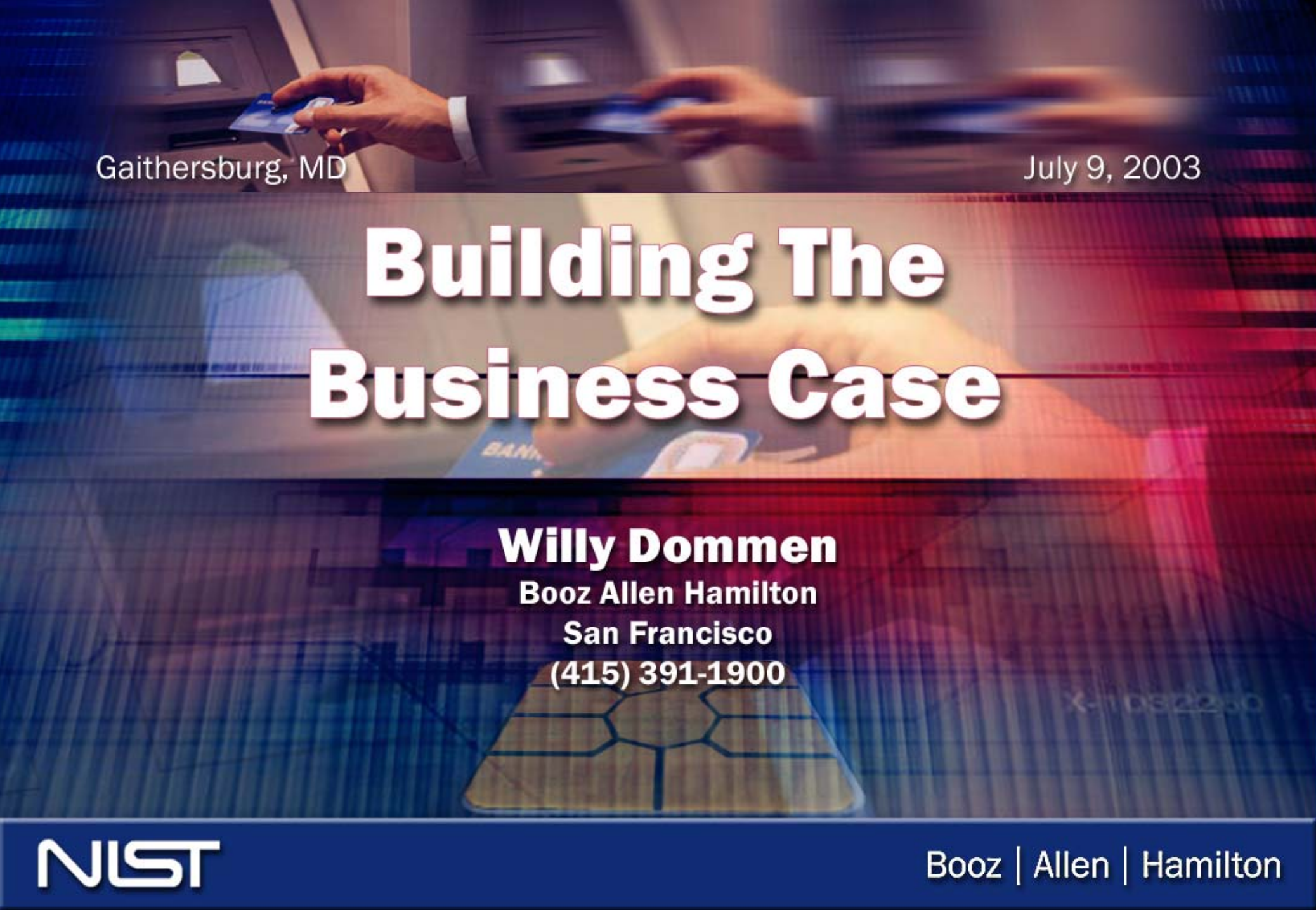

Gaithersburg, MD

July 9, 2003

Building The Business Case

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AGENDA

- Introduction
- Economics
- Framework
- Driving Factors
- Moving Forward
- Summary

Objective of this session is to

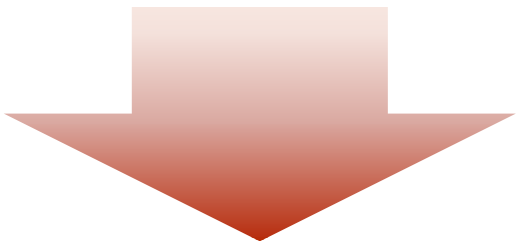
- Define characteristics of a business case
- Provide a framework for building a business case
- Discuss factors that impact the business case

Business Case provides the justification for making a strategic technology decision

- Involves significant investment
- Affects non-technical functions of an organization
- Are hard to reverse
- Exact major penalties for being wrong
  - Proprietary systems
  - Switching costs

