



# Utilities in a Time of Change & Challenge Conference

The Economic Consequences of New Models

November 18, 2015

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# Economic Consequences of New Models

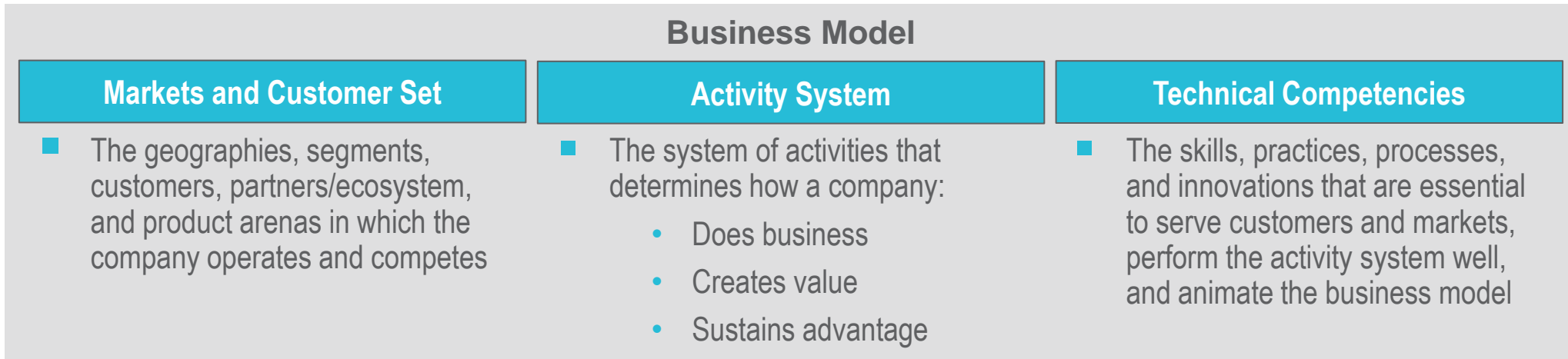
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- What Drives Our Current Model?
- So...What Could Be Changing?
- What Are Some Future Potential Models?
- What's at Stake?
- How Might Financial Markets React?
- What Does Good Look Like?
- How Do We Get from Here to There?
- Closing Thought

