

The Economic Analysis of the Shared IT Services

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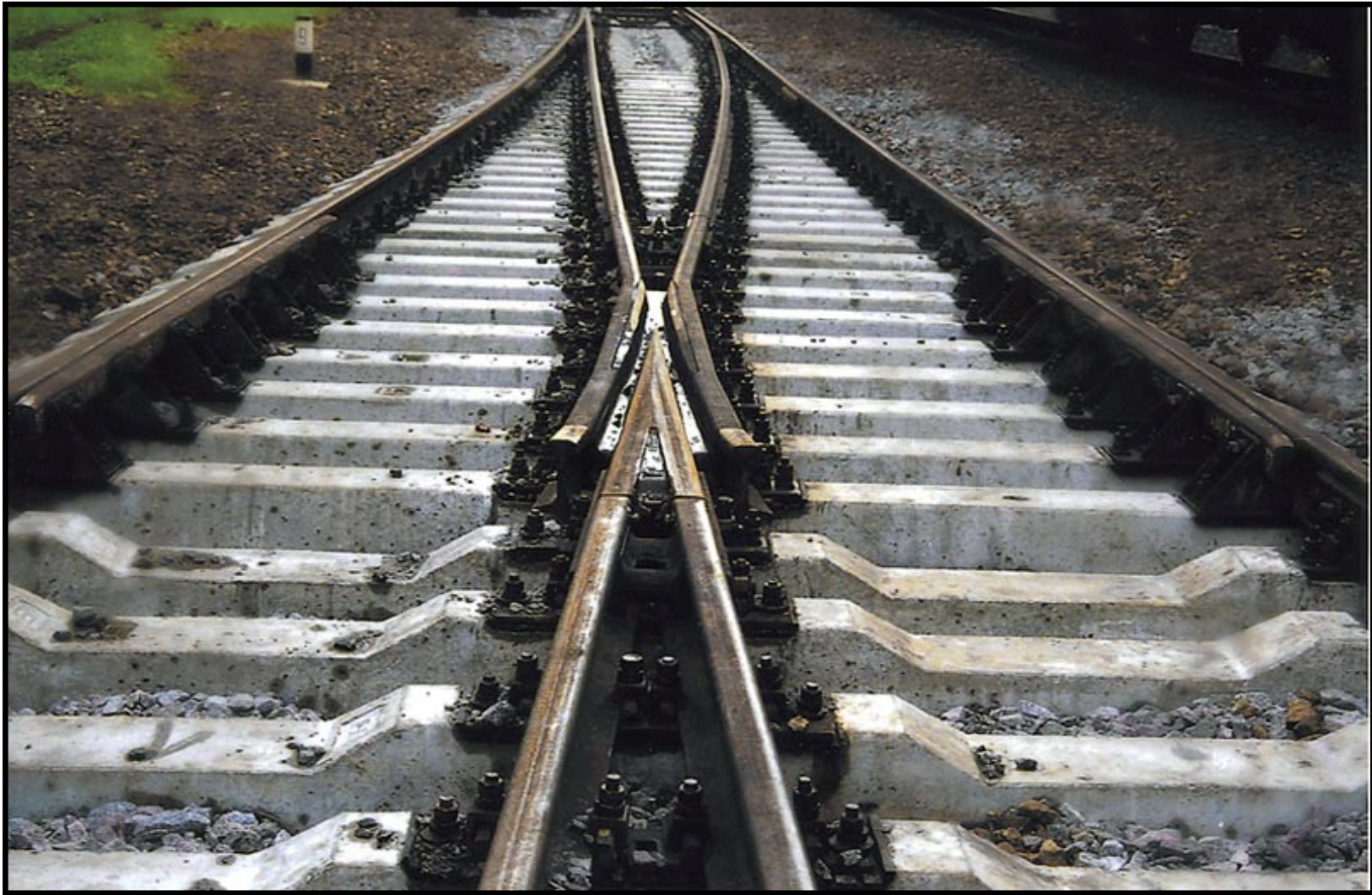
Shared IT Services

- **Infrastructure/Software/Platform... as a service**
- **The IT utility delivery model**
- **From the economic perspective:**
 - Using shared **(one-to-many)** business structure
 - An on-demand payment scheme **(pay per use)**
- **The business value analysis**

The traditional in-house solution

- **The in-house IT (purchase-based model)**
 - **requires an upfront software and hardware purchase**
 - **locates on the user's site**
 - **allows high degree of customization/integration**
 - **requires in-house IT support**

In-house vs. Shared IT ?