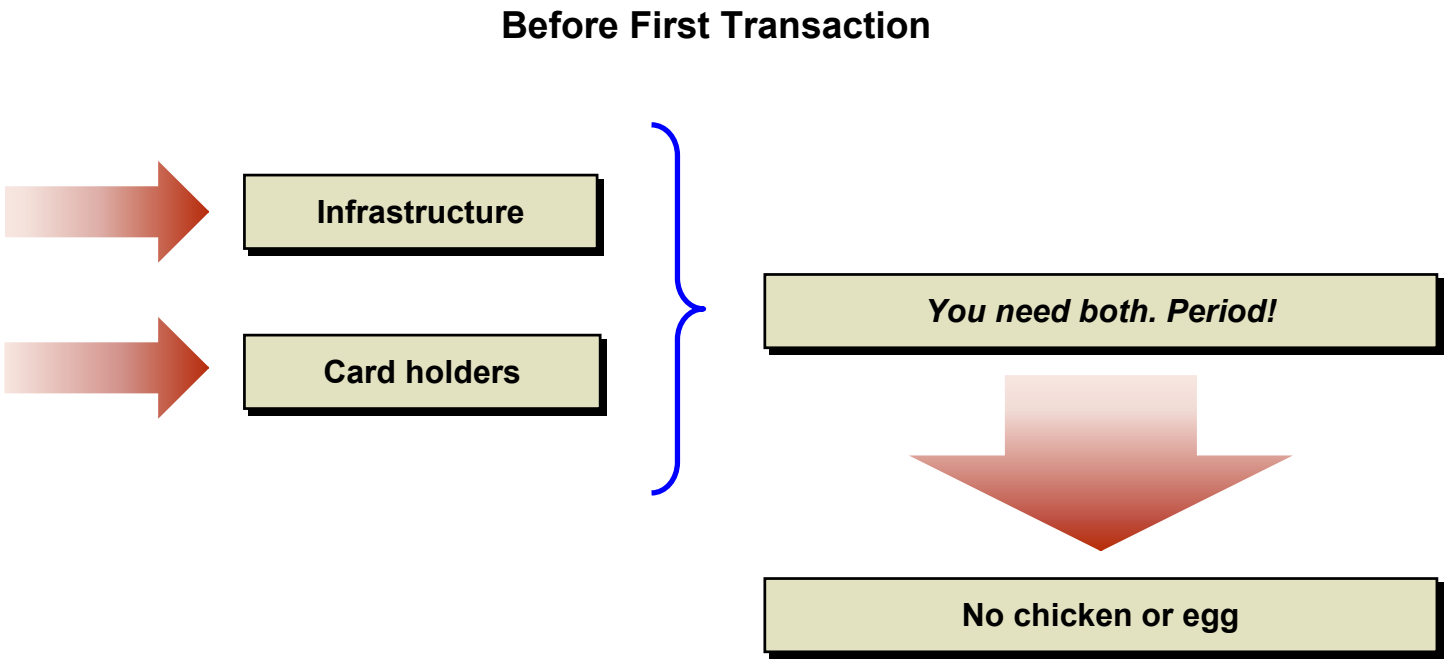
Share what we have learned

- San Francisco
- Europe
- Singapore
- Washington DC
- Sydney
- Commercial Clients