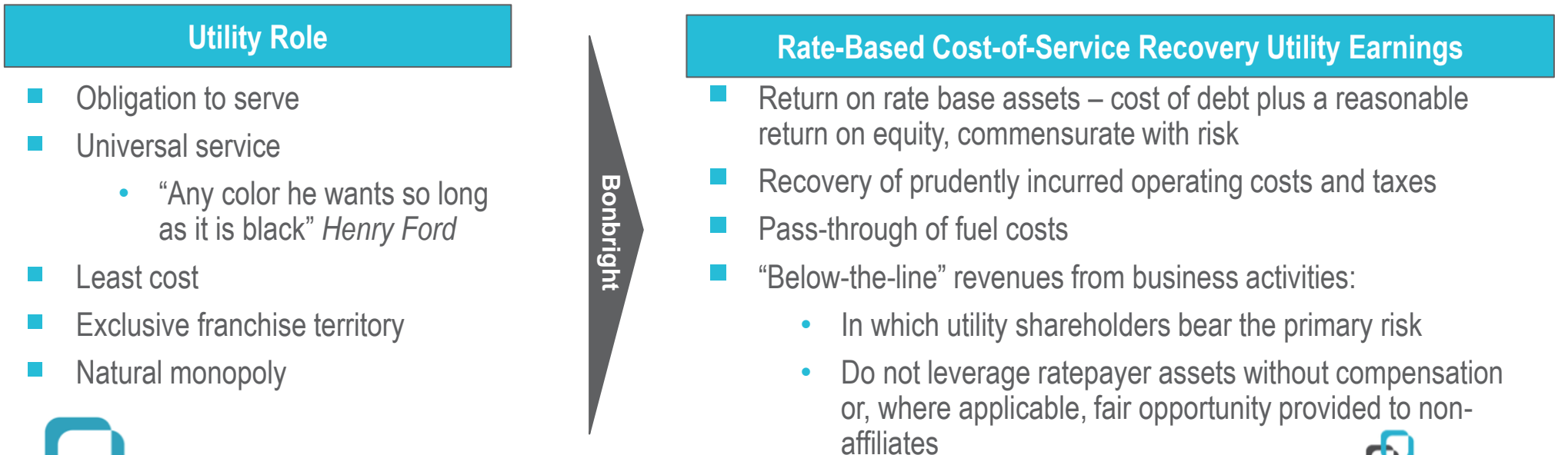


# What Drives Our Current Model?

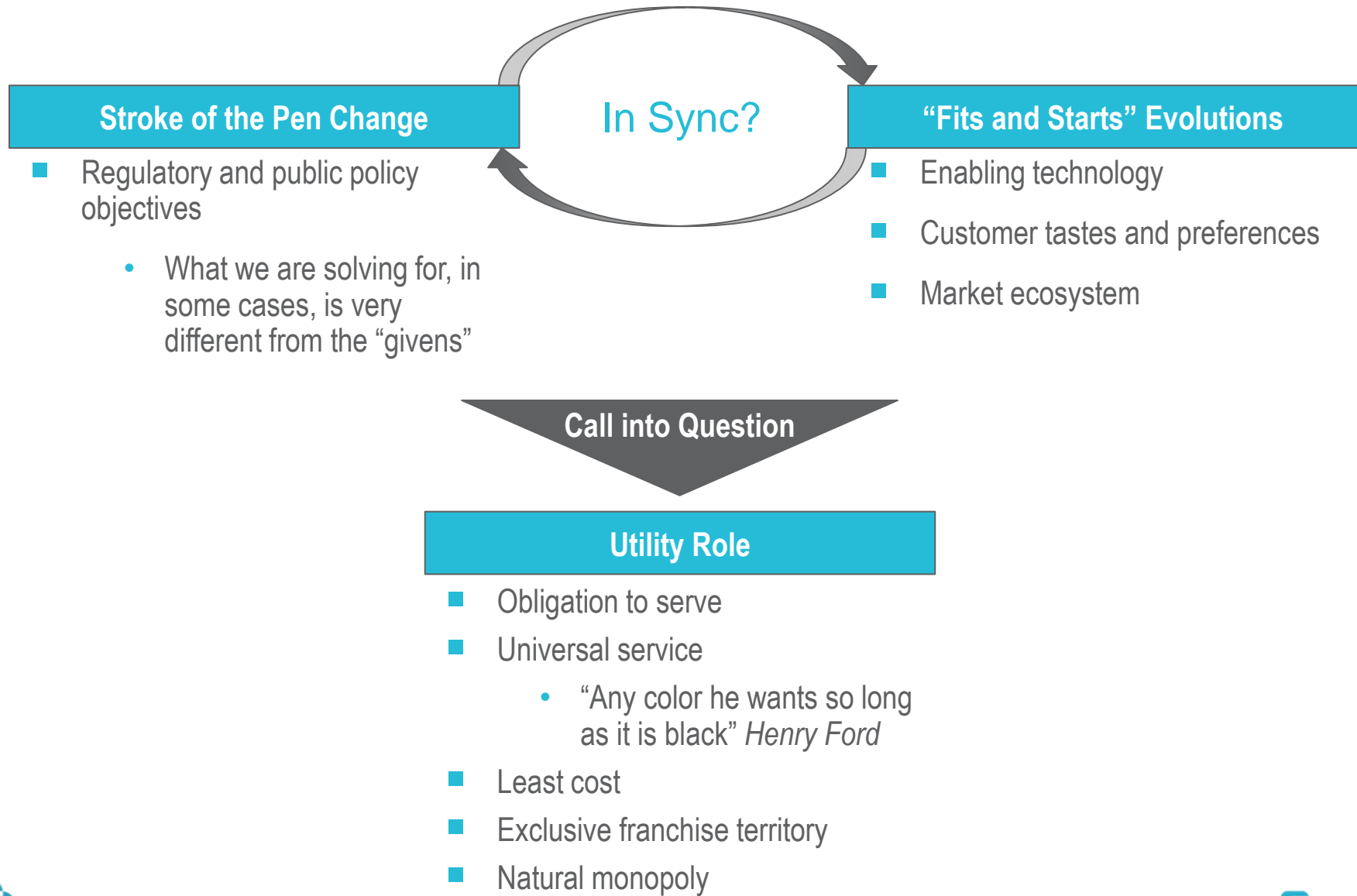
So, what's a model?



What “givens” drive the current model?



