwriting



Bill Pay / Money Transfer



Investment Management



Created By



Online/Mobile Banking



Personal Finance



Robo-advisor



Financial Services: Digital Banking Market

- **Investment Management**
 - Serving retail investors with automated, social, or other novel investment vehicles and advice. T
 - Offer retail investors alternative ways to access securities beyond large traditional brokerages.
 - Personal Capital, pair algorithmically-driven advice and portfolio management with human advice.
 - **Robo-advisor**
 - Focus exclusively on providing fully automated, algorithm-driven investments.

FinTech Startup for Almost Any Bank Service



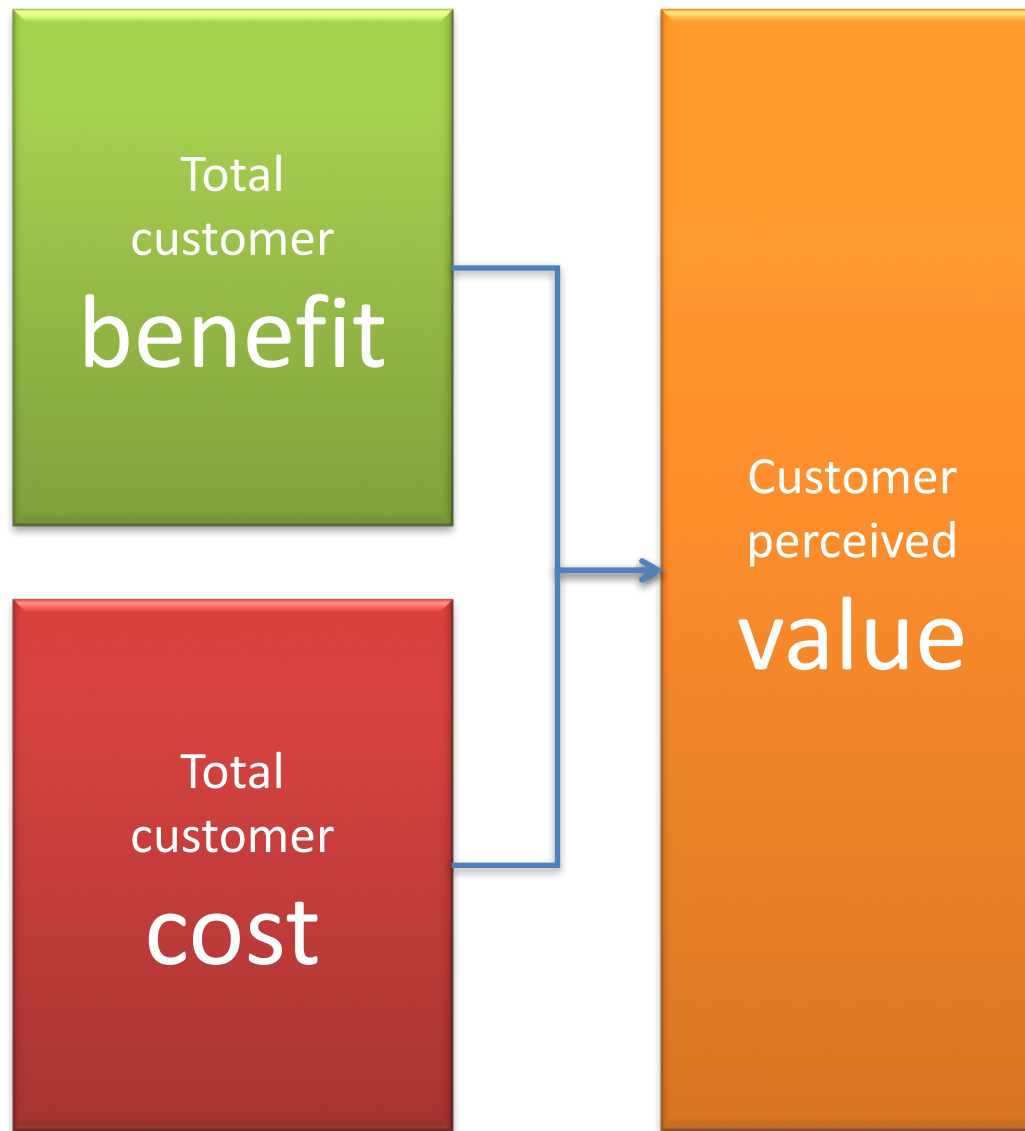
Value

Value

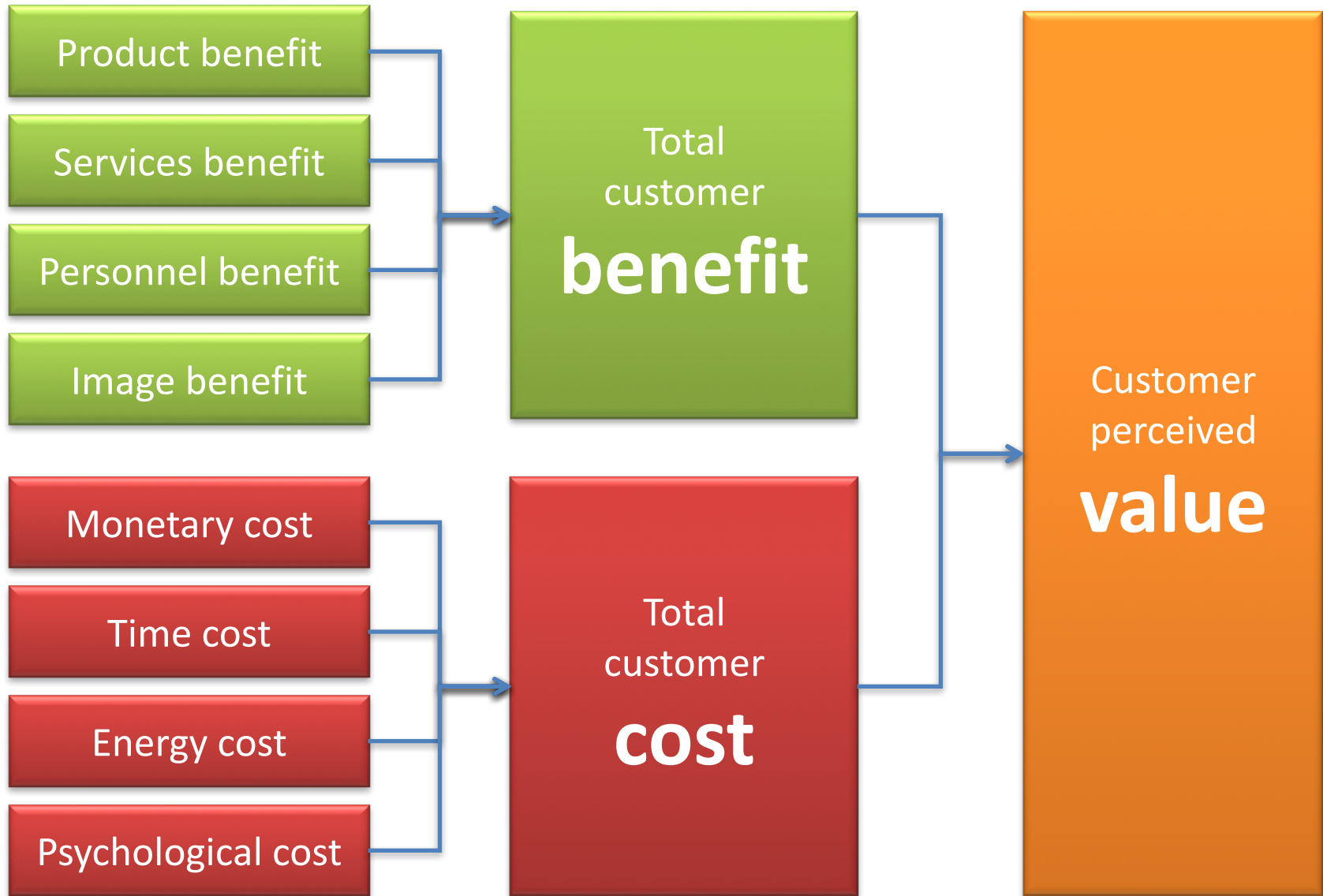
the sum of the
tangible and
intangible

benefits and costs

Value

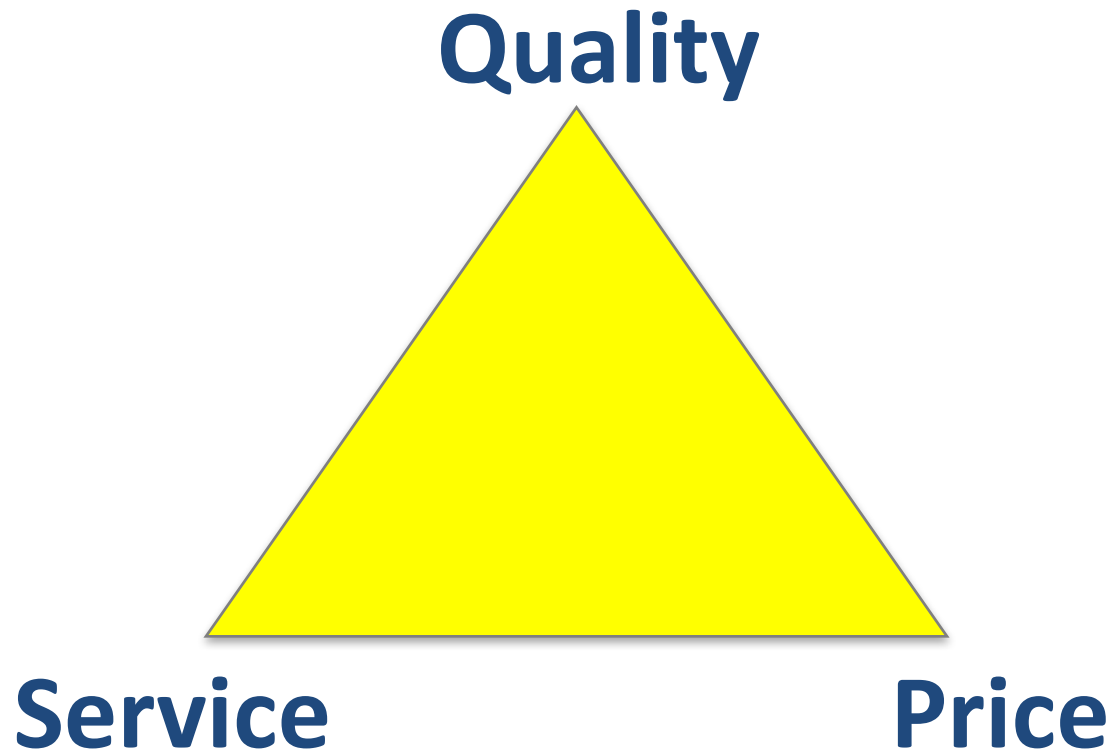


Customer Perceived Value



Customer Value Triad

Quality, Service, and Price
(qsp)



Value and Satisfaction

- Marketing
 - identification, creation, communication, delivery, and monitoring of **customer value**.
- Satisfaction
 - a person's judgment of a product's **perceived performance** in relationship to **expectations**