An Example: Accounting Software

- **Service-as-a-service versus Packaged Software application**



The in-house packaged software

Initial license fee

Modification/customization/implementation

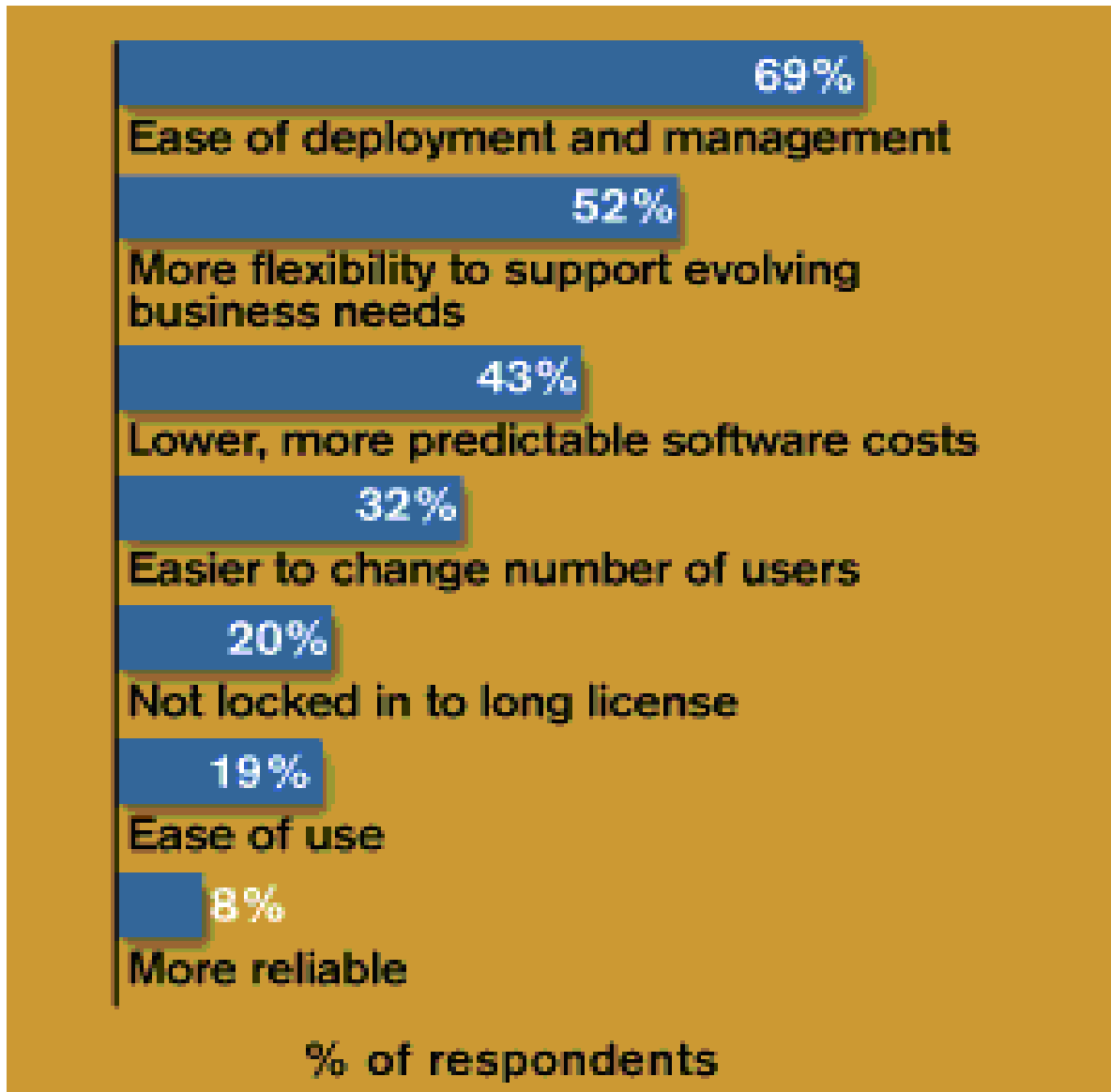
On-going IT support



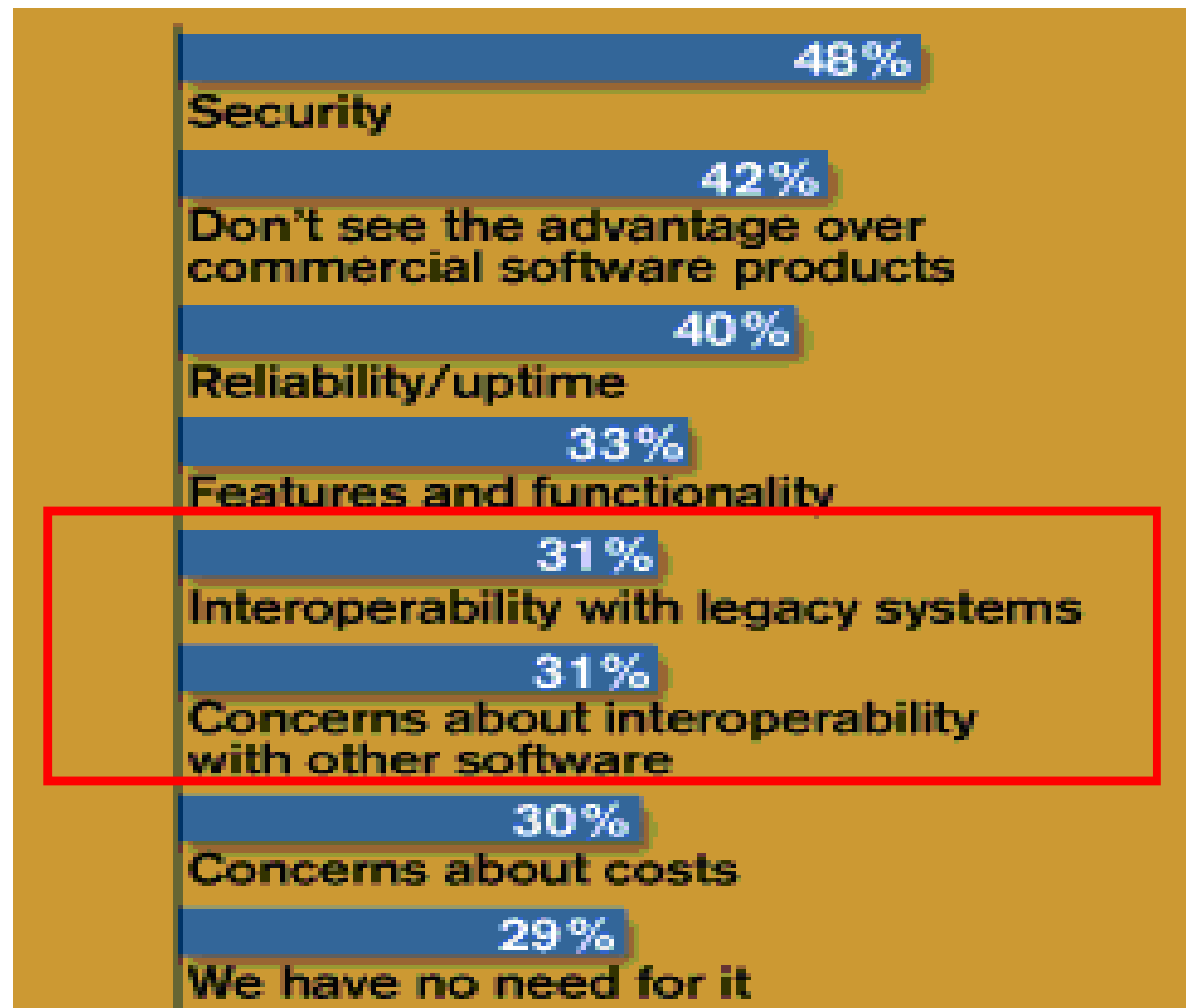
The on-demand SaaS

Pay per month

Why Use Software on-demand?