What they don't tell you until you have started

Building the business case for smart cards is extremely challenging

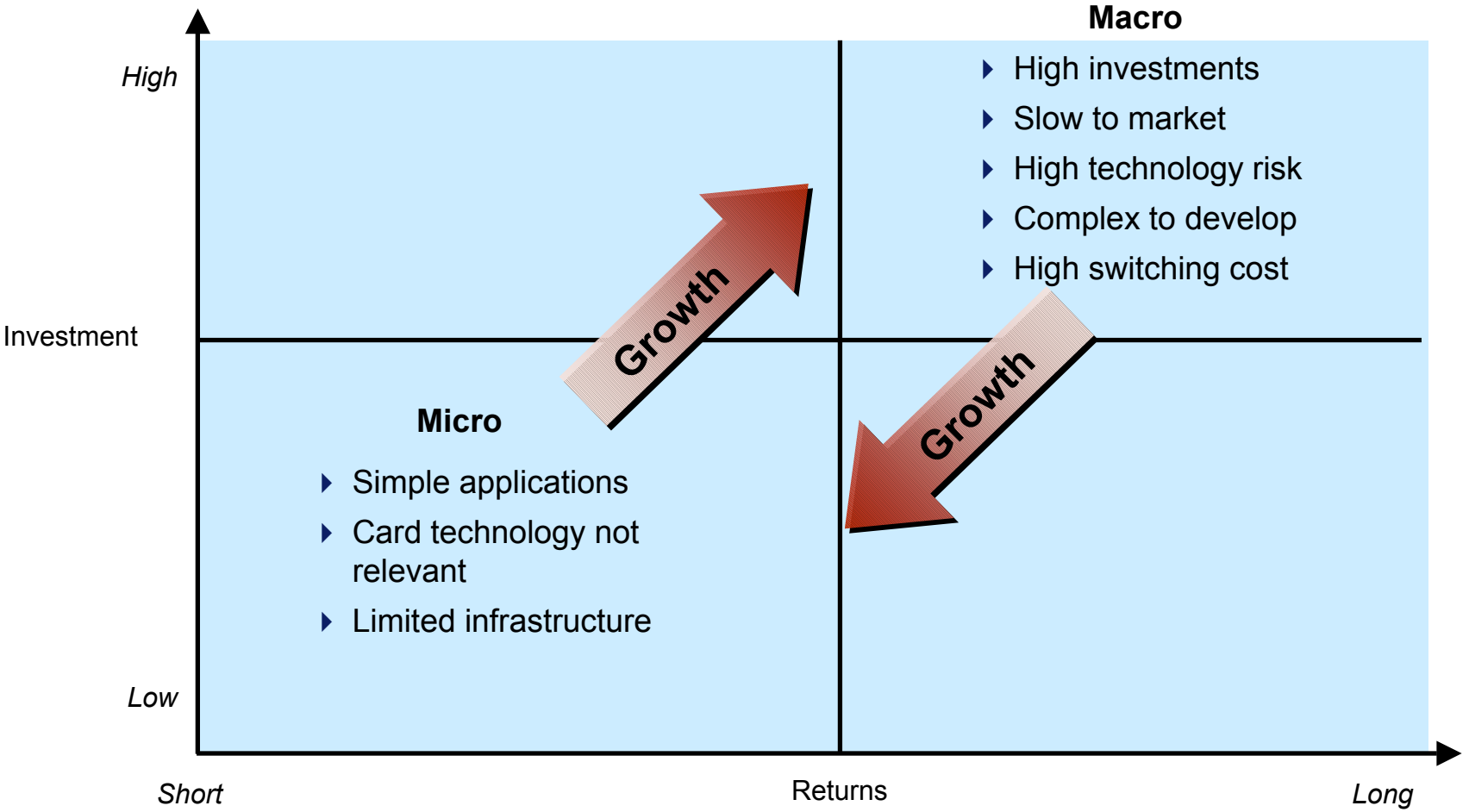


Business case may be developed at two levels

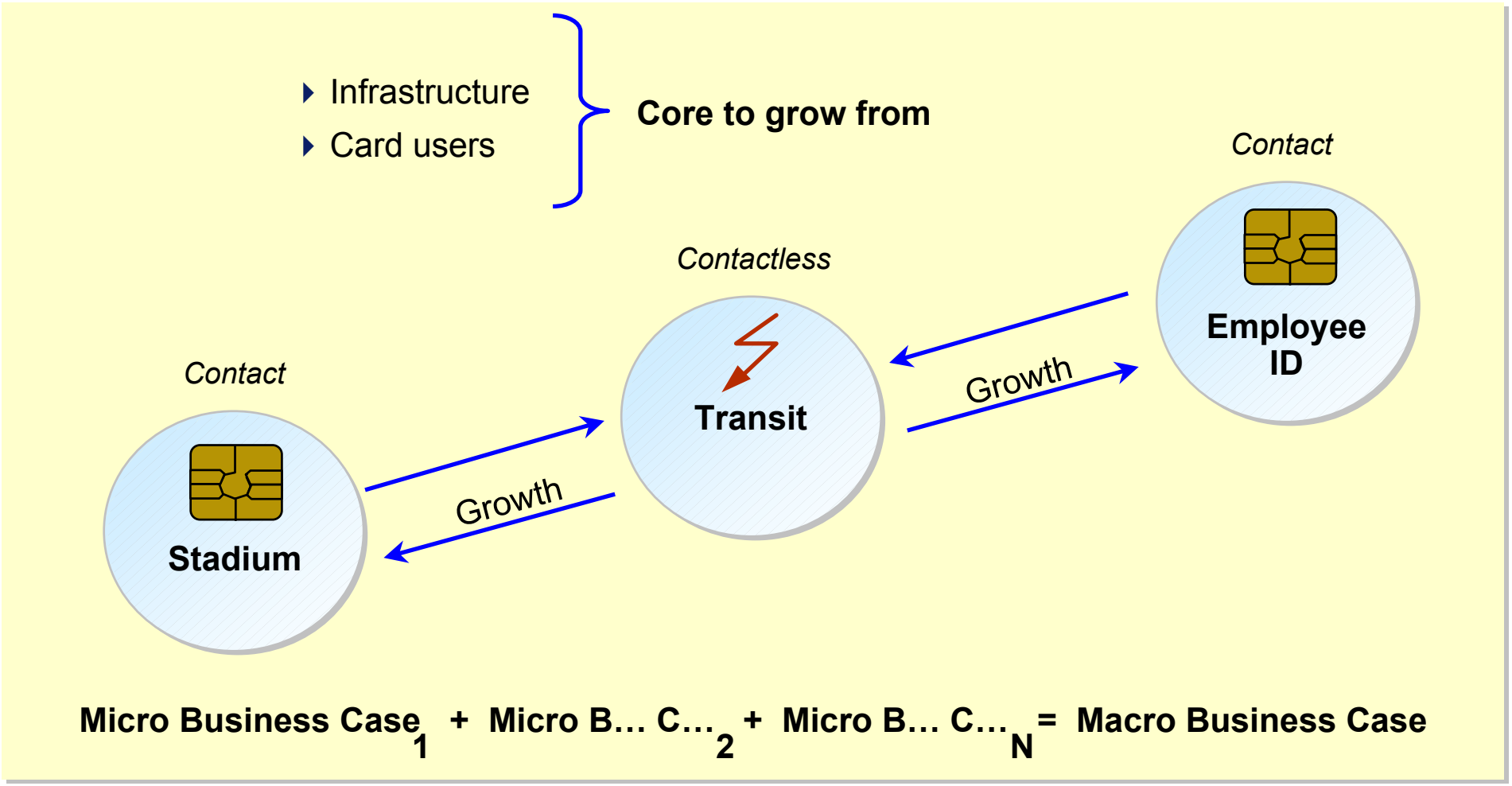
Macro Level Business Case
▸ Travelers checks ▸ Phone cards, France ▸ Social services payments–benefits
▸ Open system E–purse

Micro Level Business Case
▸ Access control ▸ Transit ticketing ▸ Data transfer or I.D.
▸ Closed system E–purse – Sports stadium – Campus

Macro and micro business cases are distinct



What does this mean?