Building Customer Value, Satisfaction, and Loyalty

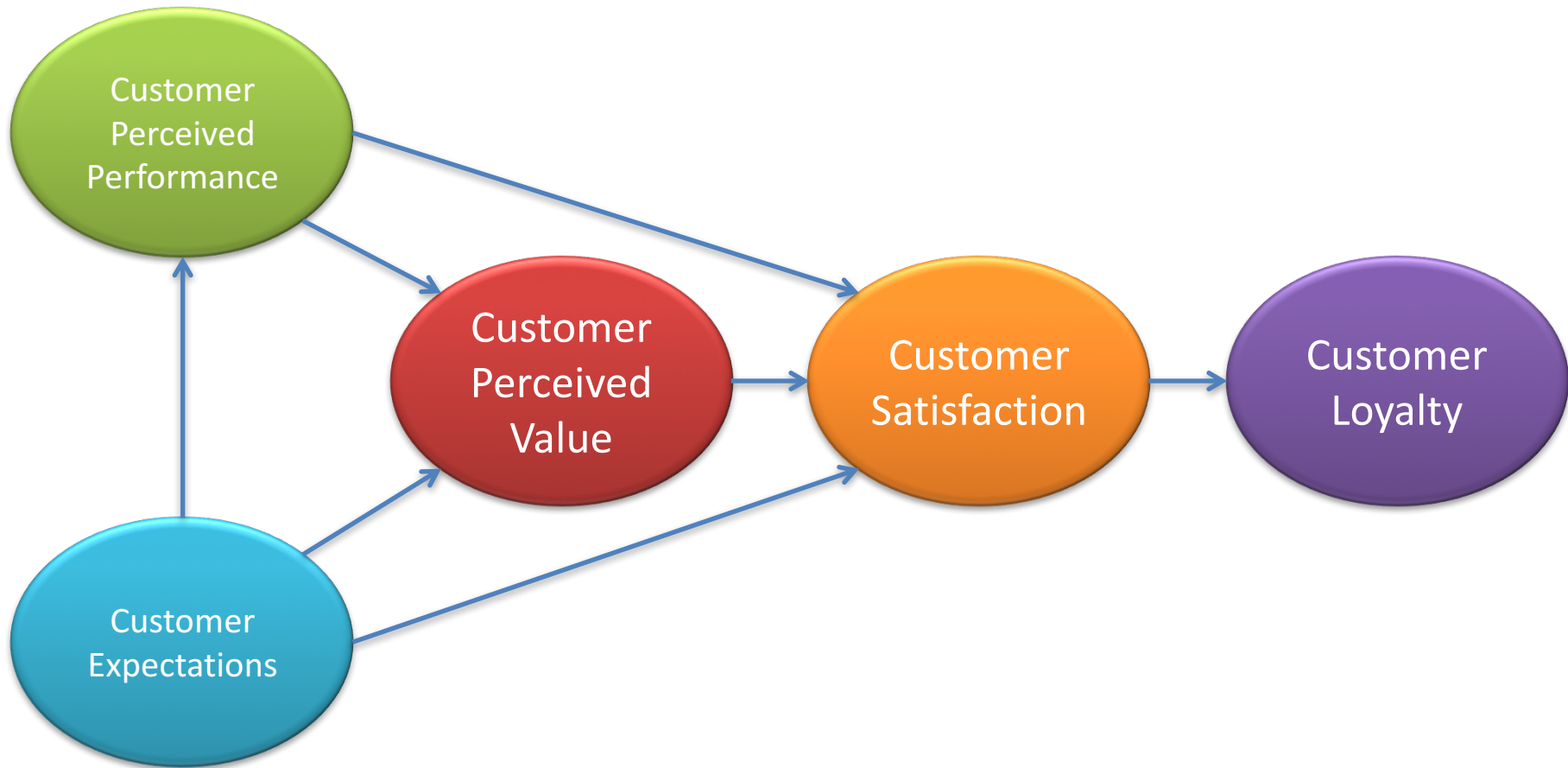
Satisfaction

“a person’s feelings of pleasure or disappointment that result from comparing a product’s perceived performance (or outcome) to expectations”

Loyalty

**“a deeply held commitment to
rebuy or repatronize
a preferred product or service
in the future
despite situational influences and
marketing efforts having the
potential to cause switching
behavior.”**

Customer Perceived Value, Customer Satisfaction, and Loyalty

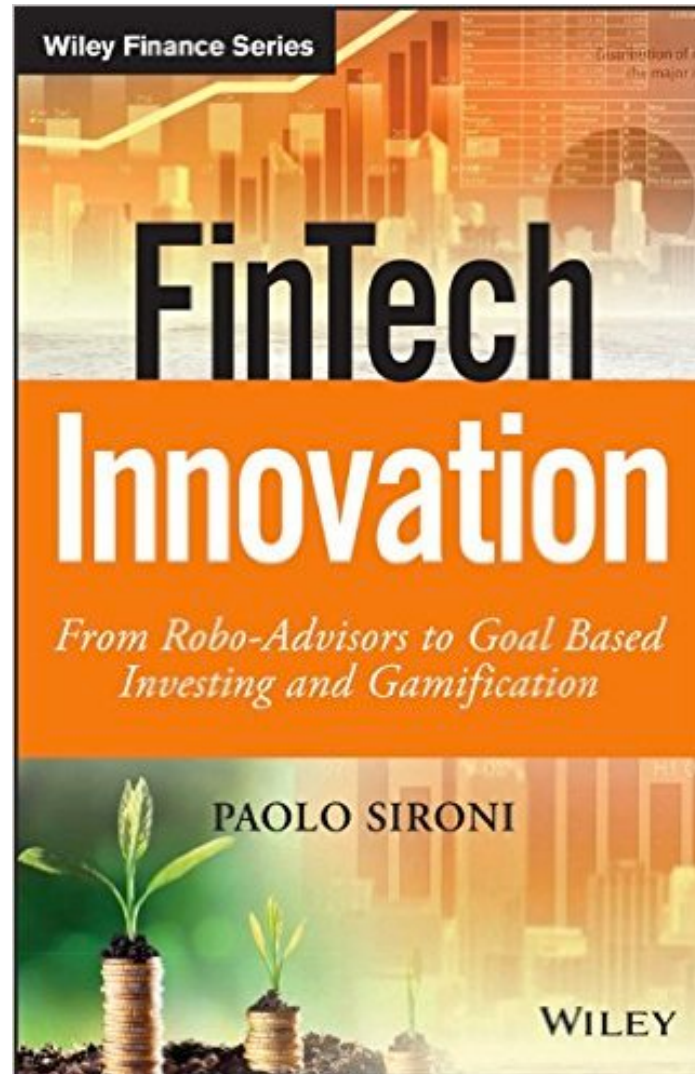


Value Chain

Paolo Sironi (2016)

FinTech Innovation:

From Robo-Advisors to Goal Based Investing and Gamification,
Wiley



FinTech: Financial Services Innovation



The Value Chain

(Porter, 1985)

**Porter, M. E., & Millar, V. E.
(1985).**

**How information gives you
competitive advantage,**

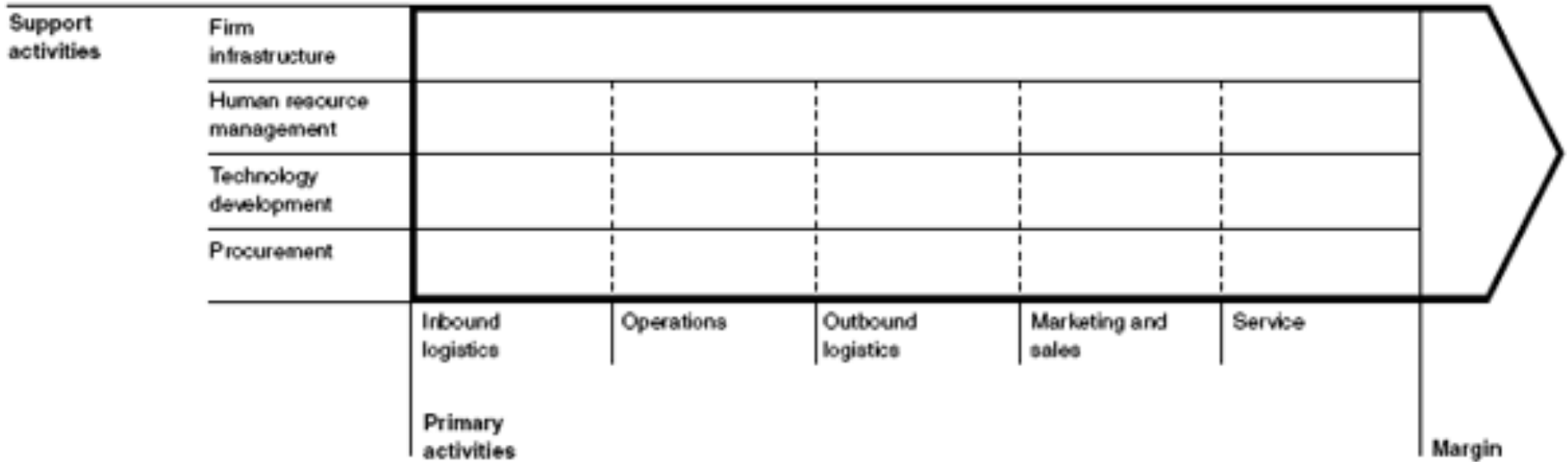
Harvard Business Review,

63 (4), 149-160.

The Value Chain

(Porter, 1985)

EXHIBIT I
The value chain



The Value System

(Porter, 1985)

EXHIBIT II

The value system



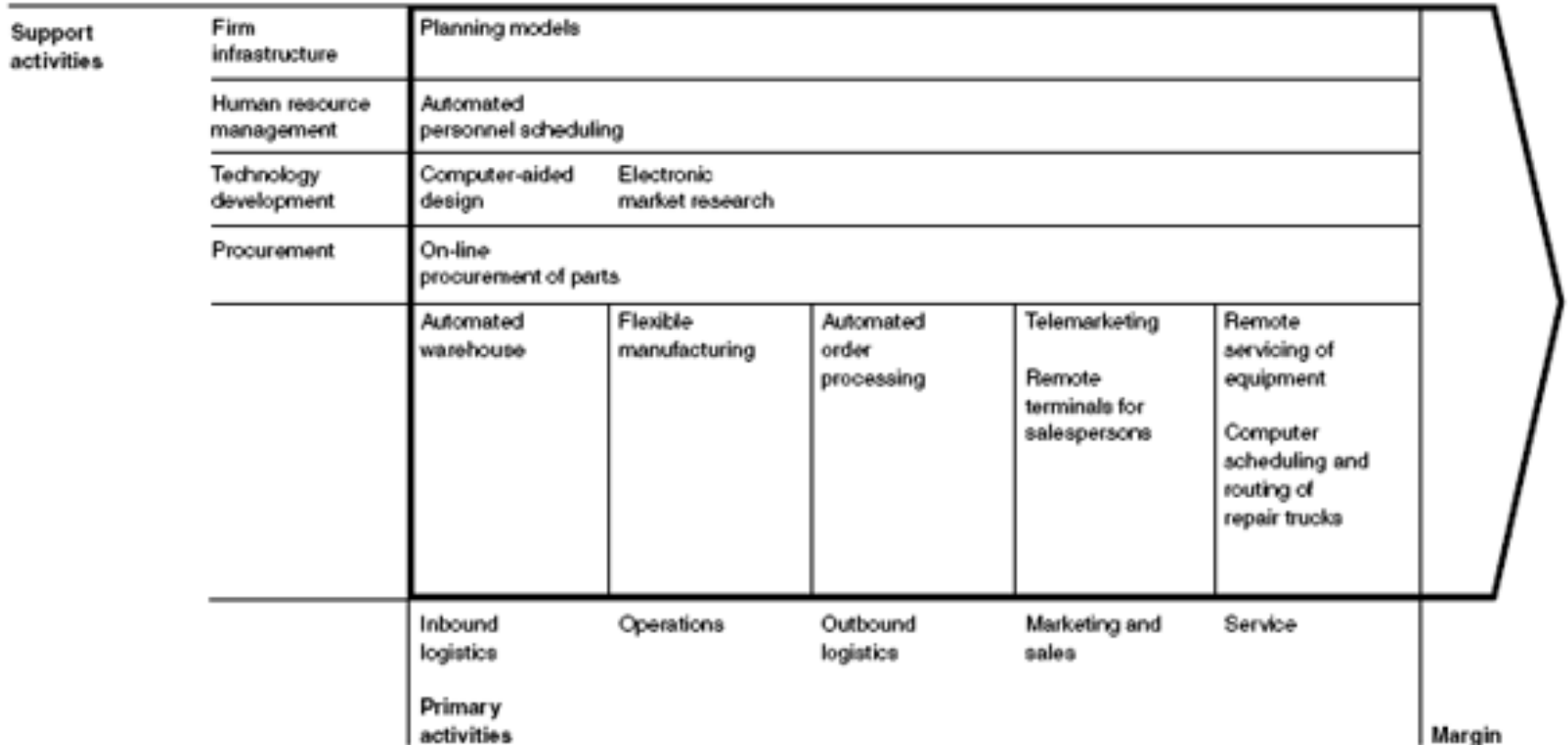
Information Technology

Permeates the Value Chain

(Porter, 1985)