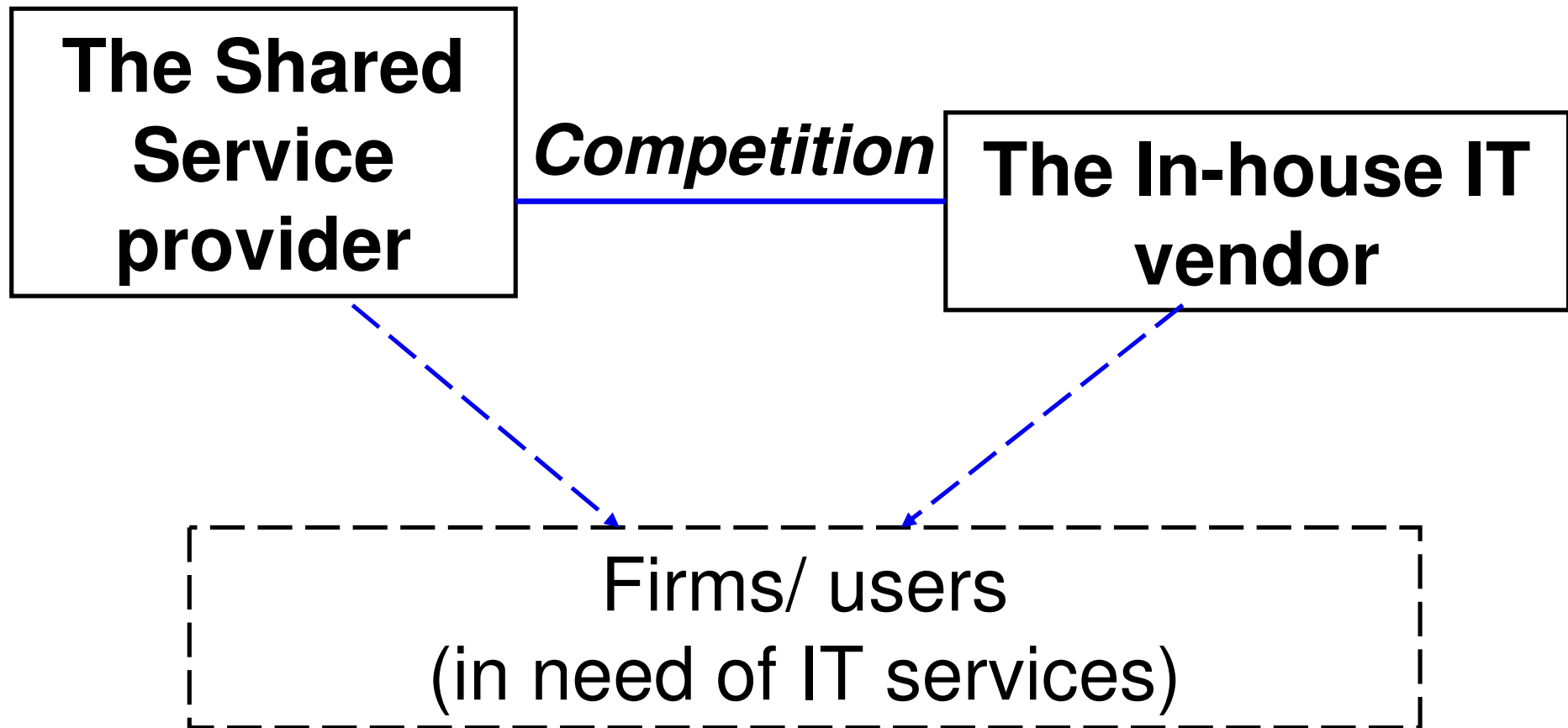


Why NOT Use Software on-demand?



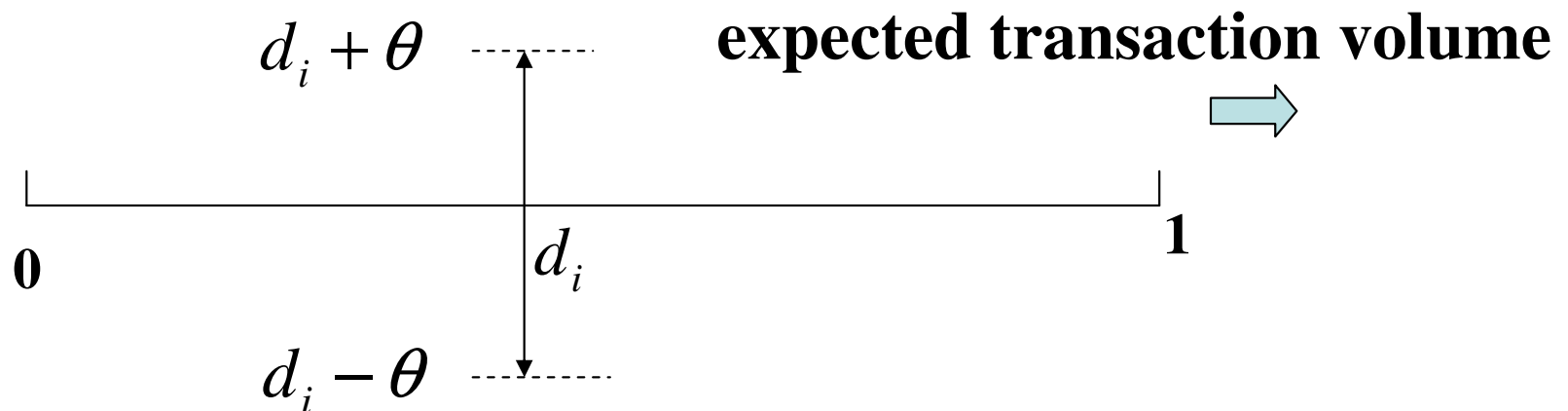
InformationWeek Research survey of 250 business technology professionals (2007)