# So...What Could Be Changing?



# What Are Some Future Potential Models?

State/Initiative	Key Features	Distinguishing Characteristics
New York Reforming the Energy Vision (REV)	<ul style="list-style-type: none"> <li>■ Reinvention of utility role – distribution system platform providers</li> <li>■ “Animate” market forces – many providers expected</li> <li>■ Large-scale plans for efficiency, distributed system (investment)</li> <li>■ Utility revenue opportunities through platform services, but <u>not</u> Distributed Energy Resource (DER) ownership</li> </ul>	<ul style="list-style-type: none"> <li>■ PUC-driven market construct – a D-level “RTO” with opportunities and constraints for utility offerings</li> <li>■ Significant re-design of rates and regulatory approach                             <ul style="list-style-type: none"> <li>• Market-based earnings (MBE)</li> <li>• Earnings incentive mechanisms (EIM)</li> <li>• Rate-base earnings</li> </ul> </li> </ul>
California Distribution Resource Plans (DRPs)	<ul style="list-style-type: none"> <li>■ Assessment of utility system ability to accommodate DERs</li> <li>■ Required utility investments in distribution automation, grid reinforcement, and technology platforms</li> <li>■ Demonstration and deployment projects</li> <li>■ <u>Not currently</u> creating a distribution-level market</li> </ul>	<ul style="list-style-type: none"> <li>■ Investments/recoveries within rate case construct</li> <li>■ Leveraging CAISO for DER aggregation and bidding</li> <li>■ Phased rollout of project, DRP updates</li> <li>■ Coordination among other proceedings – long-term procurement, transmission planning, etc.</li> </ul>
Minnesota E21	<ul style="list-style-type: none"> <li>■ Re-examining traditional rate-base rate-of-return model to:                             <ul style="list-style-type: none"> <li>• Allow customers more options for energy sources and timing</li> <li>• Move from kWh sales-based, rate-based asset model</li> </ul> </li> <li>■ Proposed framework includes:                             <ul style="list-style-type: none"> <li>• Performance-based ratemaking</li> <li>• Customer option and rate design reforms</li> <li>• Planning reforms</li> <li>• Regulatory process reforms</li> </ul> </li> <li>■ Utilities submit business plans; integrated resource analyses instead of rate cases</li> </ul>	<ul style="list-style-type: none"> <li>■ Multi-stakeholder collaborative <u>invited</u> by incumbent utility</li> <li>■ Performance-based, forward-looking approach to rate making and incentives focused on societal objectives vs. current cost-by-cost accounting to determine whether paying right amount</li> </ul>
Hawaii Distributed Solar	<ul style="list-style-type: none"> <li>■ RPS targeting 100% renewables by 2045, phased in with 30% by 2020</li> <li>■ With significant penetration of distributed solar, PUC has ordered net metered “grid-supply tariff” be reduced from more than 30¢/kWh to a range of 15¢ to 27¢/kWh for new residential solar customers</li> <li>■ Docketed PUC proceeding to study costs/benefits of distributed solar</li> <li>■ Exploring storage</li> </ul>	<ul style="list-style-type: none"> <li>■ Regulator is less deferential to the utility proposals (compare to Kauai Island Utility cooperative 12-MW solar farm)</li> </ul>

# What Are Some Future Potential Models? (Cont'd)

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## U.K. RIIO

- Revenue = Incentives + Innovation + Outputs
  - Price controls: allowed revenue over multi-year period (eight-year period, reviewed at mid-point)
  - ED-1 (electric distribution) recently instituted (Apr. 2015) for 2015–23 period
  - Distribution costs = about 16% of electricity bill
  - Totex (vs. capex or opex bias) – indifferent once revenues set
- Distribution network operators
  - No integrated utilities
  - Filed business plans with annual reporting obligations
  - Regulated on outputs, not inputs, with emphasis on societal goals (e.g., customer satisfaction, low carbon alternatives, “worst-served customer”)



# What's at Stake?

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## Up State of the World

## Down State of the World

### Stable, Relatively Certain Cash Flows

- Allows for frank discussion and justification of utility investments to accommodate new resources and demand drivers (including efficiency, DER)

- Insufficient returns to debt or equity to encourage sufficient asset investment

### Asset Value

- Enhanced capability to provide energy services, extending existing platform
- Opportunity for investment in upgraded technology, enhancing existing platform

- Potential stranded costs for distribution assets; perhaps for existing generation
- Less asset-dependent business returns without a compensating mechanism?