EXHIBIT III

Information Technology permeates the value chain

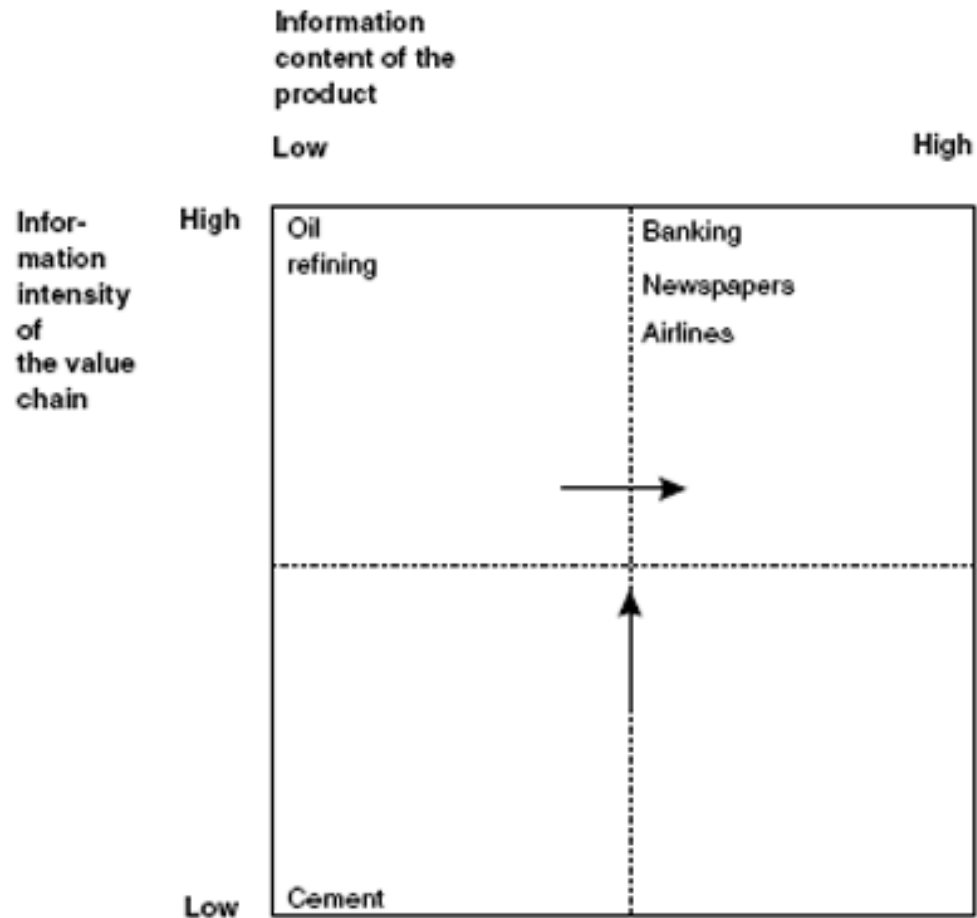


Information Intensity Matrix

(Porter, 1985)

EXHIBIT IV

Information intensity matrix

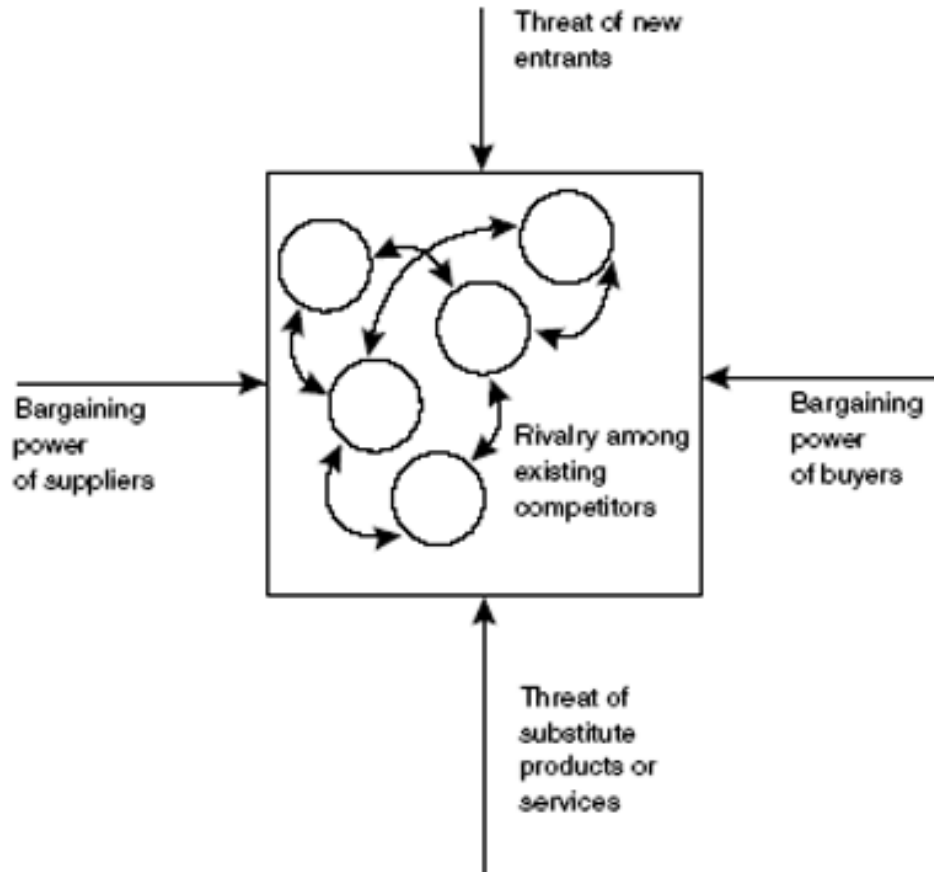


Source: Porter, M. E., & Millar, V. E. (1985). How information gives you competitive advantage, Harvard Business Review, 63 (4), 149-160

Determinants of Industry Attractiveness (Porter, 1985)

EXHIBIT V

Determinants of industry attractiveness



Source: Porter, M. E., & Millar, V. E. (1985). How information gives you competitive advantage, Harvard Business Review, 63 (4), 149-160

**Hansen, M. T.,
& Birkinshaw, J.
(2007).**

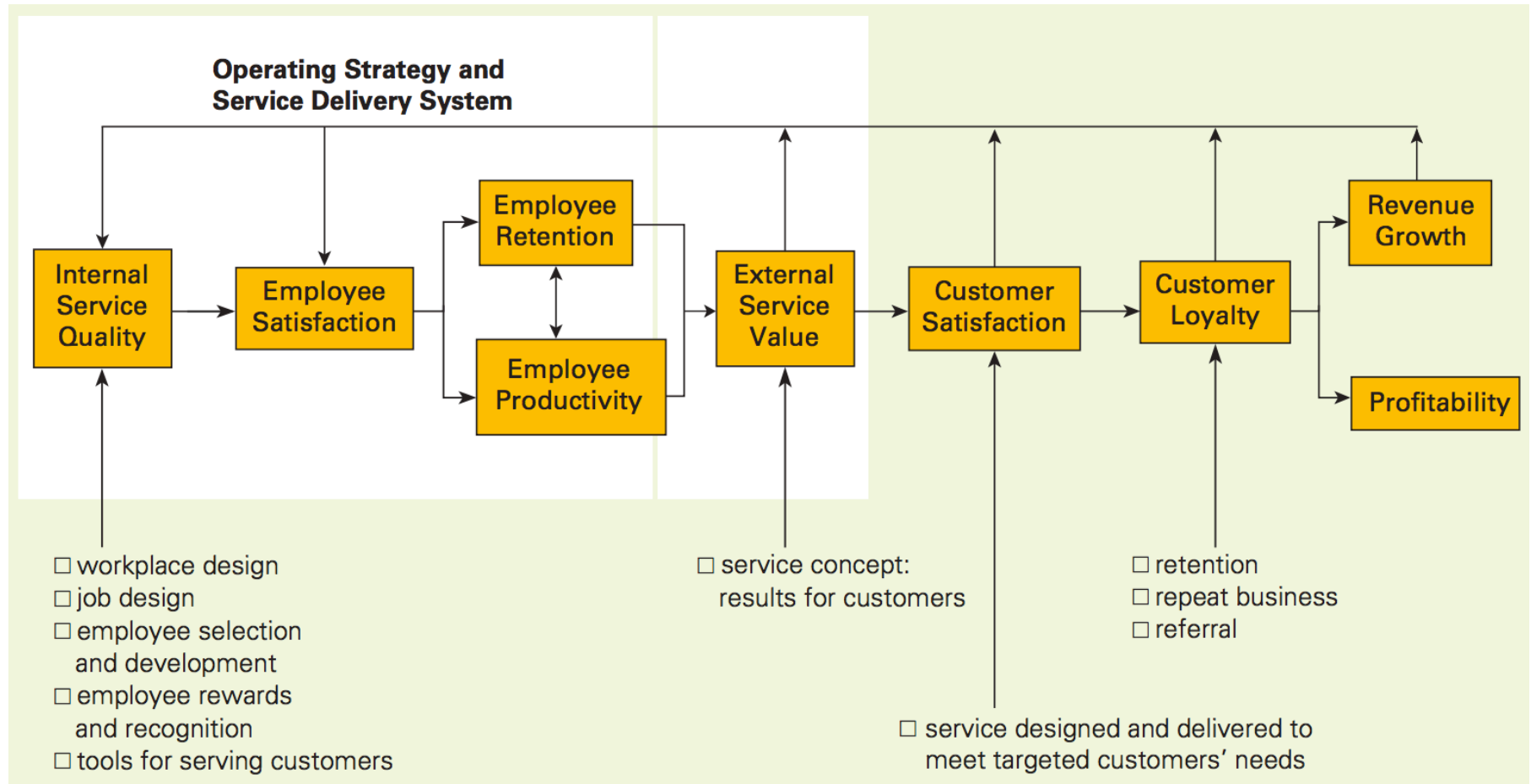
The Innovation Value Chain.

**Harvard Business Review,
85(6), 121.**

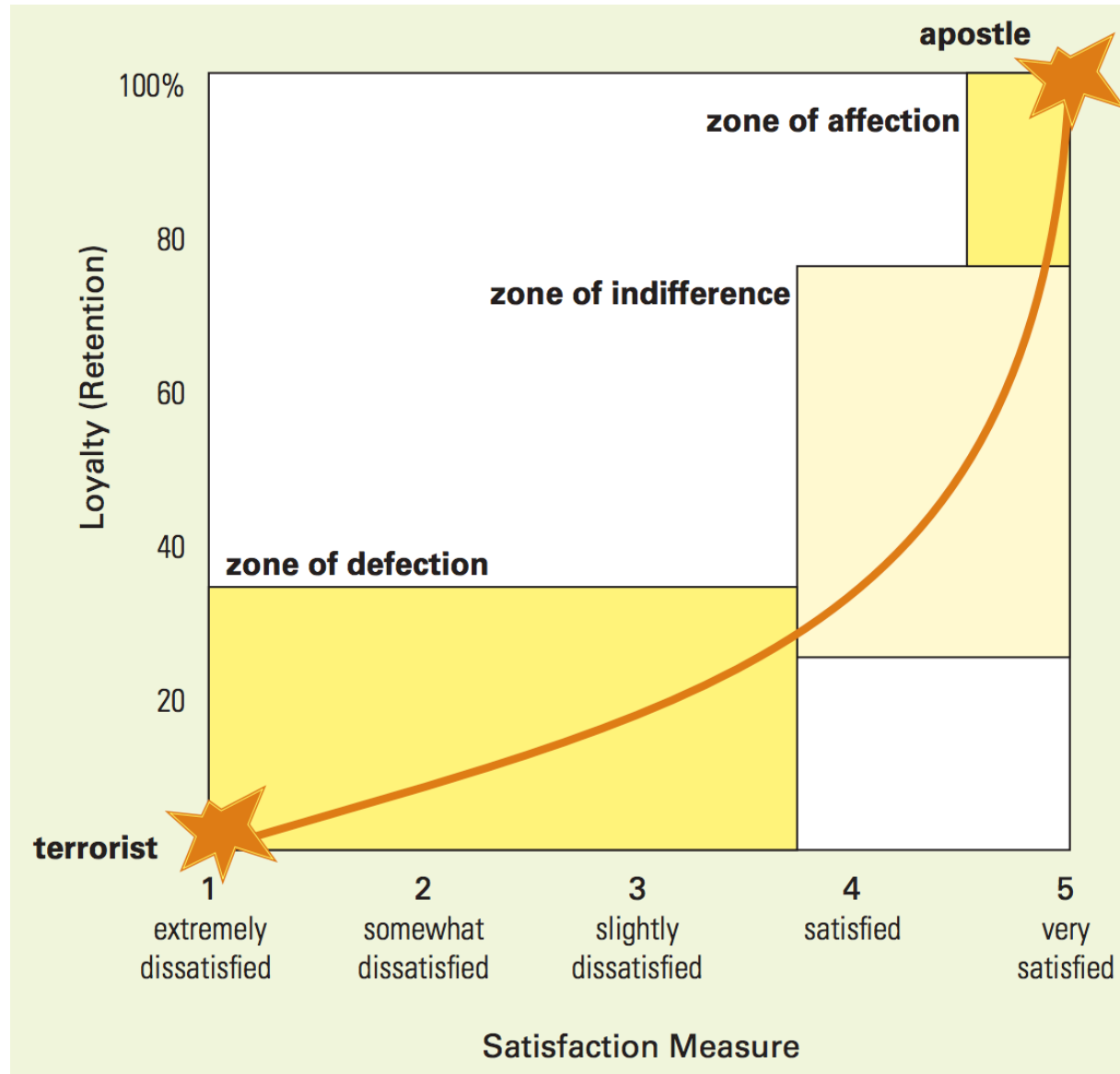
Innovation Value Chain

	IDEA GENERATION			CONVERSION		DIFFUSION
	IN-HOUSE	CROSS-POLLINATION	EXTERNAL	SELECTION	DEVELOPMENT	SPREAD
	Creation within a unit	Collaboration across units	Collaboration with parties outside the firm	Screening and initial funding	Movement from idea to first result	Dissemination across the organization
KEY QUESTIONS	Do people in our unit create good ideas on their own?	Do we create good ideas by working across the company?	Do we source enough good ideas from outside the firm?	Are we good at screening and funding new ideas?	Are we good at turning ideas into viable products, businesses, and best practices?	Are we good at diffusing developed ideas across the company?
KEY PERFORMANCE INDICATORS	Number of high-quality ideas generated within a unit.	Number of high-quality ideas generated across units.	Number of high-quality ideas generated from outside the firm.	Percentage of all ideas generated that end up being selected and funded.	Percentage of funded ideas that lead to revenues; number of months to first sale.	Percentage of penetration in desired markets, channels, customer groups; number of months to full diffusion.