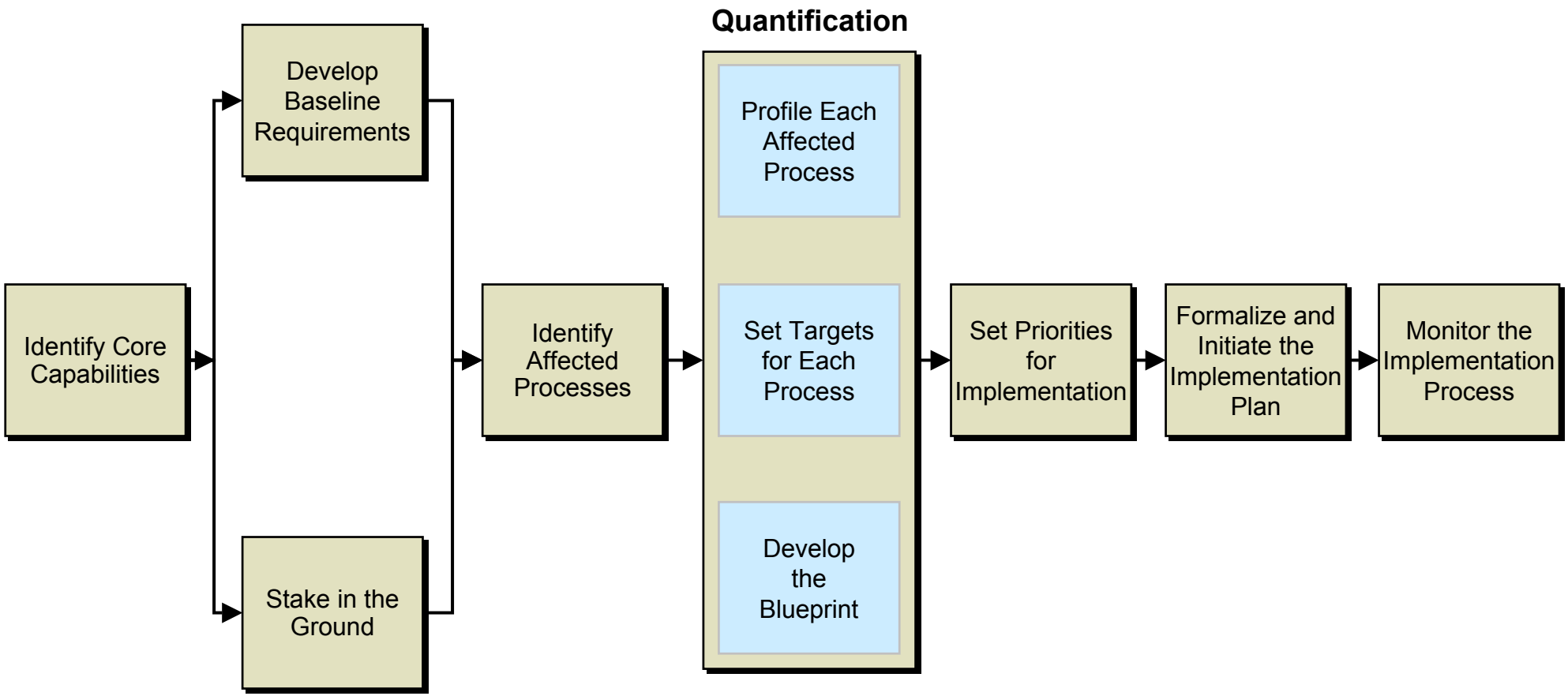
Transaction processing is the technology basis of a smart card system

Transaction Type	Applications	Business Case Drivers And Considerations
Financial	▸ E-Purse ▸ Credit/debit ▸ Pre-payment – Public transport – Phone	▸ Switching cost ▸ Cost of cash handling ▸ Security ▸ Regulations ▸ Open Systems/standards ▸ Card user information
Non- Financial	▸ Access control ▸ ID ▸ Loyalty ▸ E-ticketing	▸ Cost of processing paper ▸ Proprietary applications ▸ Card user information ▸ Security

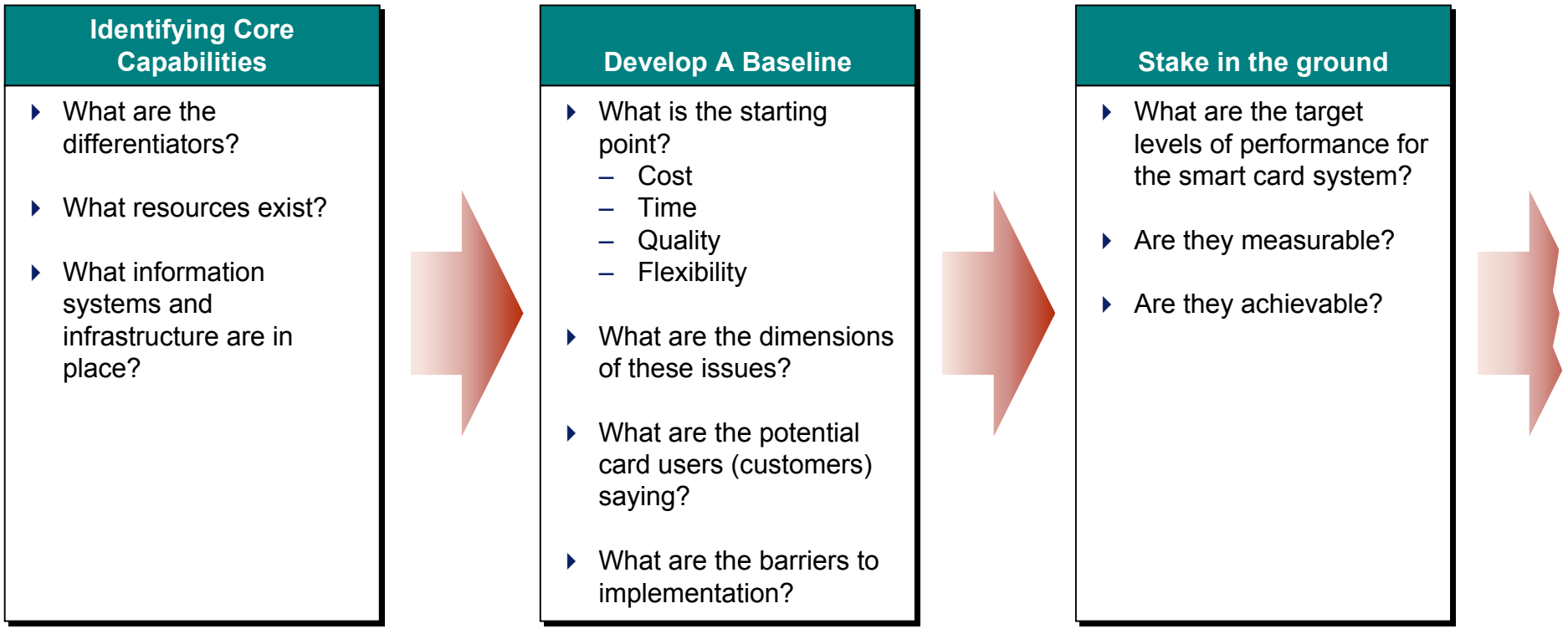
Transaction processing whether financial or non-financial needs to be paid for

- Value per transaction
  - High
    - Credit/debit card
    - High contribution toward fix costs per transaction
  - Low
    - Phone, transportation, toll collection, E-purse
    - Low contribution toward fix costs per transaction
- Volume
  - Critical driver of business case
  - Main element of sensitivity analysis