### Growth Opportunities

- Platform revenues (data services, etc.)
- “Below-the-line” products and services (ESCO; renewables; DG) aggregation and development

- Non-utilities dominate with utility prohibited from providing non-regulated services (or the most valuable services)
- Traditional utility service value marginalized: negative growth

### Position on Risk/Return Frontier

- MBE, Performance Base Rates (PBR), or other new earnings streams

- Riskier business model, but no allowed ROE risk premium or other means to compensate



# How Might Financial Markets React?

- Changing investor expectations
  - Long have moved from “widows and orphans,” but still perceived as relatively low risk
  - Lack of clarity on returns on equity as “Utility 2.0” proceedings are in play

## S&P

- Utility operates in regulatory climate that is transparent, predictable, and consistent
- Incentives in regulatory scheme are contained and symmetrical
- Utility can fully and timely recover all fixed and variable operating costs, investments, and capital costs (including a reasonable return on assets)
- Tariff includes mechanisms for timely recovery of volatile or unexpected operating and capital costs

## Moody’s

Criterion	Weighting
Regulatory environment and asset ownership model	40%
Scale and complexity of capital program	10%
Financial policy (leverage commitment to credit quality)	10%
Leverage and coverage (tradition interest and free cash flow ratios)	40%

## Regulatory Environment and Asset Ownership Model

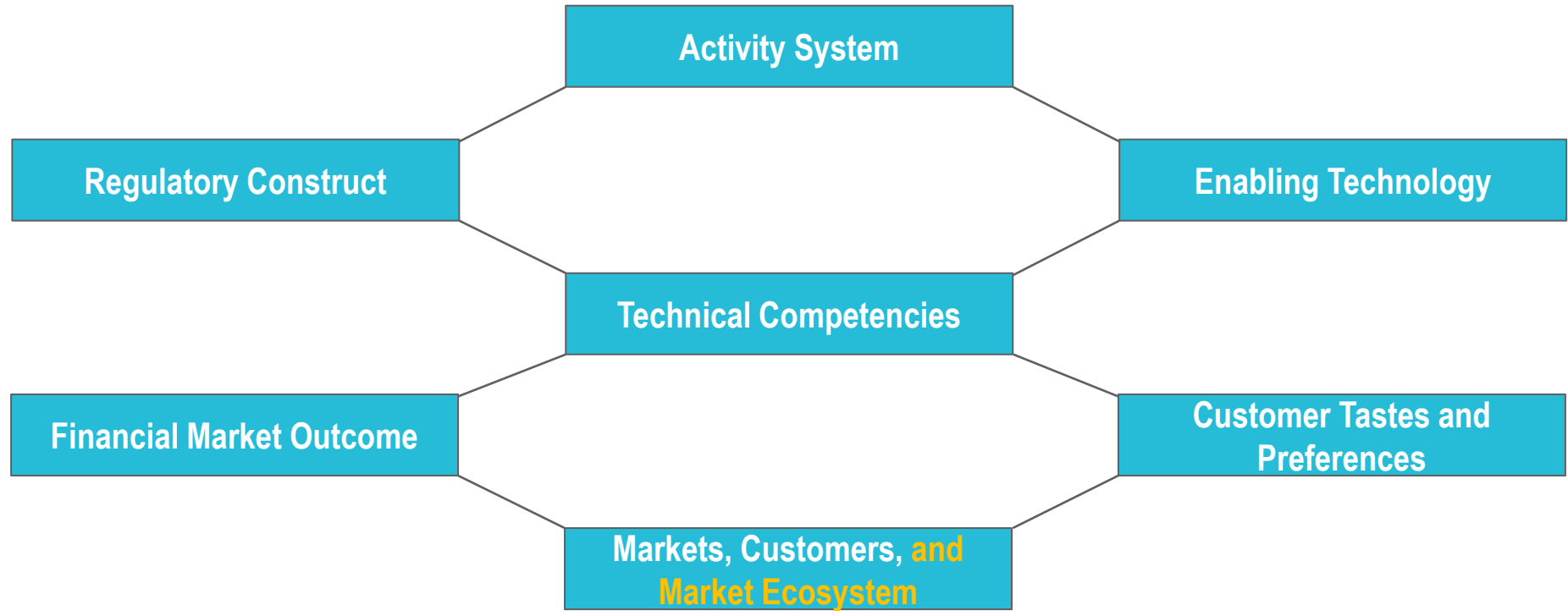
Sub-Factors	Sub-Factor Weighting
Stability and predictability of regulatory regime	15%
Asset ownership model	5%
Cost and investment recovery (ability and timeliness)	15%
Revenue risk	5%

Investors’ and credit agencies’ criteria may need adjustment to account for potentially changing business and regulatory models; awaiting further clarity.