The Links in the Service-Profit Chain



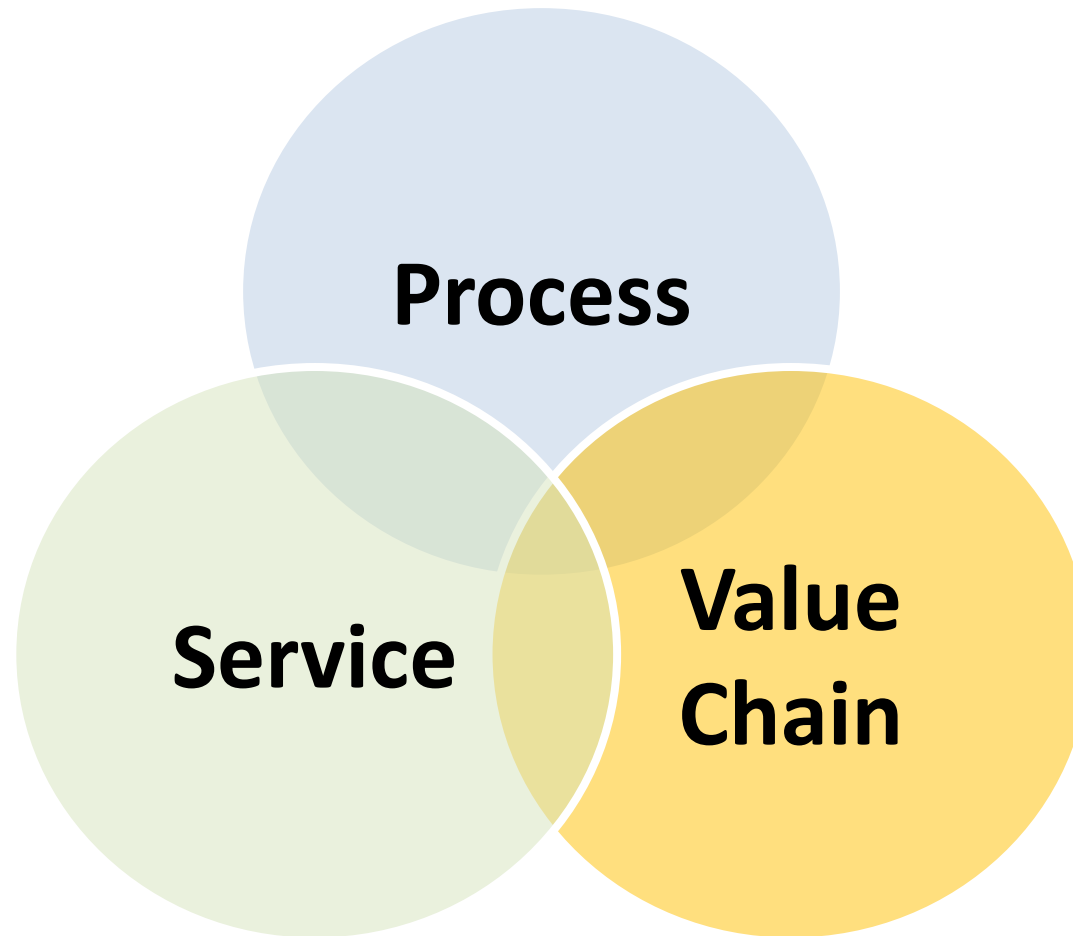
A Satisfied Customer Is Loyal



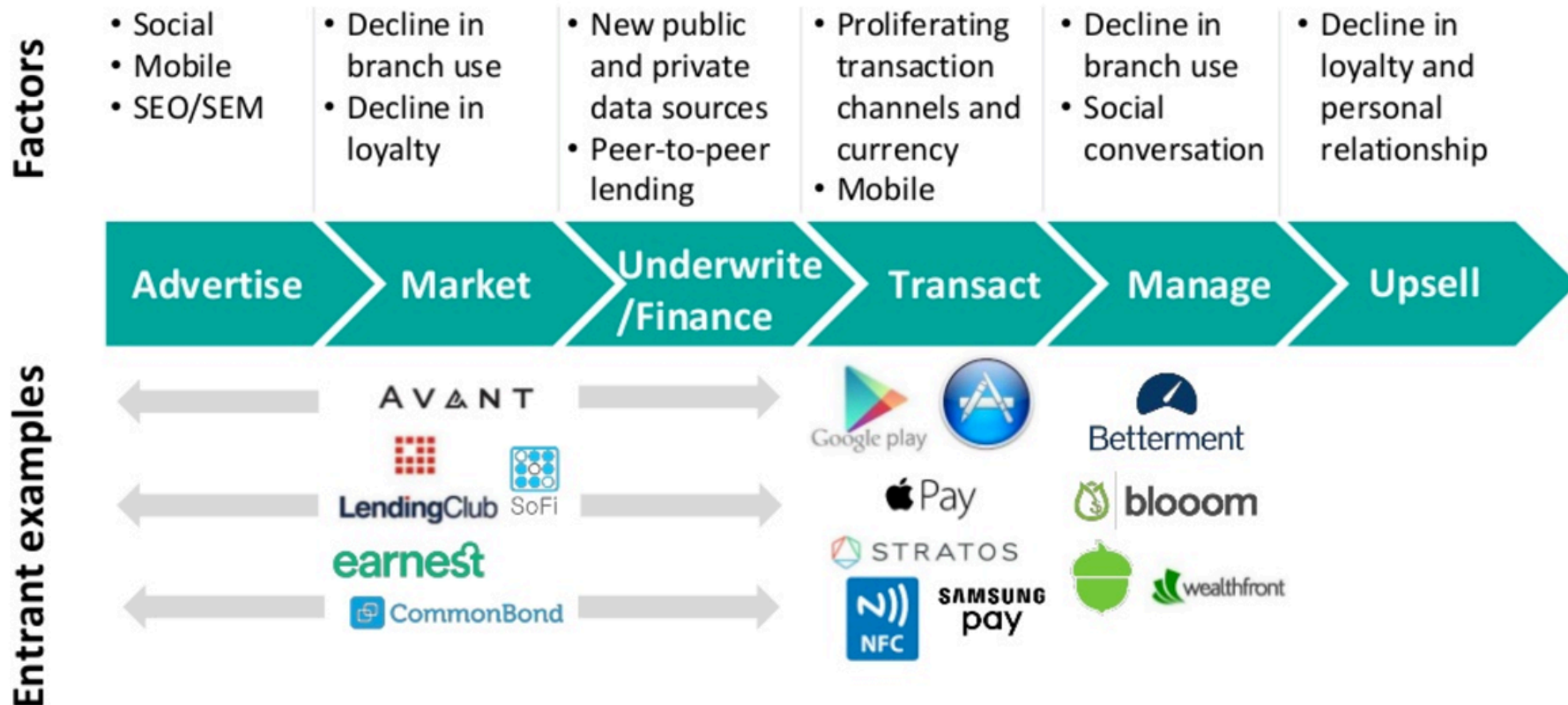
Source: Heskett, J. L., Jones, T. O., Loveman, G. W., Sasser, W. E., & Schlesinger, L. A. (2008).

Putting the service-profit chain to work. *Harvard business review*.

3D Model of Aligning Value Chain Architectures



Financial Value Chain



Online ePayment Value Chain



The Universal Banking Model

A bank's business model based on offering a full range of financing products and services



The 'Breaking Banks'

Unbundling of the universal, full service model of banks into 'bits and pieces'