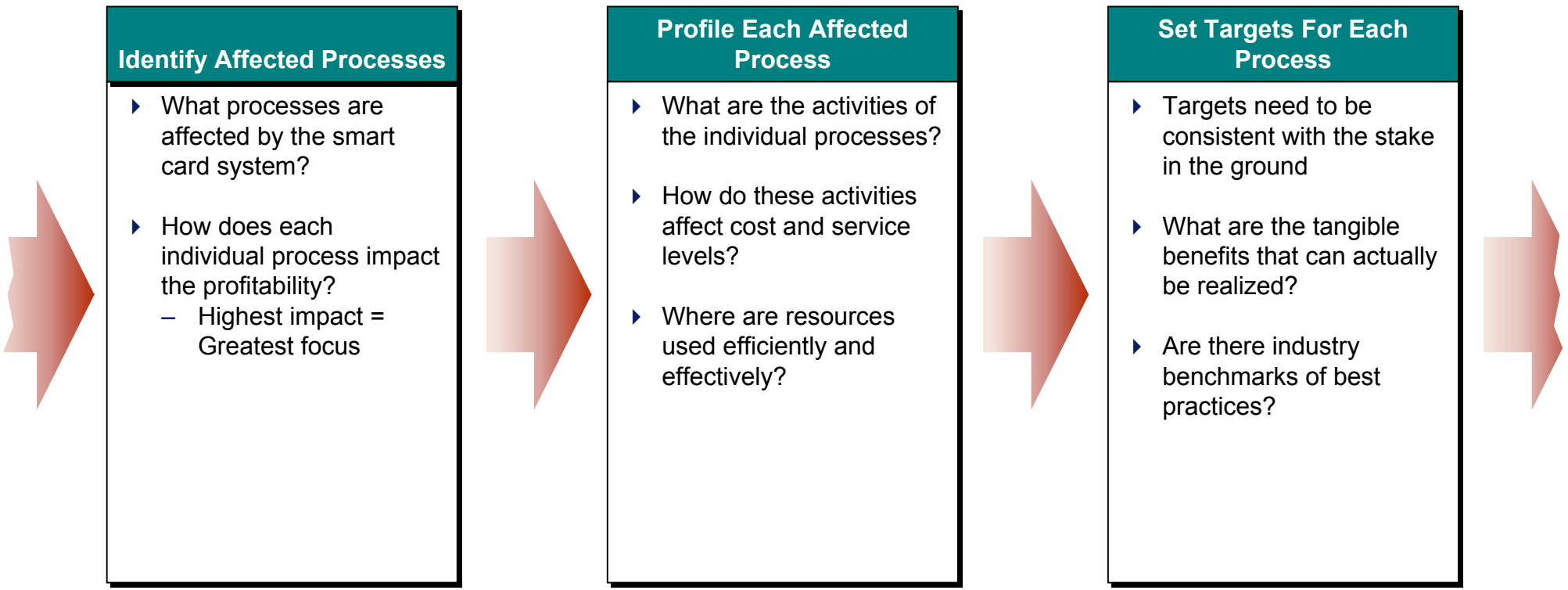
Framework for building a smart card business case



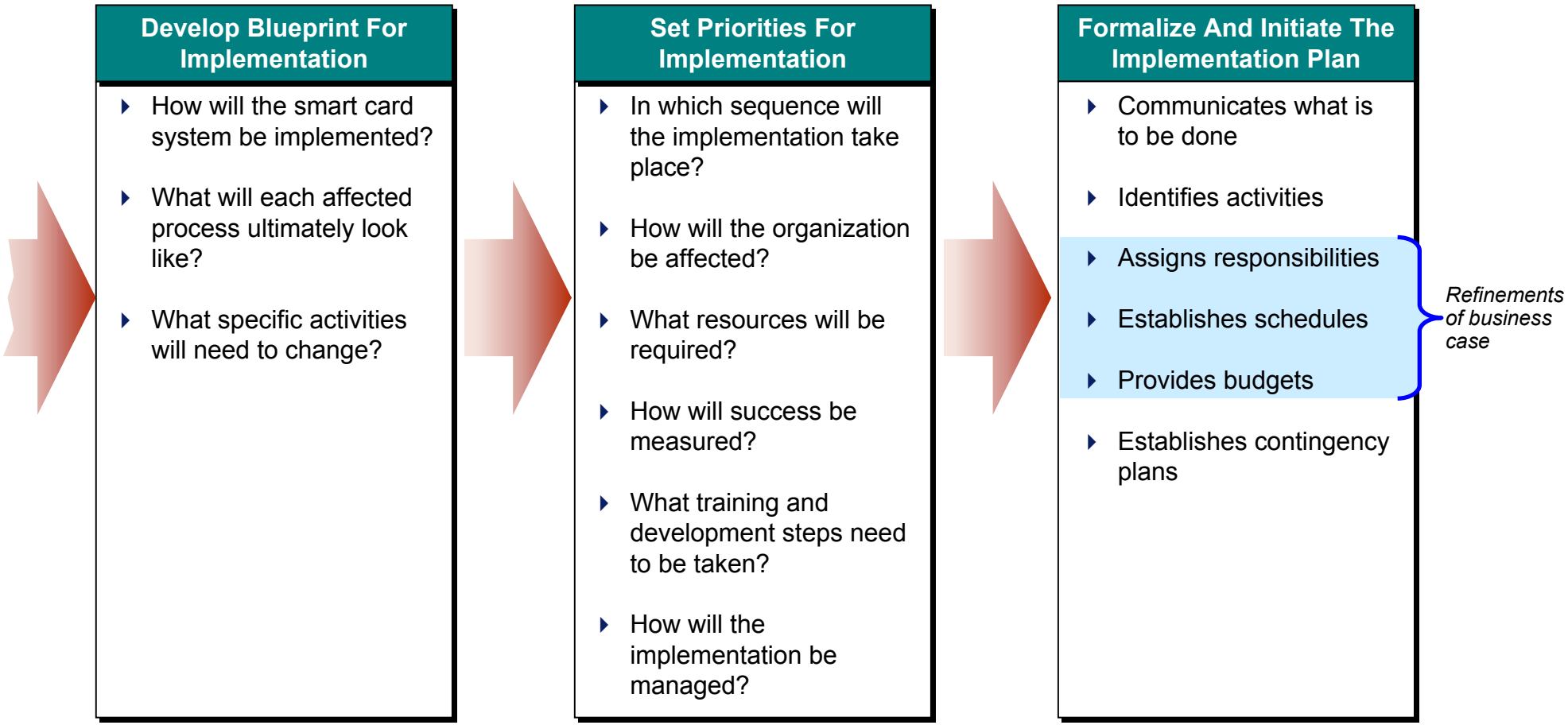
Each step of the framework for building the business case needs to have specific questions answered…