The Model



Modeling Heterogeneous Users

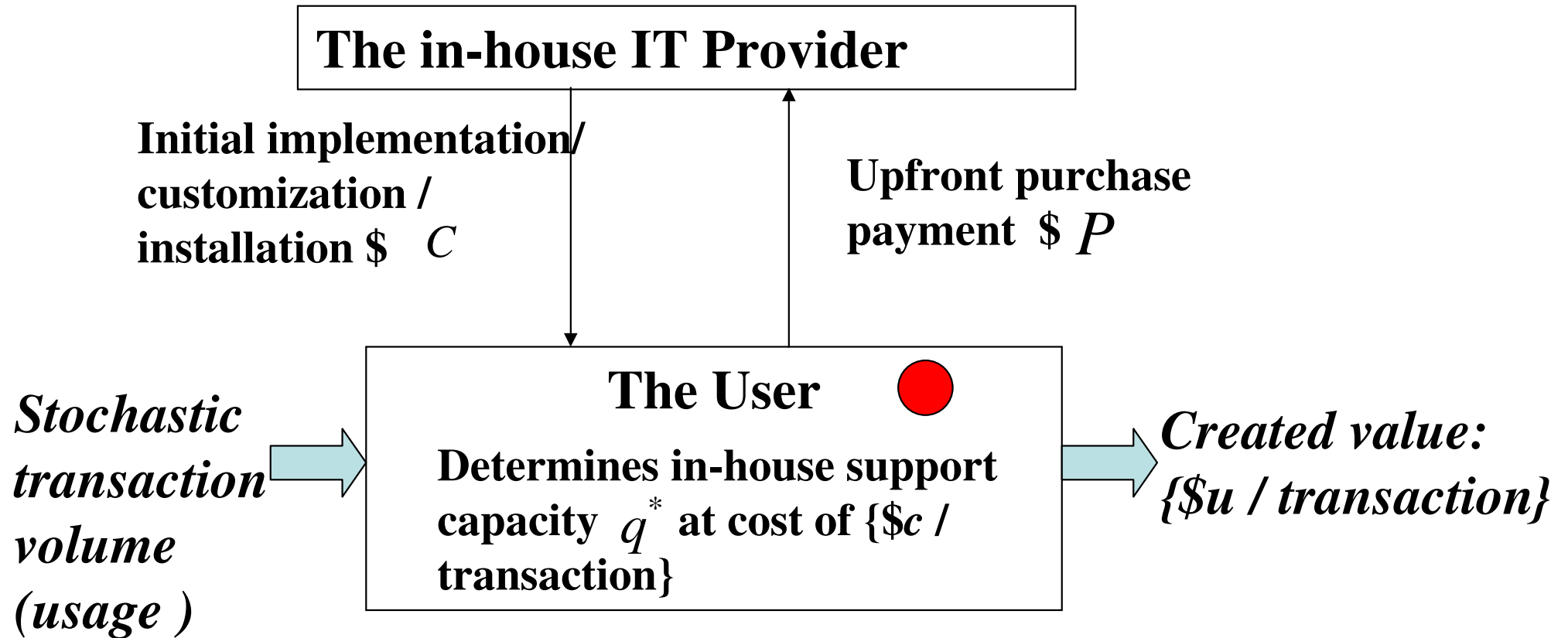
- **Users (firms) differ in their IT needs**
 - **different transaction volume/ usage**
- **Stochastic transaction volume/ usage**



User $\{i\}$ located at d_i ($d_i \geq \theta$) :