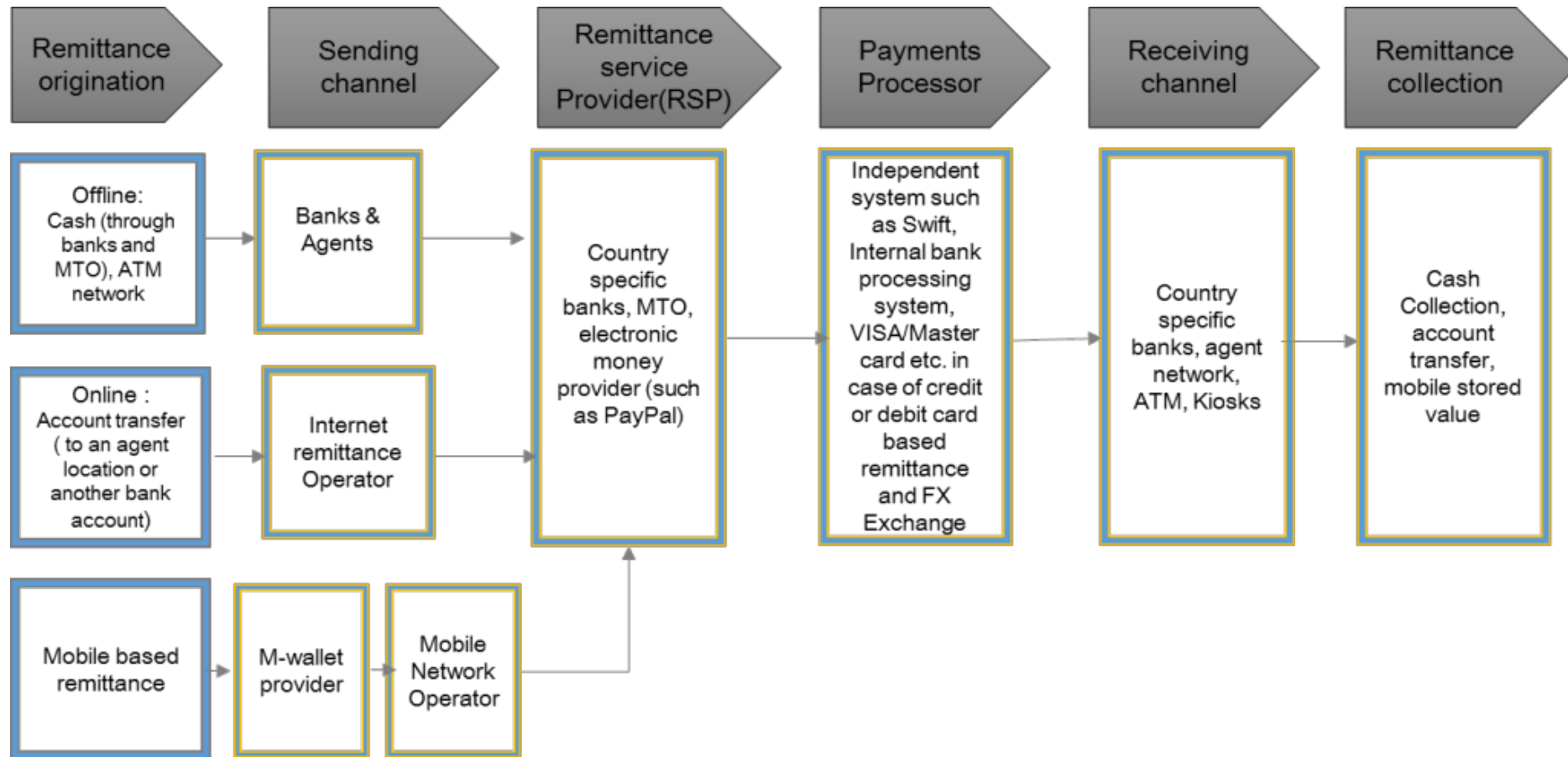


Remittance



Money Transfer

International Remittance Value Chain





SMART MONEY FINTECH EARLY-STAGE INVESTMENTS

2015-2016

REAL ESTATE INVESTING



PERSONAL FINANCE / WEALTH MANAGEMENT



ACCOUNTING / BOOKKEEPING



HEDGE FUNDS / ALTERNATIVE DATA



ALTERNATIVE LENDING



PAYMENT TECH / POS CREDIT



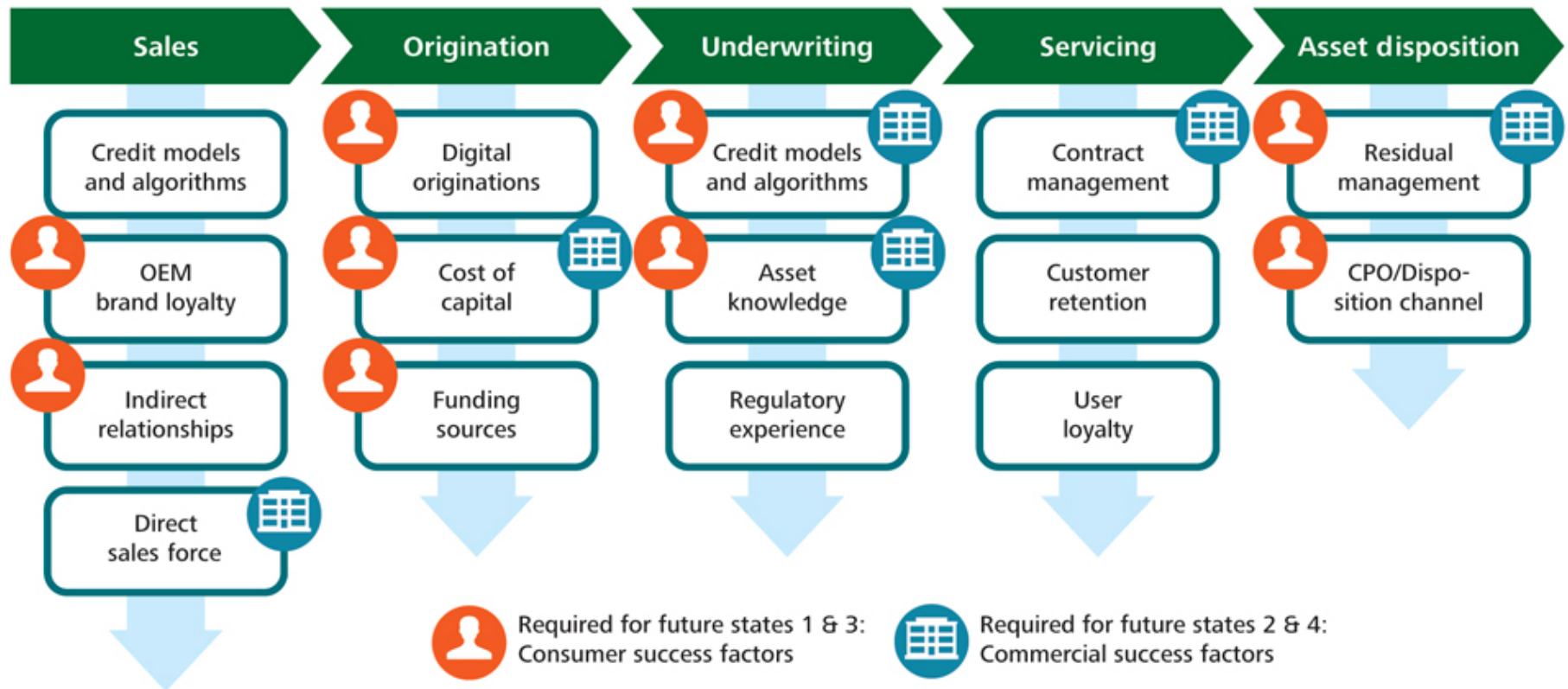
INSURANCE



BITCOIN / BLOCKCHAIN

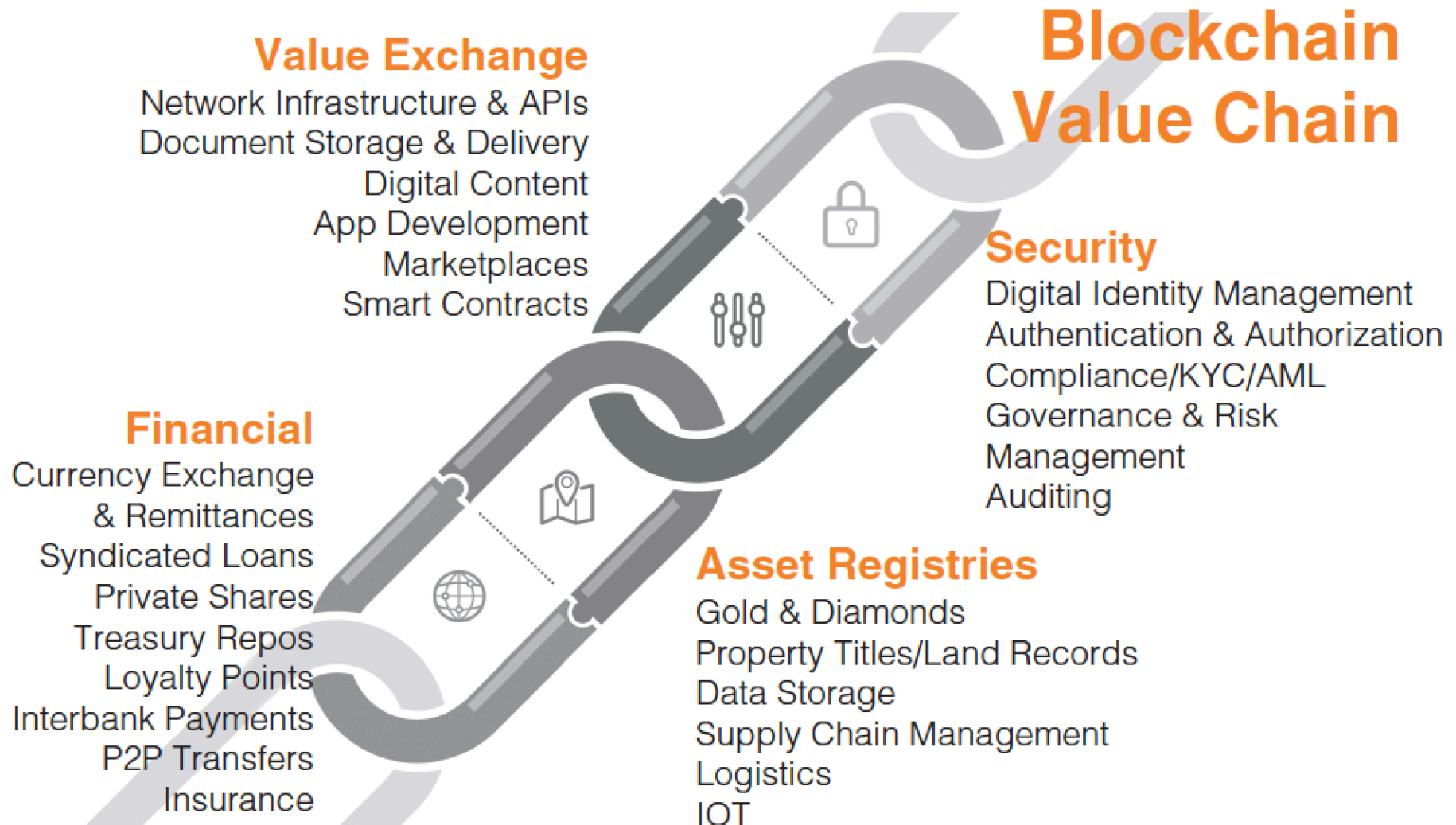


Auto Financing Value Chain