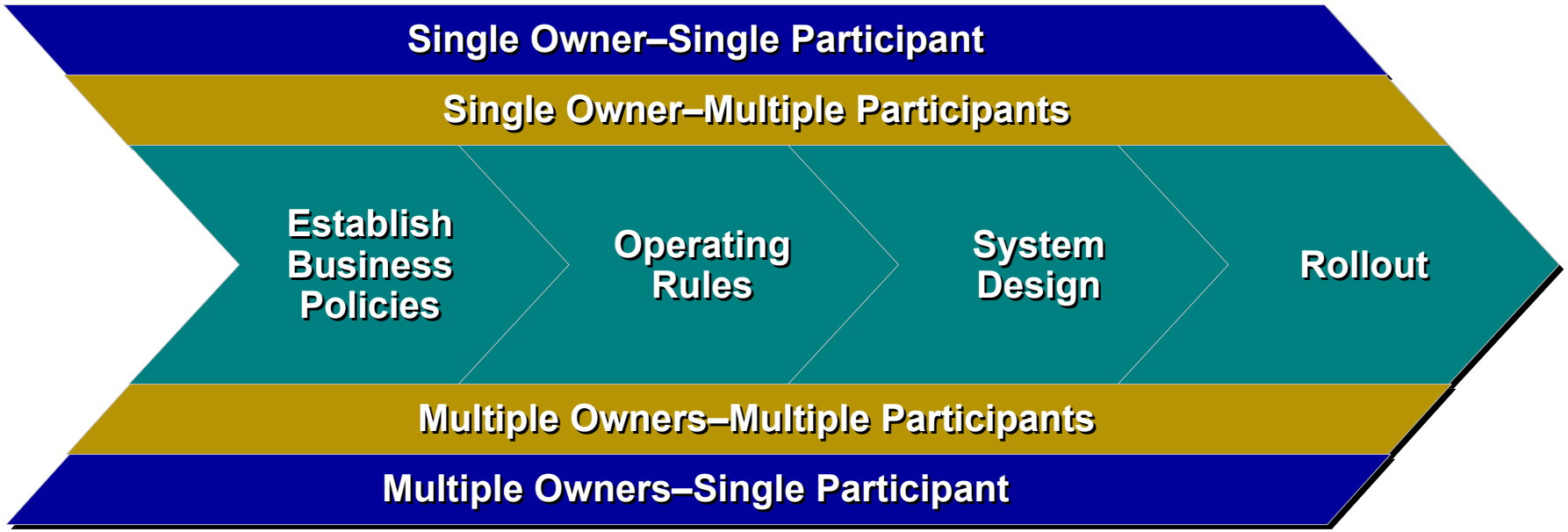
The answers provide the inputs for the business model



The business case is refined as the project progresses and more accurate data becomes available

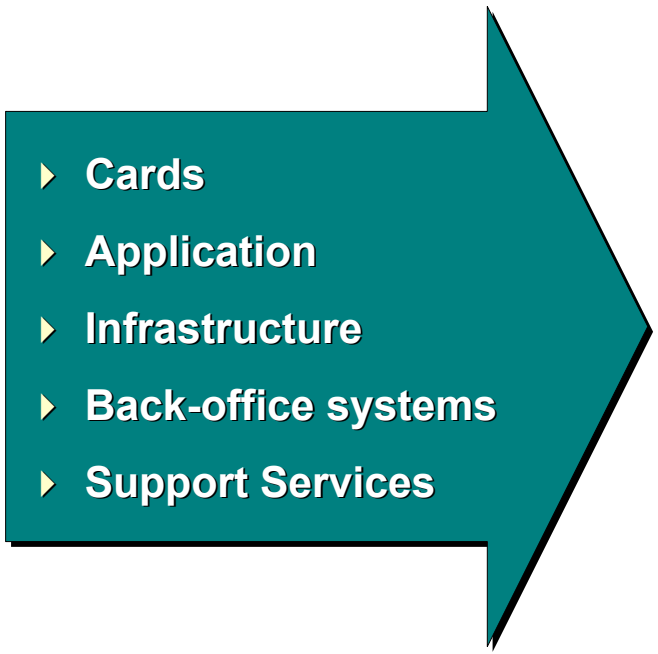


There are four basic business case models



There are three basic ownership models for a smart card system

Smart Card System Requirements

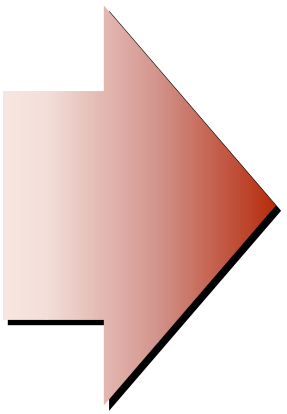


- Agency owned
- Contractor owned
- Joint ownership

Government SC systems can serve as the core of multi-application environment

- ARPANet backbone of internet was funded by the U.S. Defense Department

- Initial capital
- Card holders
- Card holder support



- Technical risk
- Performance measured in terms of people served

There is no killer ap…only accelerators

Establishing business rules and policies provides the business architecture

- Procurement Regulations
- Exclusivity
- Data Ownership Rights
- Application Ownership
- Privacy