$$D_i \sim \text{Uniform} [d_i - \theta, d_i + \theta]$$

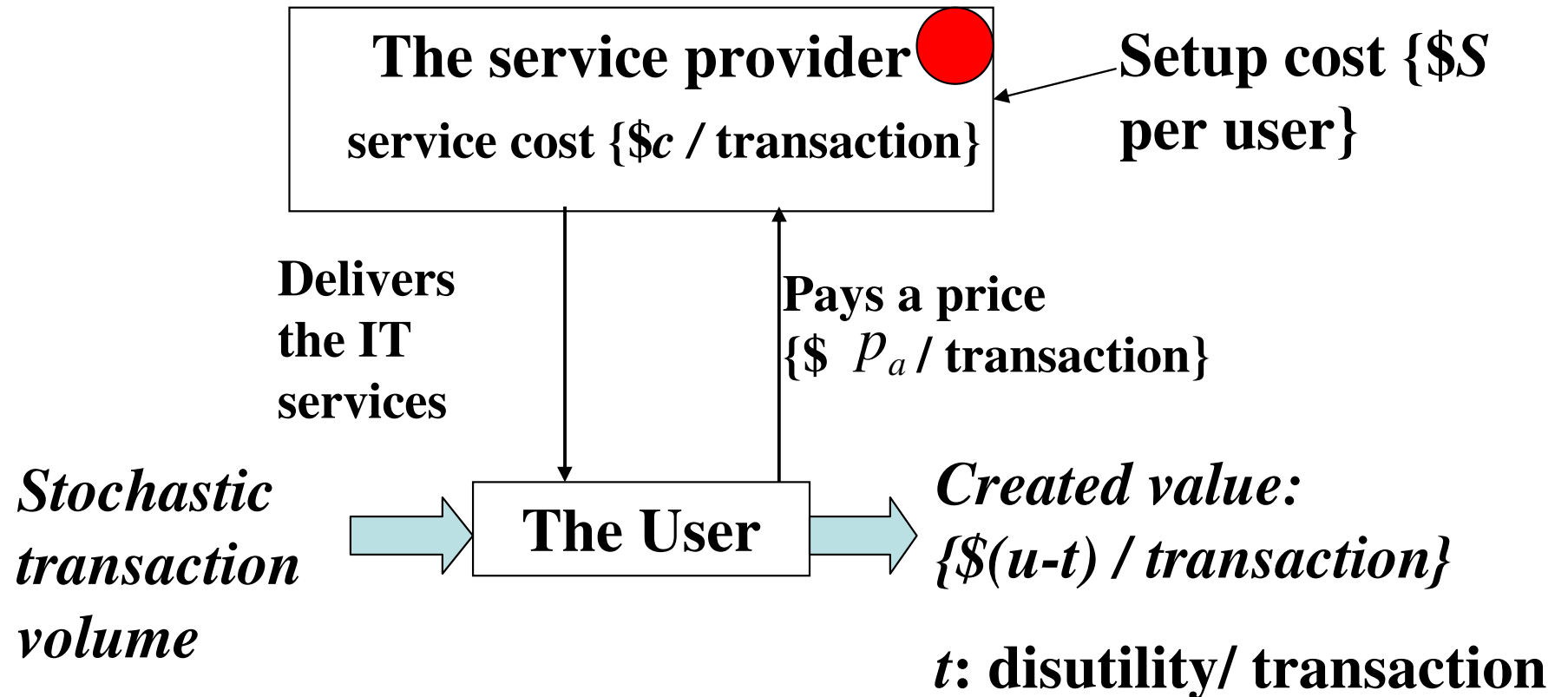
Modeling the in-house IT Solution



The red dot ● indicates the location of the system

The user's total cost: $\{ P + cq^* \}$

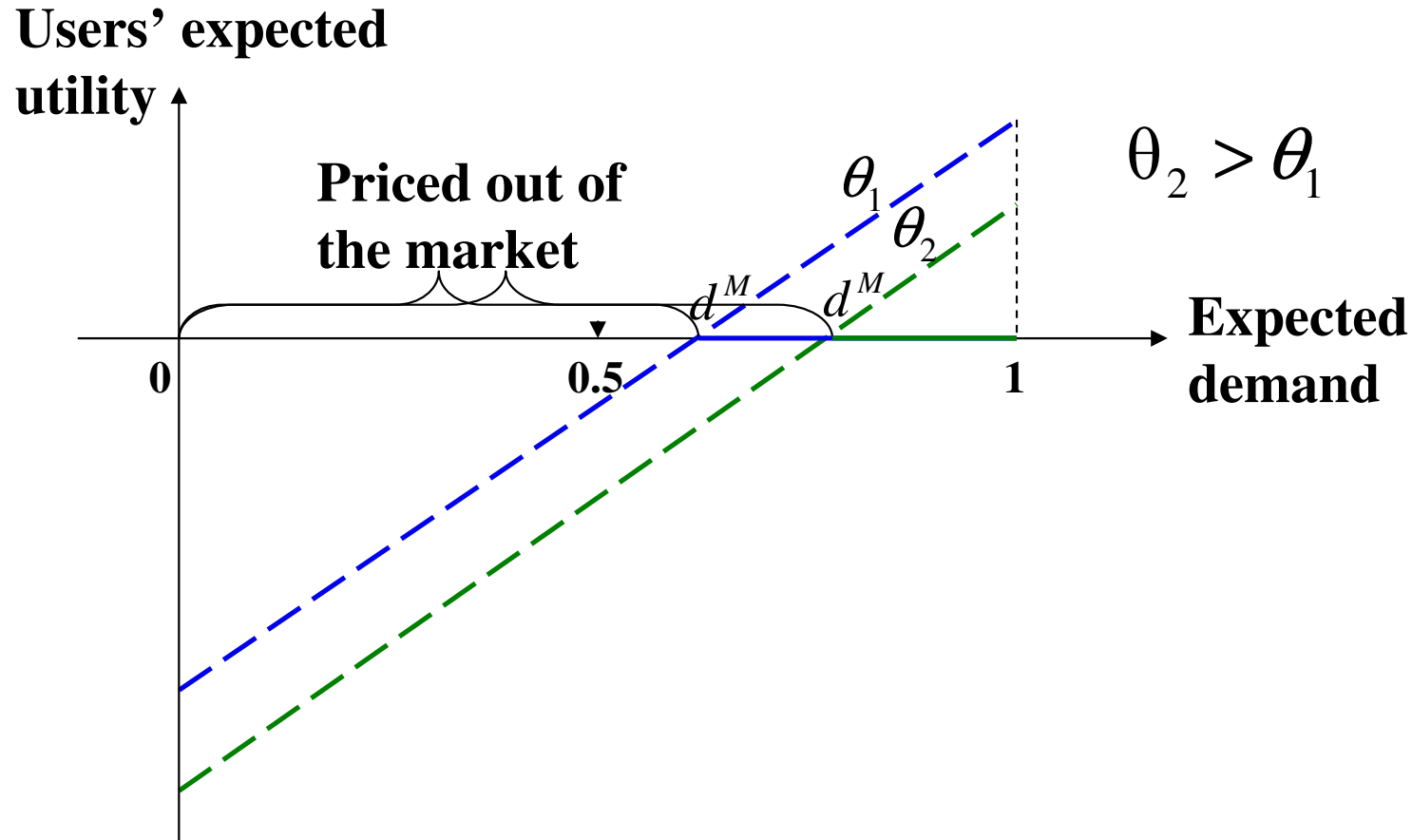