Graphic: Deloitte University Press | DUPress.com

Blockchain Value Chain

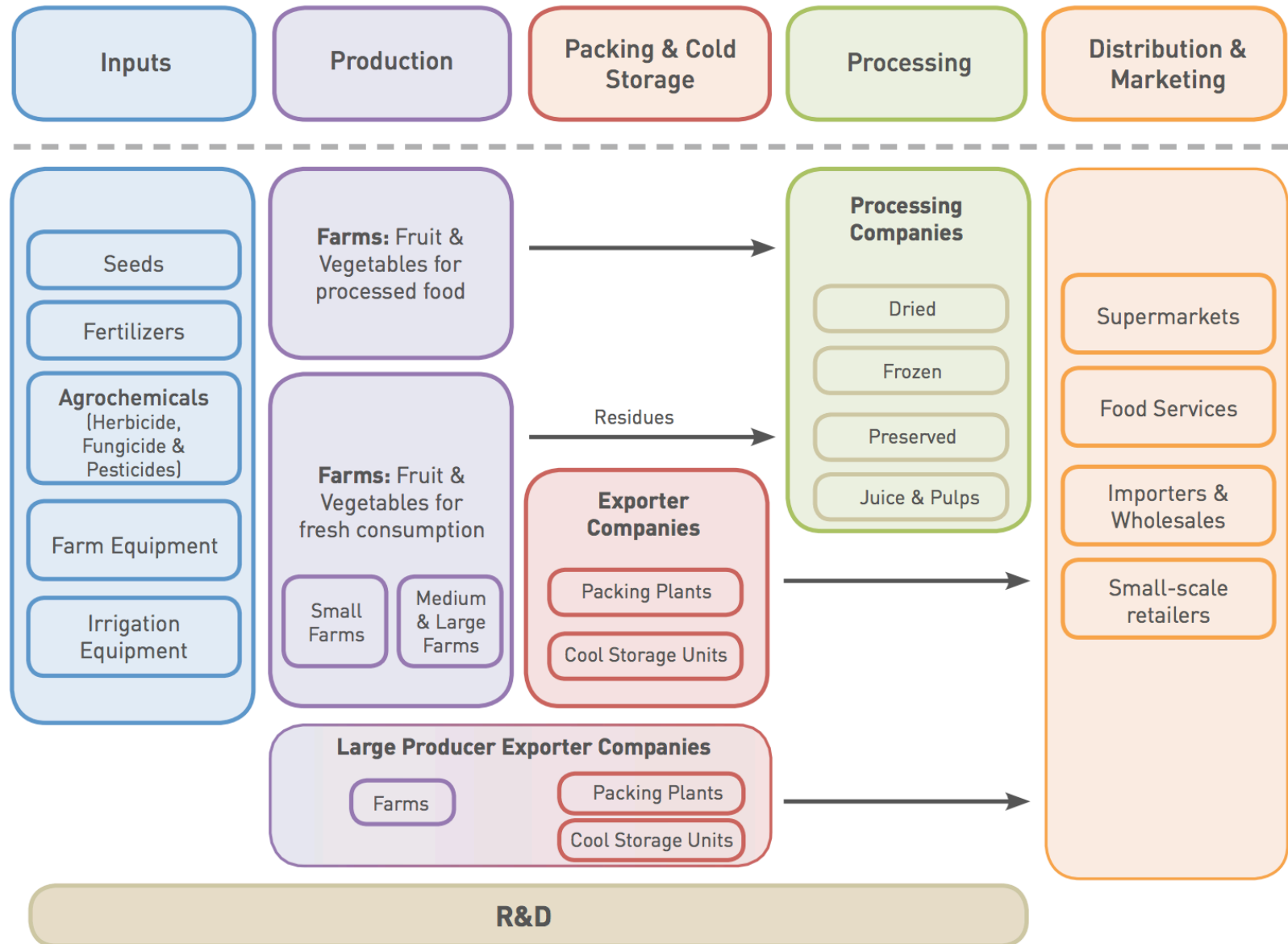


THE MARCH OF FINANCIAL SERVICES FIRMS INTO BITCOIN & BLOCKCHAIN STARTUPS

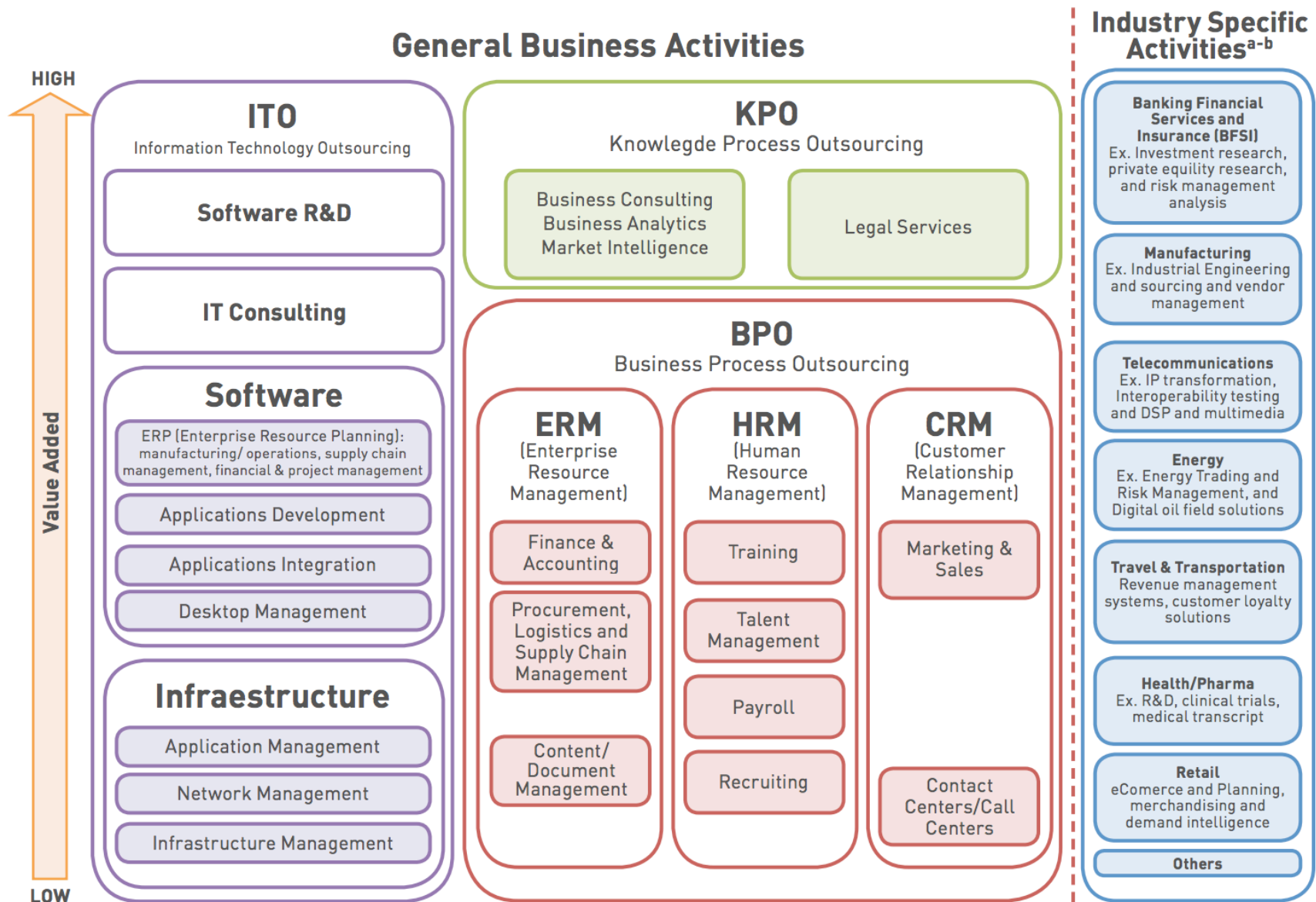
2014 - 2017 YTD (2/13/2017)



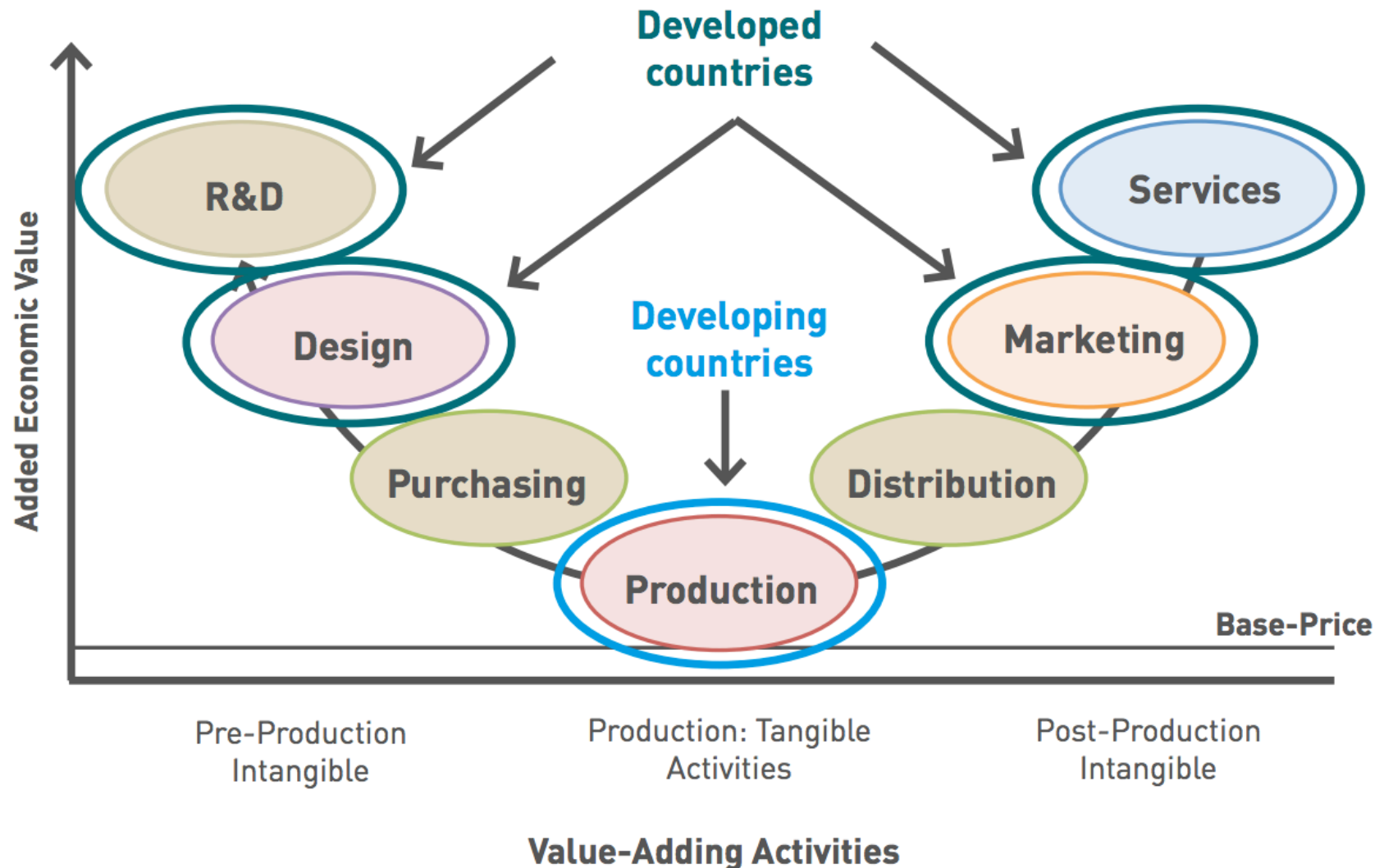
Fruit and Vegetables Global Value Chain



The Offshore Services Global Value Chain



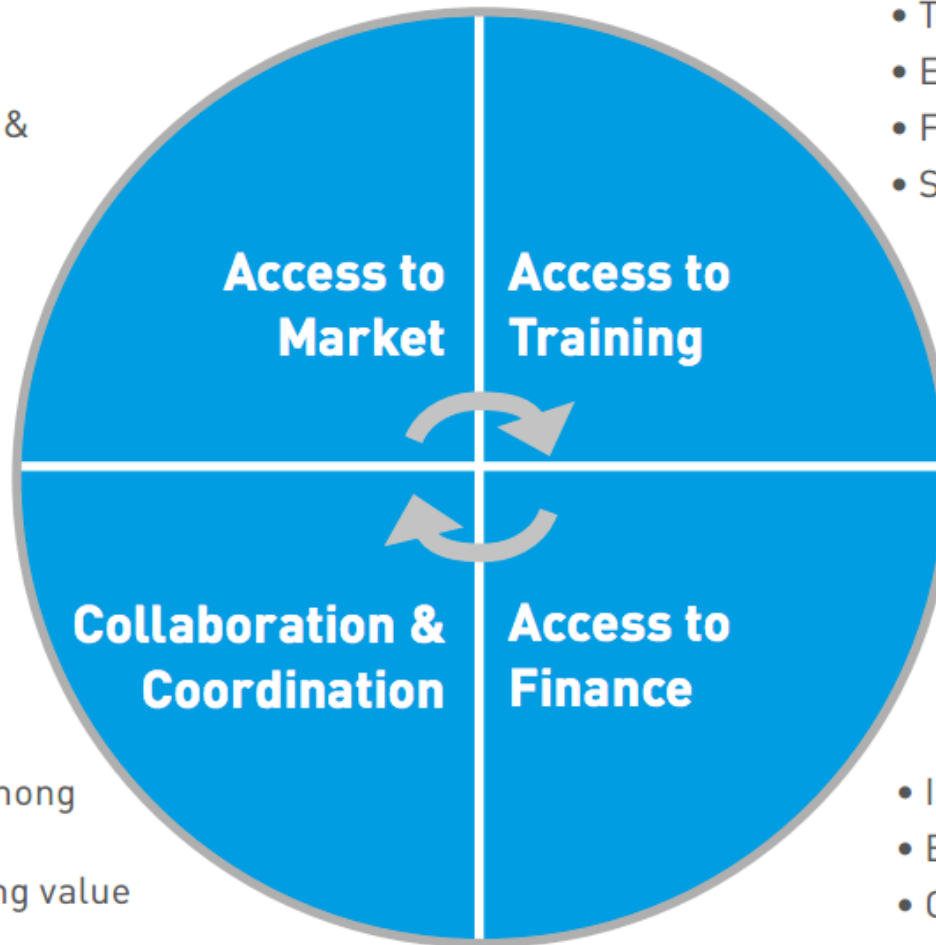
Smile Curve of High-Value Activities in Global Value Chains