- Funding
- Cash Flow
- Public/Private Investment
- Fee Structure

- Standards
- Technology Life-Cycles
- Outside Integration
- Open E-Purse

…What needs to be changed

Business model consists of two components

Smart Card Business Case Cost Structure

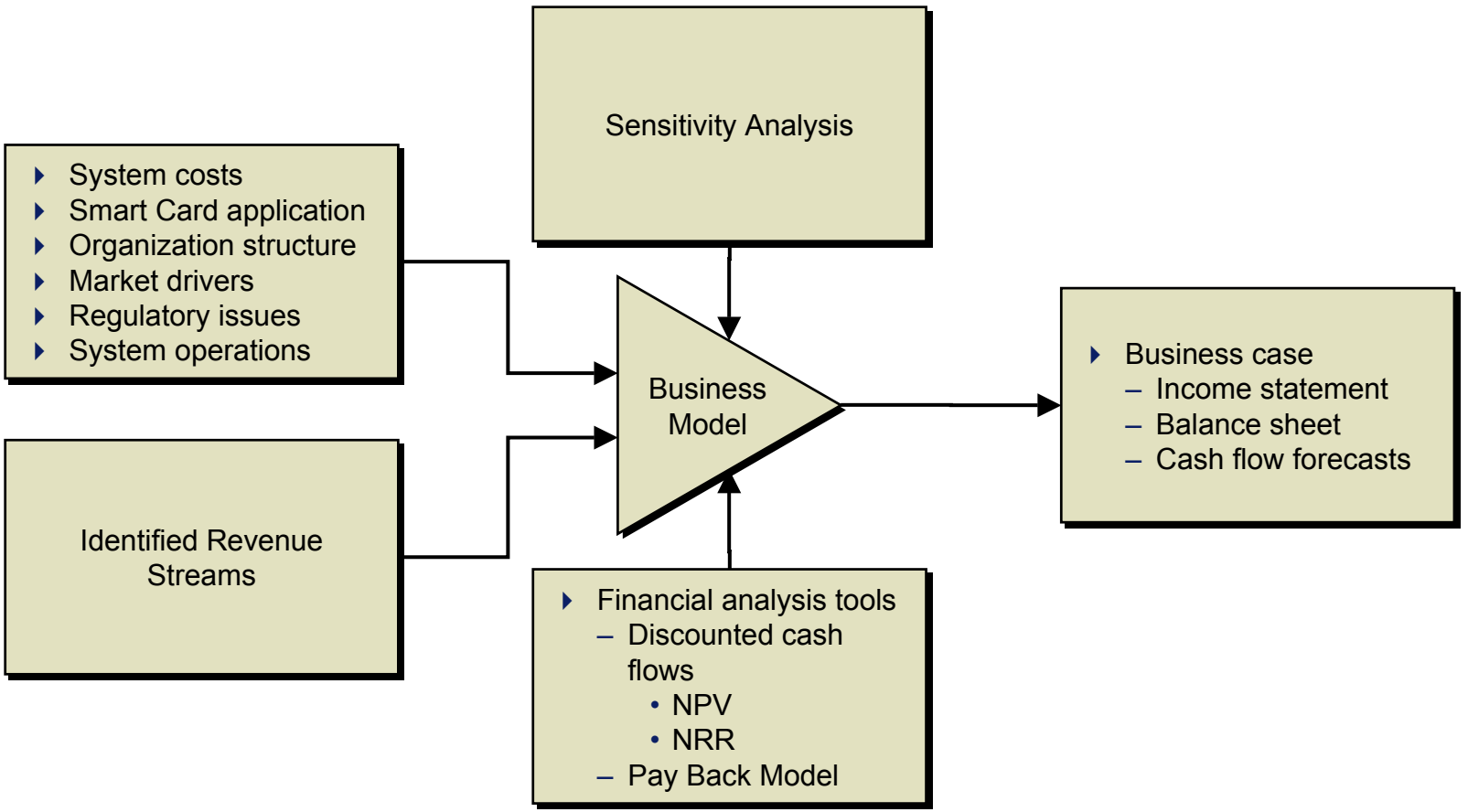
Capital Costs

- Cards
- Equipment
  - Computers/servers
  - Merchant terminals
  - Device upgrades (e.g., ATMs)
- Organization setup
  - e.g., Office fit-out

Operating Costs

- General administration and management
- Central system operation
  - Transaction processing
  - Settlement, reconciliation and clearing
- Network management
- Card distribution
- Card-base management
- Merchant support
- Third-party support
  - Third-party card issuer
- Sales and marketing

The revenue streams will drive operating costs



Revenue streams may be categorized in four ways

Revenue Stream Categories

Revenue Stream Type	Description	Example
▸ One time upfront	▸ Fee paid prior to establishing formal participation, activate a service, cover upfront infrastructure costs or system modifications	▸ Cost paid by third-part merchant for terminal and installation services
▸ Per transaction	▸ Fee paid for each usage of the card or third-party card with the owner's application present	▸ Fee paid to a third-party merchant for each top-up transaction completed at their terminal ▸ Fee paid to card owner for payment made with a SC
▸ Per card issued	▸ One time fee paid at time when card is transferred from Issuer to Distributor or directly to Cardholder	▸ $5 card deposit paid by Cardholder for SC ▸ Fee paid by third-party for each card they issue with owner's application
▸ Per fixed time period	▸ Fees paid at beginning or end of fixed time period as required	▸ Monthly terminal rental fee paid by third-party merchant

The business case consists of an incremental accumulation of distinct revenue streams