Modeling the Shared IT Solution



The User's total cost:

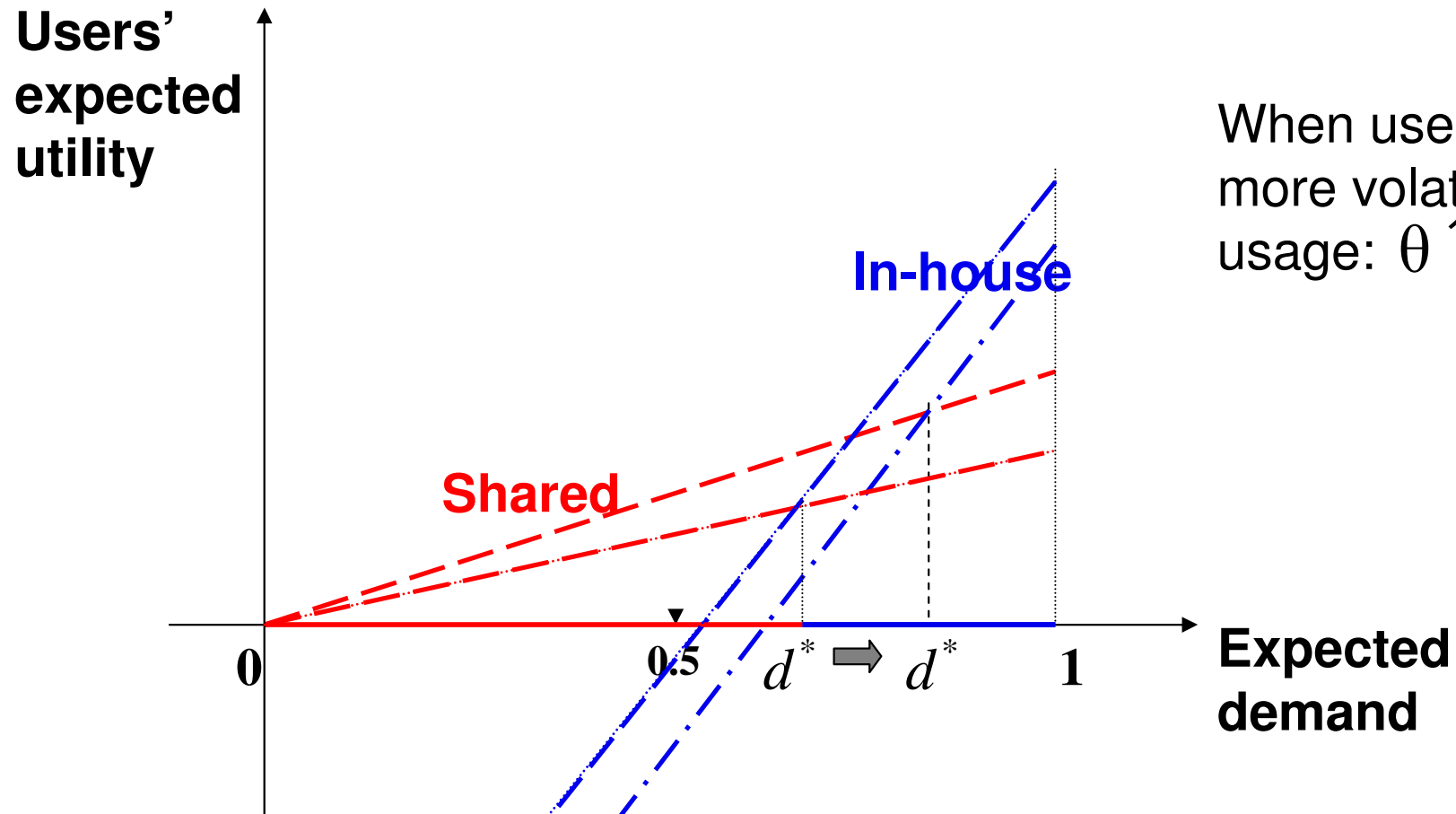
*{ P_a * the user's actual transaction volume }*

The in-house IT solution



- Low-transaction-volume users out of market
- Users bear most of the stochastic demand risks