Four Pillars Model for SMEs

Participation in **GVCs**

- Linkages
- Preferences
- Certifications & Standards

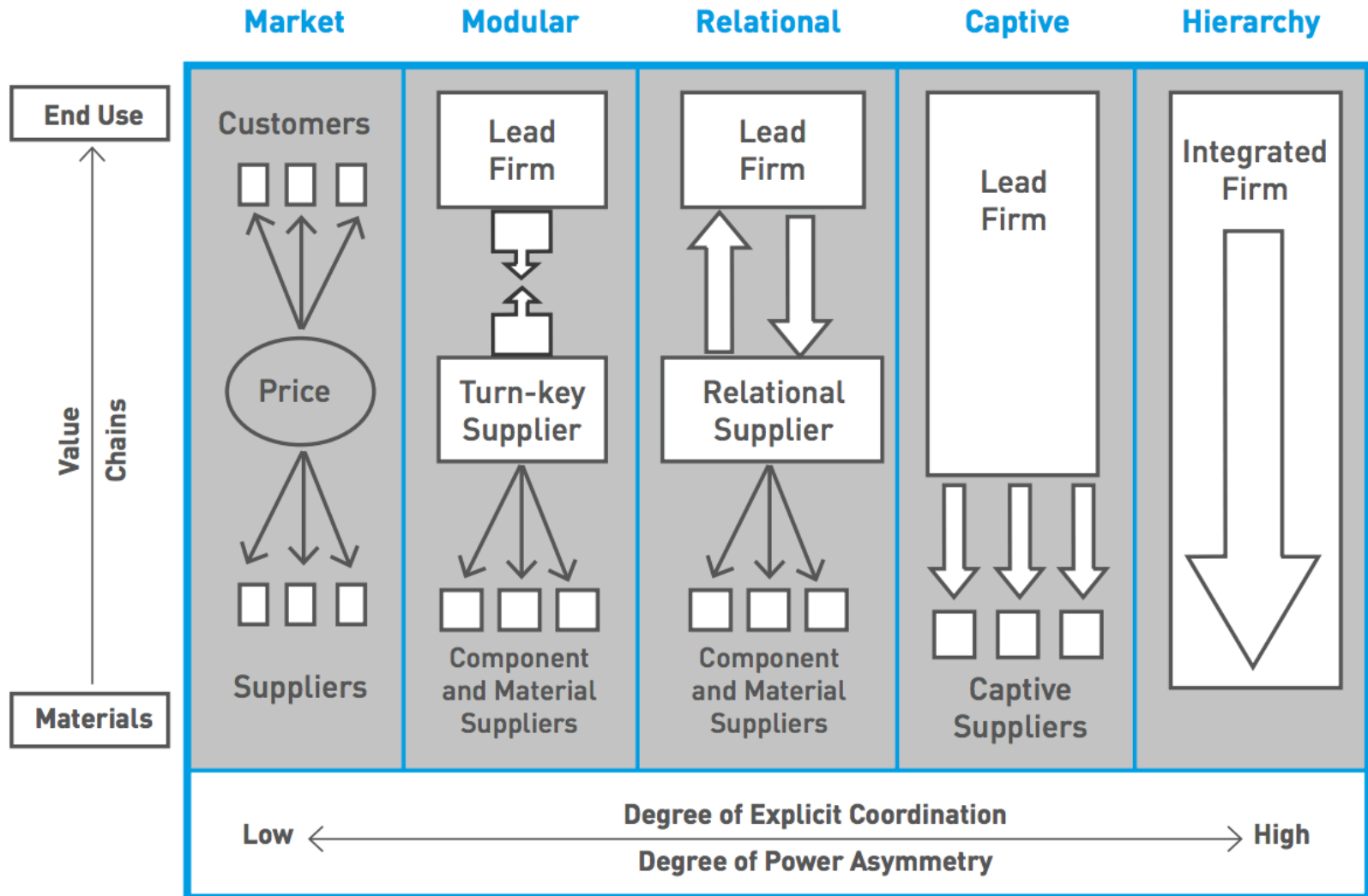


- Technical
- Entrepreneurial
- Financial literacy
- Soft skills

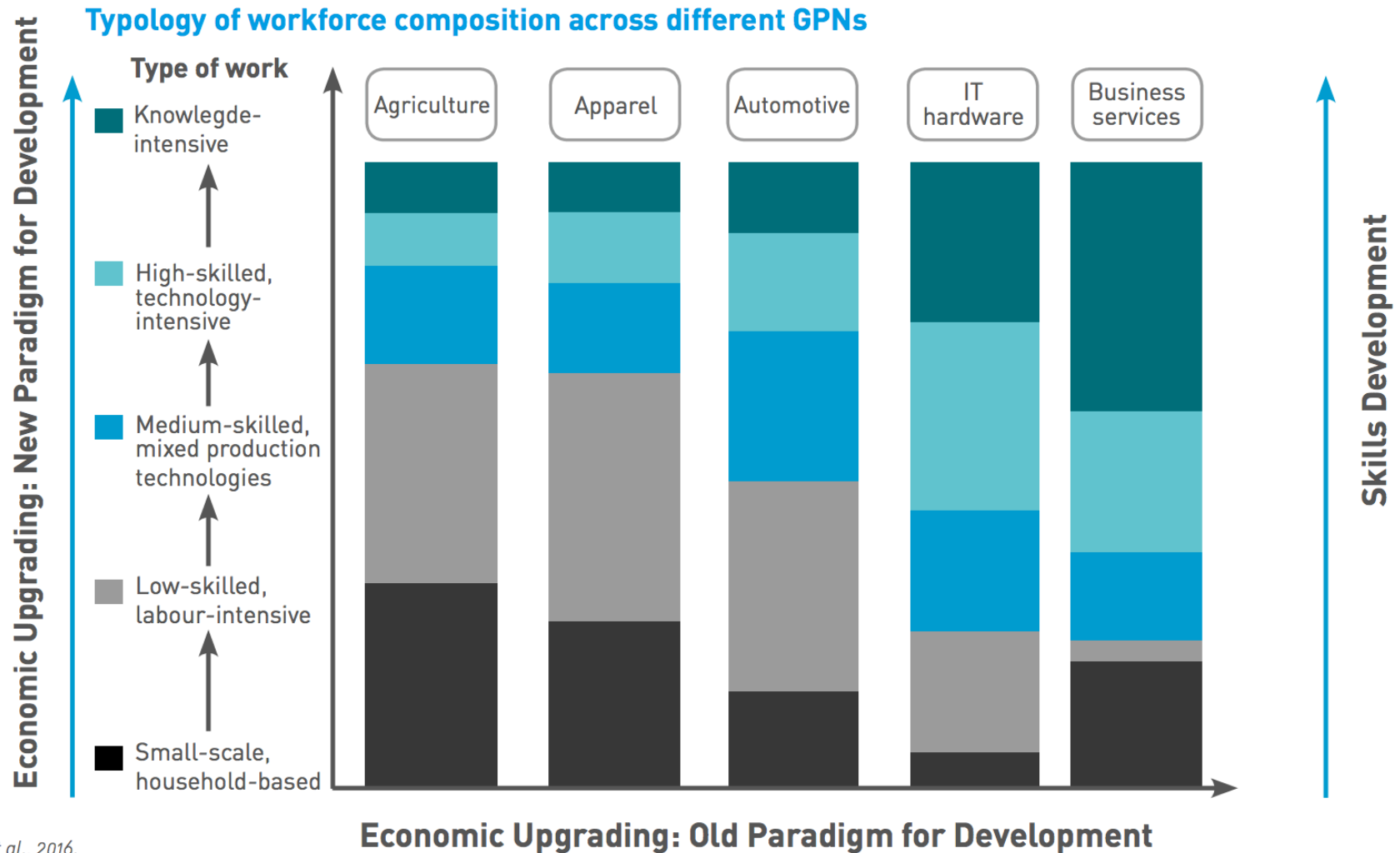
- Horizontal (among producers)
- Vertical (among value chain actors)

- Infrastructure
- Equipment
- Certifications & Standards

Five Global Value Chain Governance Types



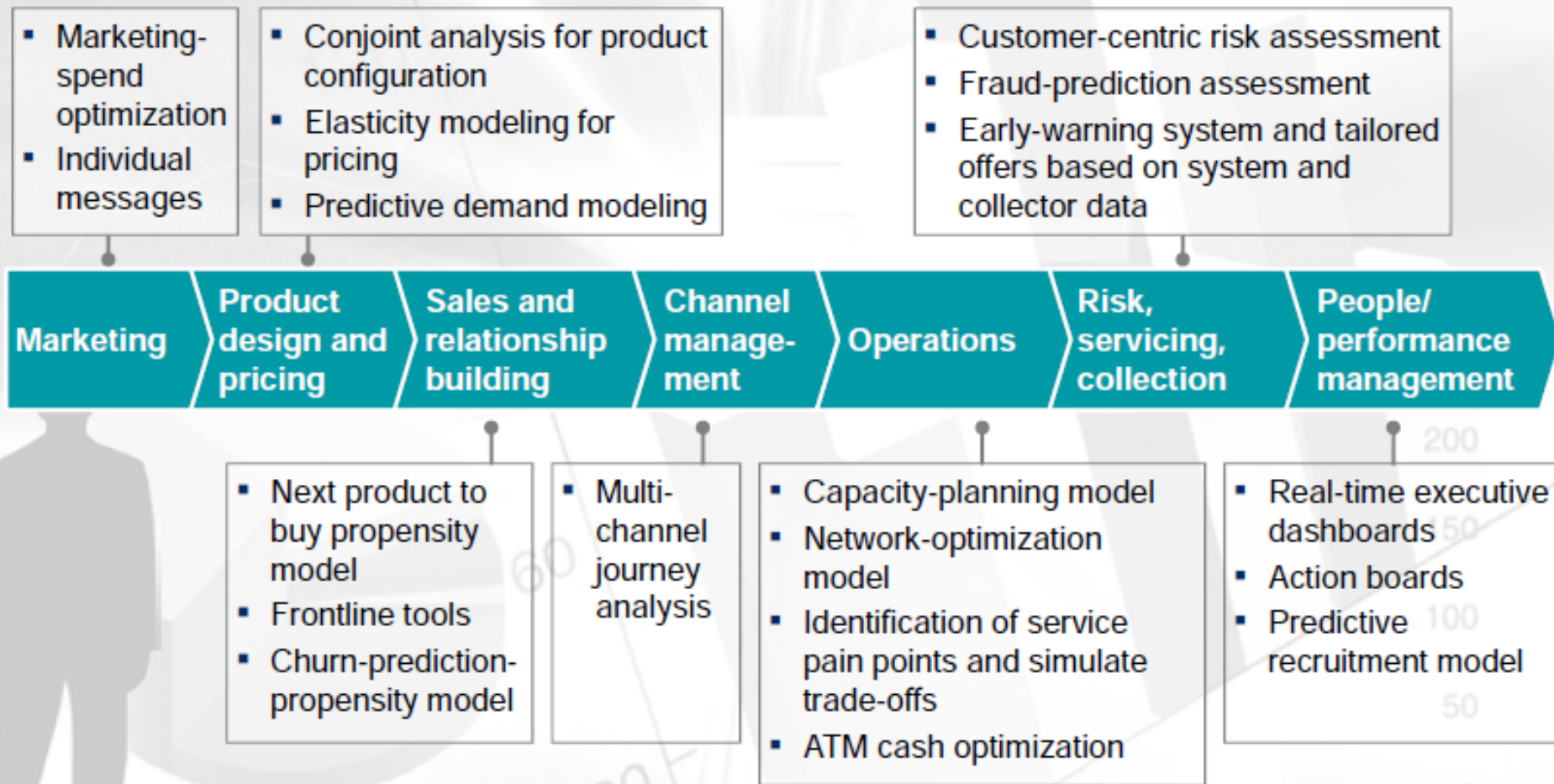
Workforce Composition Across Different Global Value Chains (GVCs)



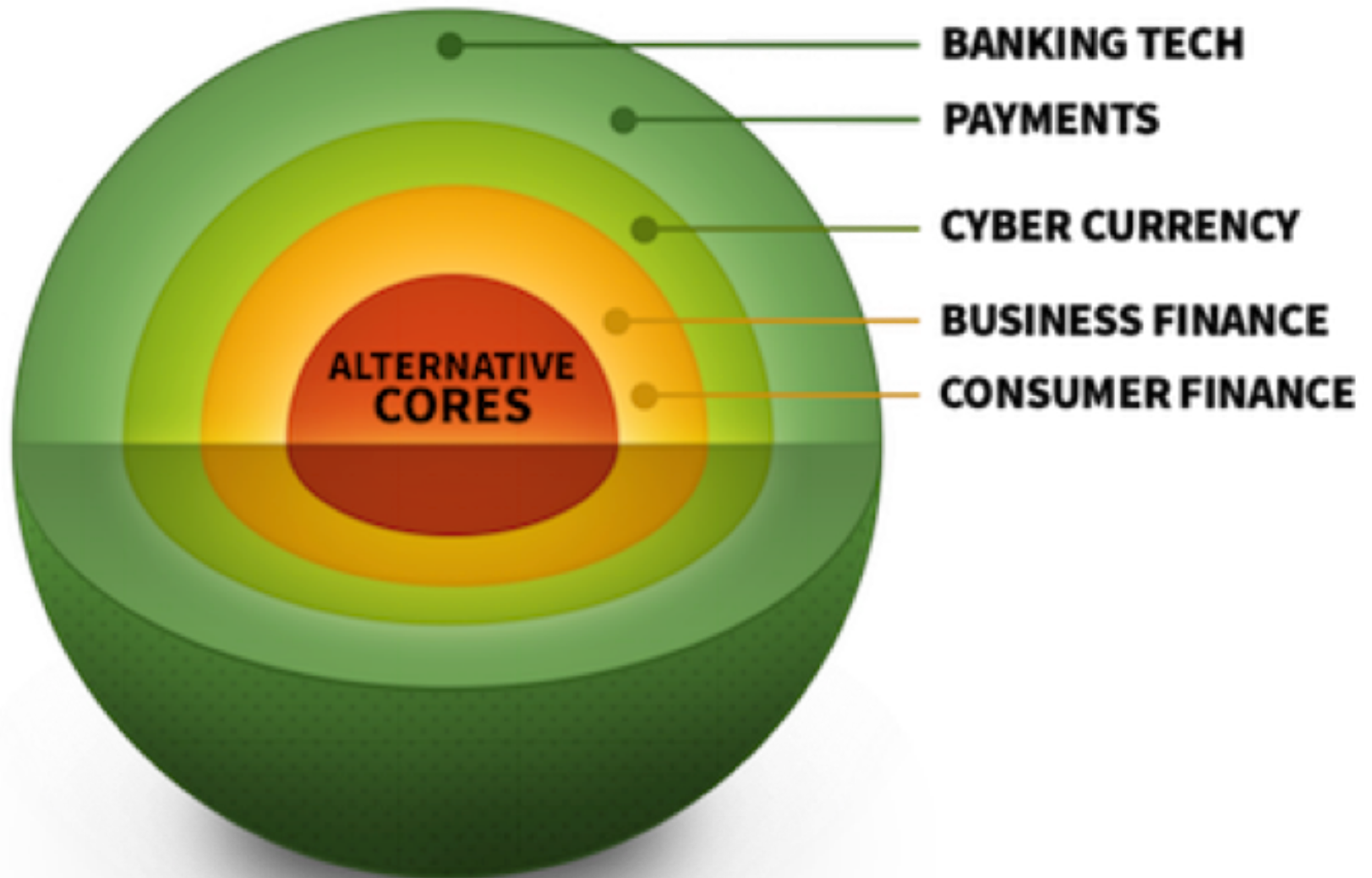
Source: Gereffi et al., 2016.

Source: Gereffi, Gary, and Karina Fernandez-Stark. "Global value chain analysis: a primer." (2016).