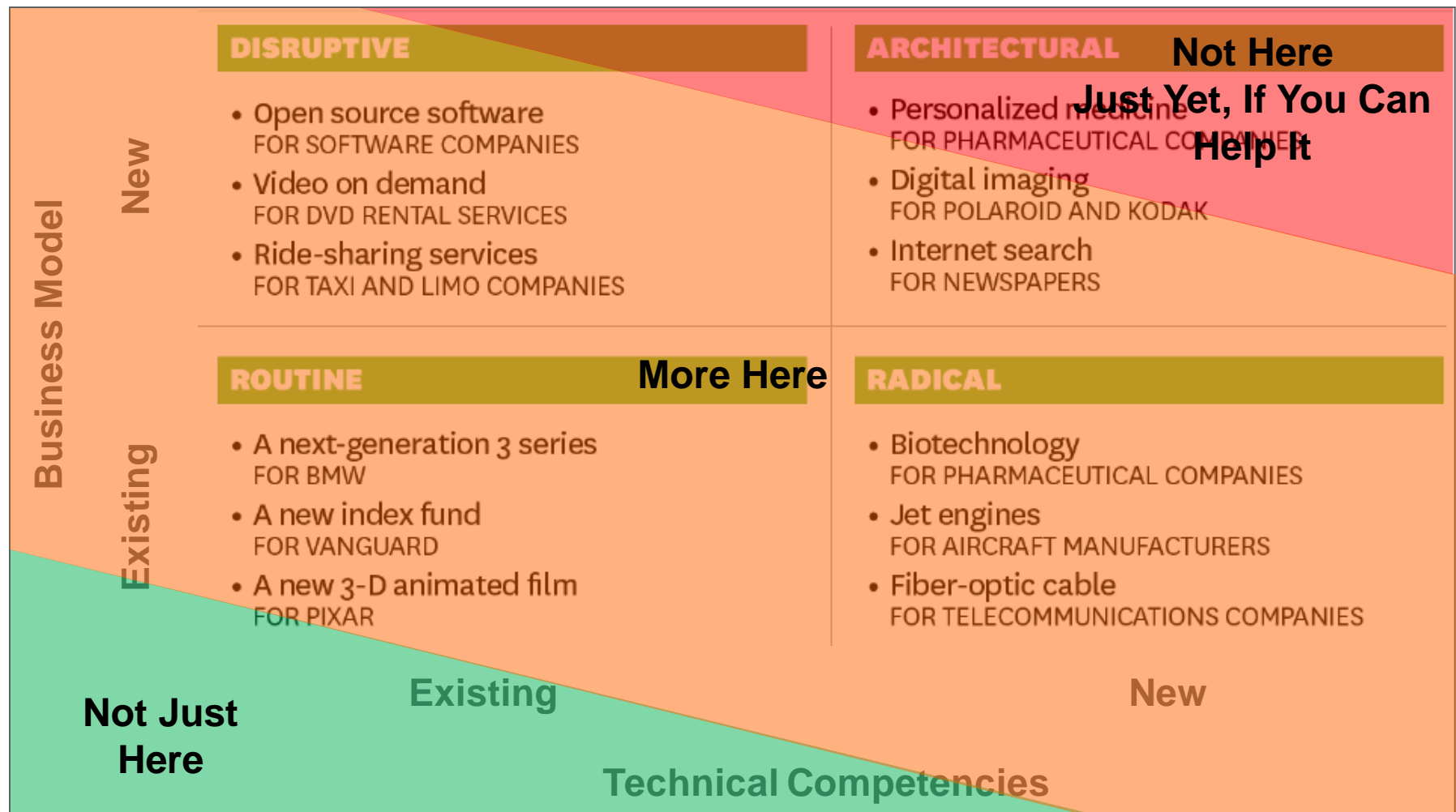
# What Does Good Look Like?



It is all about alignment and coherence –  
among more independent actors, with potentially differing interests.



# How Do We Get from Here to There? – Technical Competency and Business Model Evolution



# Closing Thought – What Is This?

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“The best way to predict the future is to invent it.”

*Alan Kay*



# Thank You!

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