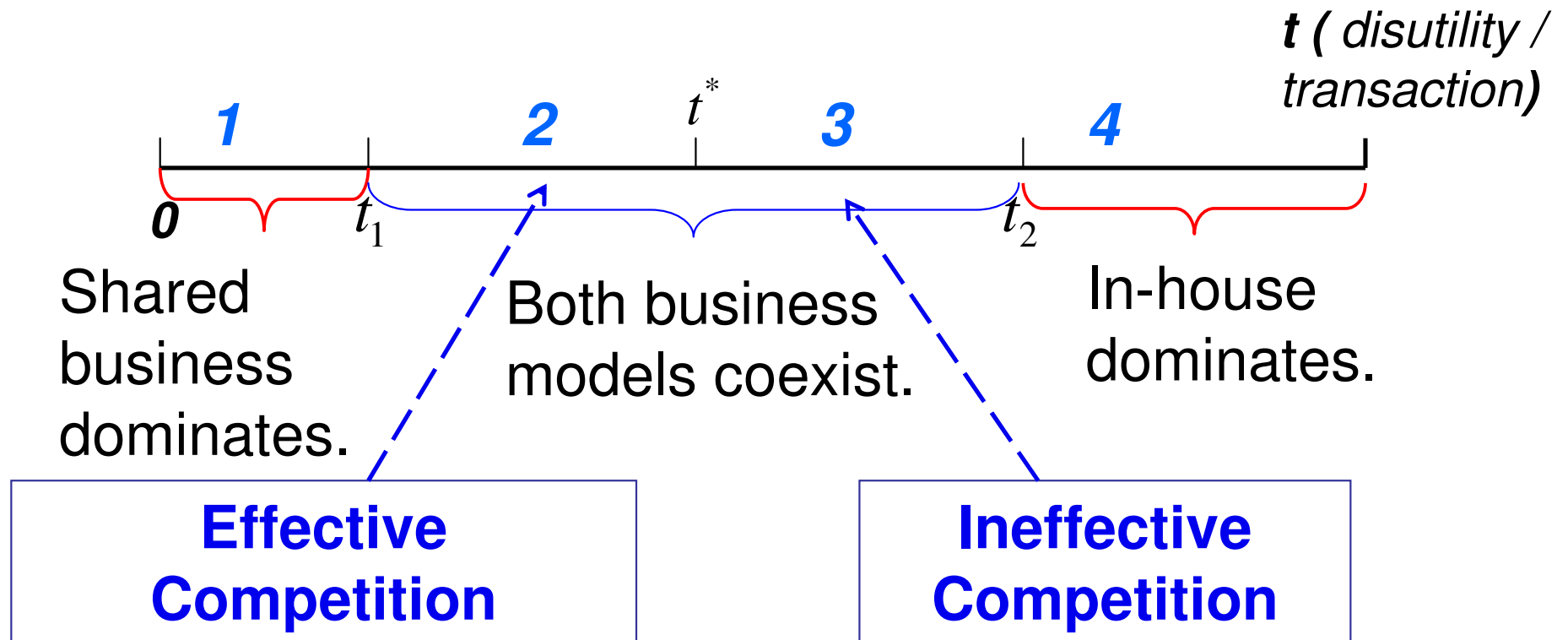
IT Shared model available: Market Segmentation



**adds access to small firms
risk pooling / sharing ability.**

The Complete Competition Diagram

- Critical values of t : $\{t_1 < t^* < t_2\}$



Practical implications from above: the ‘Hidden Cost’ of Shared IT services

- “... *Integration challenges* are likely the reason that among those using or planning to use SaaS, 29% consider themselves still in a test phase and 58% are limiting the number of apps they deploy--only 13% cite wide deployment across many applications...”.
- Challenges faced by SaaS adoption:
 - A survey to 159 companies using or planning to use SaaS shows that “*integrating SaaS and other applications* (62%), bypassing the data security and data control issue (56%), becomes the biggest challenge in the SaaS solution deployment.”

Business Implications (I)

- **When will firms prefer the Shared IT services model (over in-house ownership)?**
 - **Low transaction volume**
 - **High transaction volatility**
 - **Expensive IT service cost**

Market segmentation!

Business Implications (II)

- **What are the strategic and operational advantages of the shared model**
 - **for the users' firm?**
 - **Initial cost savings**
 - **Risk sharing and capacity pooling**
 - **for the vendor?**
 - **Access to firms with smaller IT needs**



Business Implications (III)

- **How can Shared IT business model survive and succeed in an increasingly competitive marketplace?**
 - **Develop “open” products**
 - **Develop industrial standards/ protocols**
 - **Develop commonly-shared platforms**
 - **Focus on the proper market segment**



How should the IT be delivered in the future?

- **Shifting to the shared business model, as technology advances.**

Questions?

Thanks a lot