Data Analytics is Becoming Core to Value Creation Across the Banking Value Chain

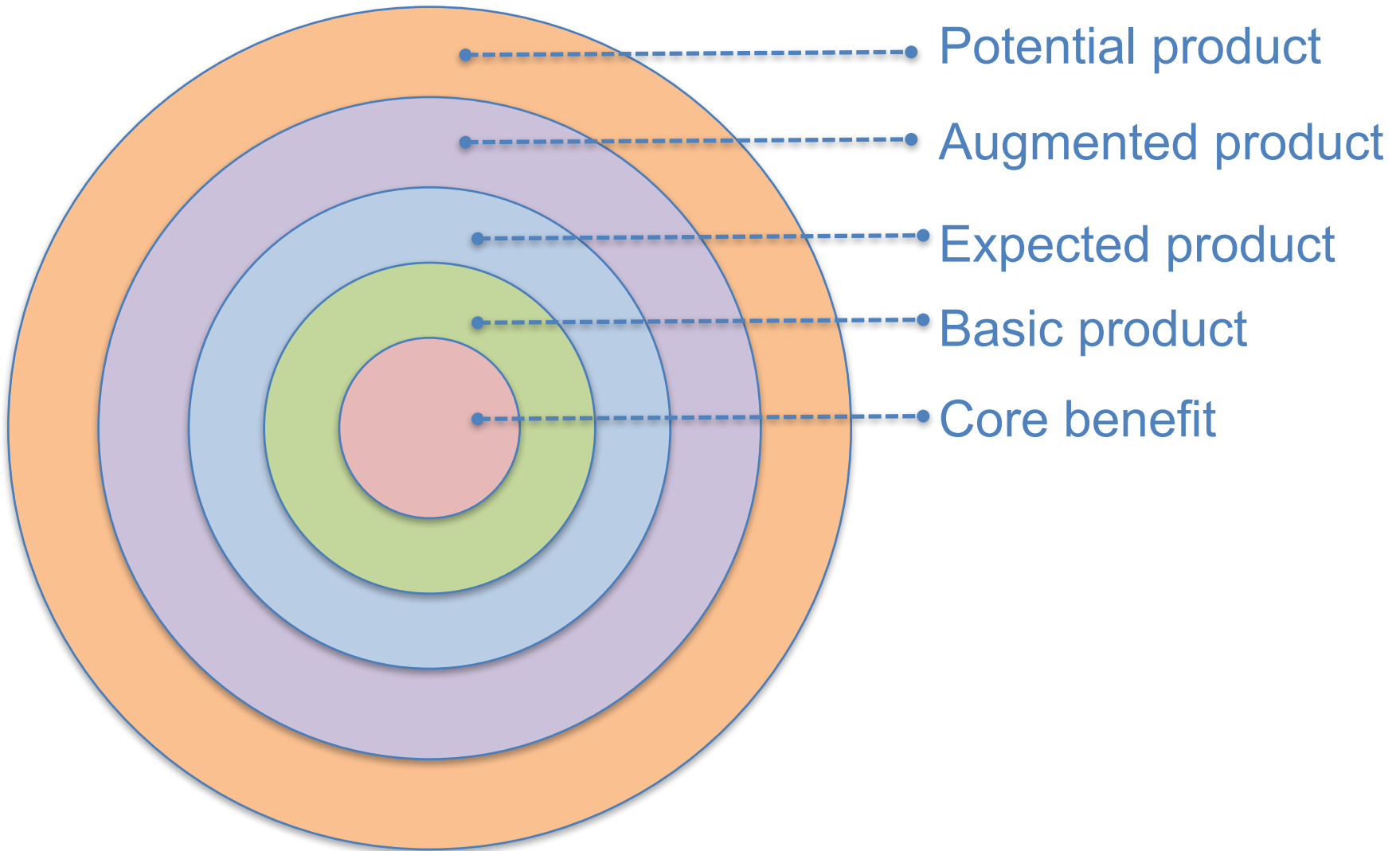


Layers of Disruption in FinTech

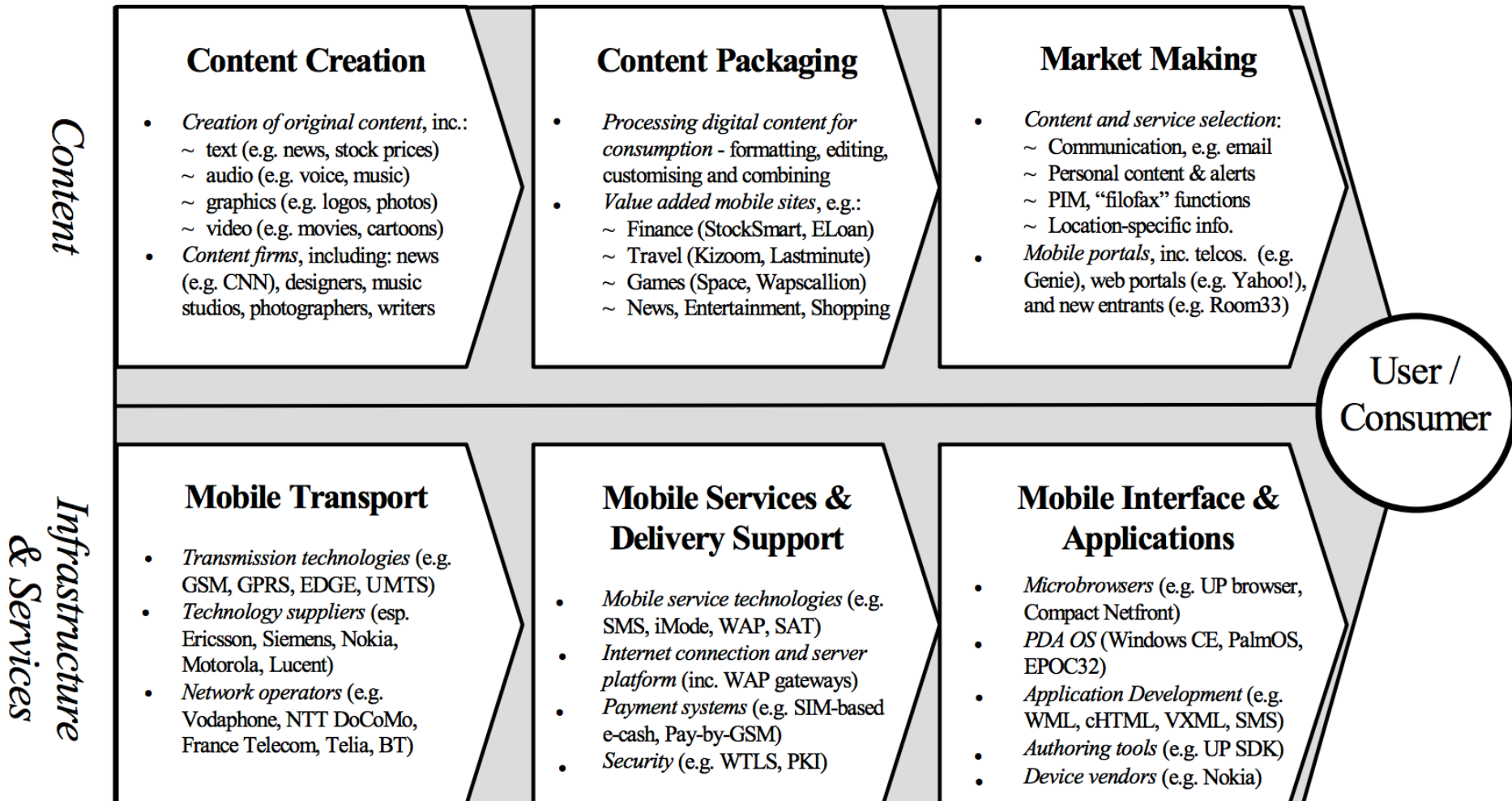


Product Levels:

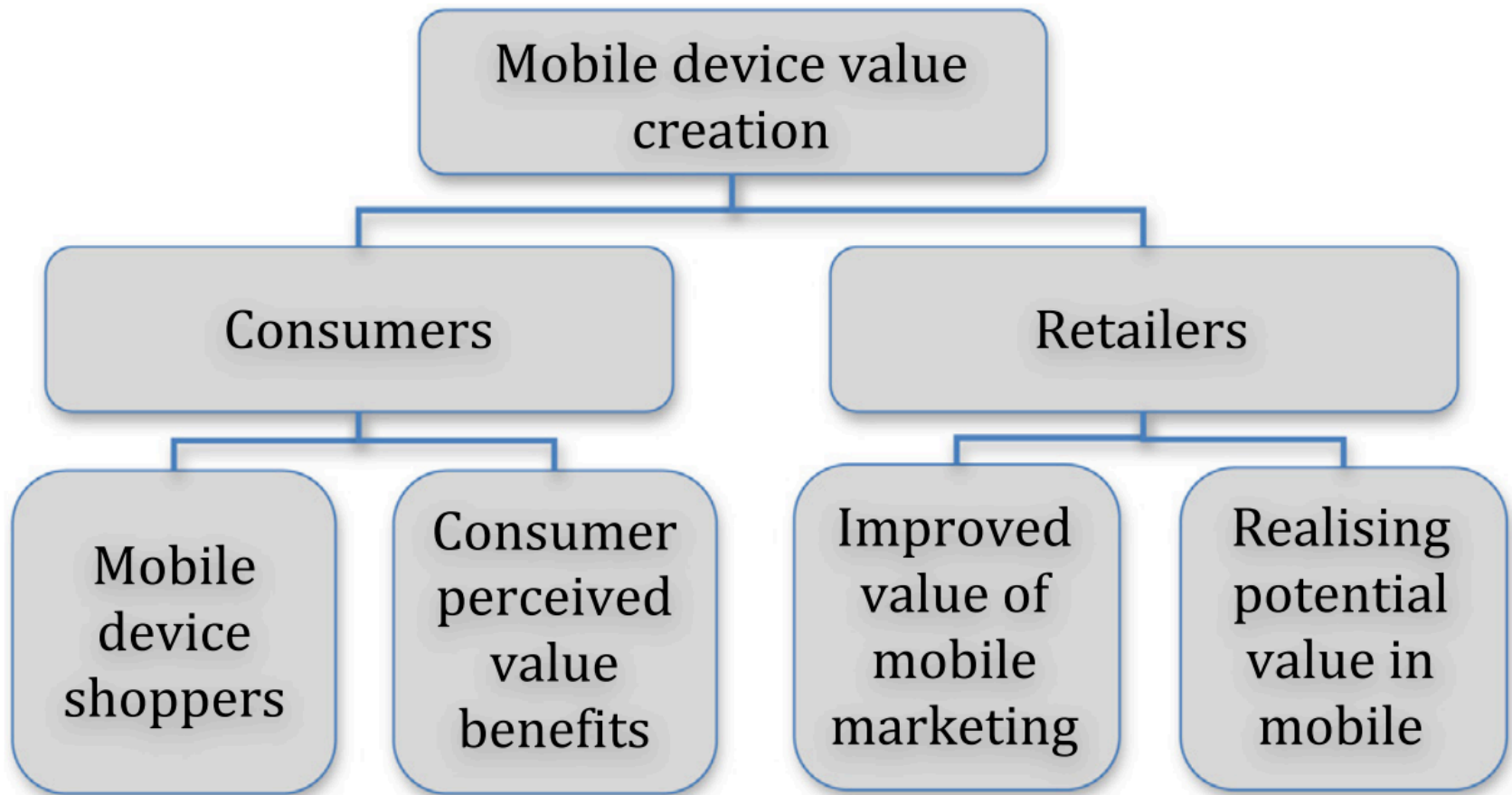
The Customer-Value Hierarchy



M-commerce Value Chain



Mobile Device Value Creation



Finance and Banking Chatbots

CHAT BOT CRAZE HITS FINANCE



Source: CB Insights Trends mining of media chatter

Financial Technology (FinTech)

THE FINTECH ECOSYSTEM

Payments & Transfers



Lending & Financing



Retail Banking



Financial Management



Insurance



Markets & Exchanges



BI INTELLIGENCE

References

- Susanne Chishti and Janos Barberis (2016), “The FINTECH Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries”, Wiley.
- Paolo Sironi (2016), “FinTech Innovation: From Robo-Advisors to Goal Based Investing and Gamification”, Wiley.
- Source: Porter, M. E., & Millar, V. E. (1985). How information gives you competitive advantage, Harvard Business Review, 63 (4), 149-160
- Hansen, M. T., & Birkinshaw, J. (2007). The innovation value chain. Harvard business review, 85(6), 121.
- Heskett, J. L., Jones, T. O., Loveman, G. W., Sasser, W. E., & Schlesinger, L. A. (2008). Putting the Service-Profit Chain to Work. Harvard Business Review.
- Philip Kotler & Kevin Lane Keller (2012), Marketing Management, 14th ed., Pearson.