Potential Revenue Streams

Revenue Stream	Description	Example
Card Fees	▸ One time upfront	▸ Cardholder pays refundable fee for SC ▸ Card registration
Merchant Fees	▸ One time upfront ▸ Per fixed period	▸ Terminal deposit ▸ Support call
Advertising	▸ One time upfront ▸ Per card issued	▸ Rental fees paid for space on card
Load fees at kiosks or load terminals	▸ Per transaction ▸ One time upfront	▸ Provide load capabilities with EMV compliant card reader for: – Cash card – Other stored value cards
Loyalty Program	▸ Per transaction ▸ One time upfront ▸ Per fixed period ▸ Per card issued	▸ Set up fee for loyalty program ▸ Periodic or transaction fee based payment to manage loyalty program
Application License Fees	▸ Per card issued ▸ Per fixed time periods ▸ One time upfront	▸ Fees to be paid for use of Transit Application on third-party cards

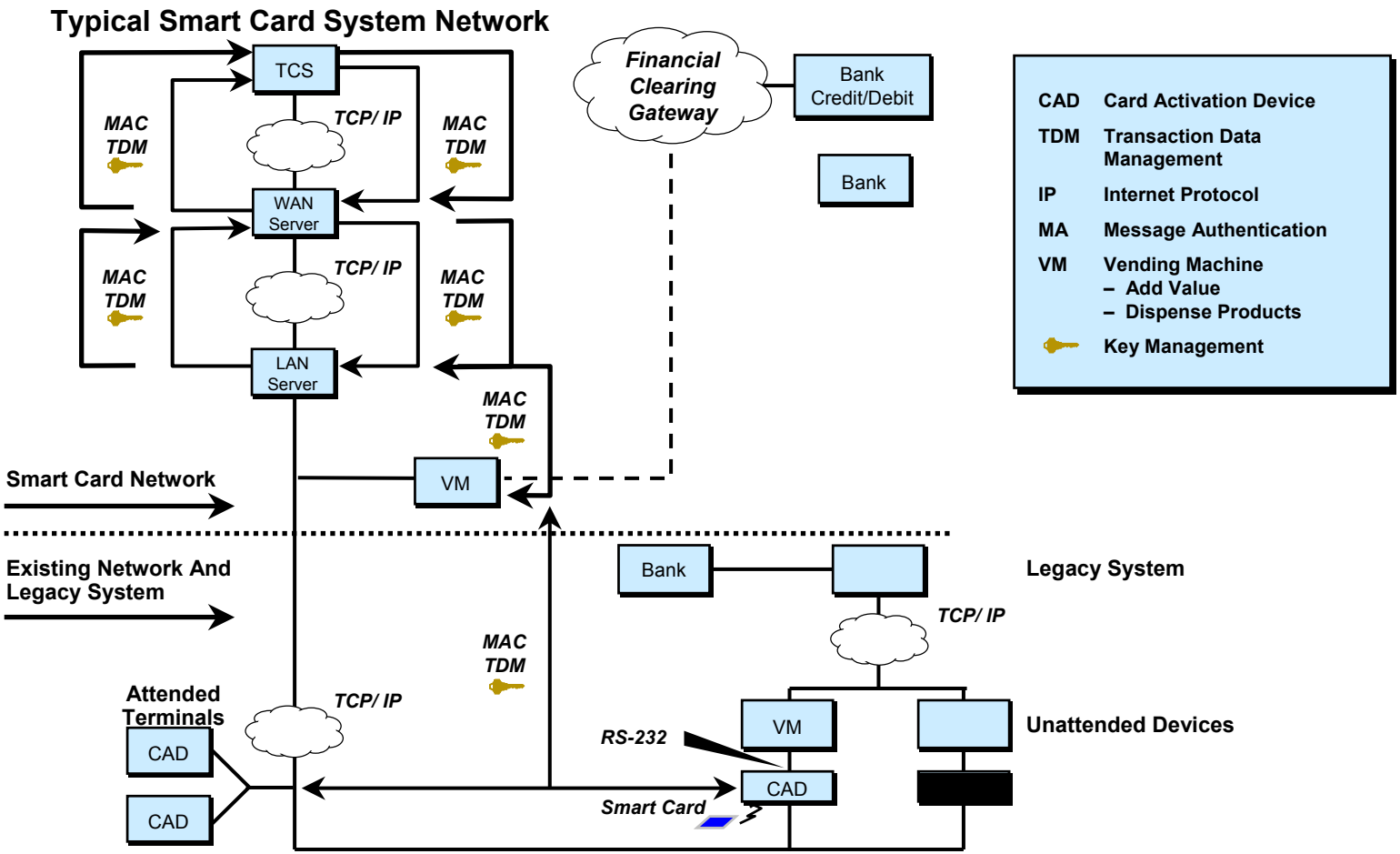
During contract negotiations system integration is always simple

- Sufficient ISO standards exist → ISO 7816,14443 …
- Hardware interface straightforward → TCP/IP, RS 232,485 …
- Developers' kits are available off-the-shelf
- APIs will be provided to all scheme participants

In reality, system integration problem is more complex

- ISO standards cover only one part of an interface
  - Operating system
  - Security architecture
  - Application
- Hardware interfaces alone are not complete
- If developers' kits even exist, they are difficult to get
- APIs are useful only for compatible platforms

Solution … Define clear lines of responsibility



When getting the project started, it is critical to …

- Secure the project politically
- Establish the business policies and rates
- Identify required system elements and services
- Establish performance measures
- Determine “desired” ownership model

Start simple, and build on small successes

▸ Lower Capital Cost	▸ Less software complexity, development time ▸ Lower hardware requirements, especially cards ▸ Reduced number of interfaces – Security management – Network management – Data management
▸ Less Technical Risk	▸ Reliability ▸ Operations ▸ Less system complexity
▸ Less Complex Business Agreements	▸ Customer service ▸ Data ownership ▸ Application license ▸ Merchant access

Open system Architecture is critical to allow future upgradeability

- Expandable platform upon which to build
- Ability to use quasi off-the-shelf components
- Preserve investment in back-office systems
- Recognize that contactless technology could be superseded
  - Modular
  - Upgradeable

System components to allow migration

A successful business case is based on…

- Effective application of technology
- Thorough analysis of alternatives
- Determine how and where the Smart Card adds value
  - Revenue growth
  - Decreased cost
  - Increased customer value