

Sessions 1 - 2: e-Government projects – an introduction

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Flow

1. Understanding e-government as information systems
2. Building blocks of e-government
 1. Privatization
 2. e-Business model
3. Business models in e-government projects
4. Cost components
5. Concluding remarks

1. Introduction – e-government and e-governance

Palvia, S. C. J., & Sharma, S. S. (2007). E-government and e-governance-definitions framework and status around the world, *Computer Society of India Working Paper*

- In public policy, there is a ambiguity between e-governance and e-government; the academic literature differentiates between the two
- E-government
 - Is the government's use of information and communication technology (ict) tools to
 - Improve delivery of services to citizens, businesses, and other government agencies
 - Enables the citizens and businesses to interact and receive government services 24 X 7 (ex. tax payments)
 - Focuses on stakeholders outside the government (another government body, private sector businesses, public sector organizations, and citizens)
 - Ict tools include the internet, emails, video recorders, mobile phones, and multimedia
 - Essentially G to C, G to B, and G to [other governmental agencies]
- E-governance or electronic governance is
 - The ict tools, and processes used by governments, private sector firms, and ngos to guide the goals of the organization
 - Focuses on administration/management within an organization, whether public or private
 - Usage of ict tools to manage resources (human, capital, machines) to administer policies within the organization
 - Essentially G to E, using the intranet
 - Examples would be pension calculations, collaboration with other employees

1. Introduction – understanding e-government as information systems

- An empirical reality is that most e-government projects fail
 - Total and partial failures range from 65-85%
 - A gulf between the hyped-up IT role in government and reality, resulting in wastage of resources – bad management of projects is a reason
- e-Government, defined as the use of IT by public sector organizations, can be perceived as “information systems”, and includes
 - Office automation (fax, emails, printers, and computers)
 - Management information systems, reports, and expert systems (dashboards)
 - Client facing websites (passport portal)
- e-Government
 - thus includes technology + information + people + work processes
 - e-Government is not isolated, but embedded in public sector organizations which provide resources, management systems, the political, legal, and the economic context
- See fig. 1.2 in the next slide for a full model

1. Introduction ...

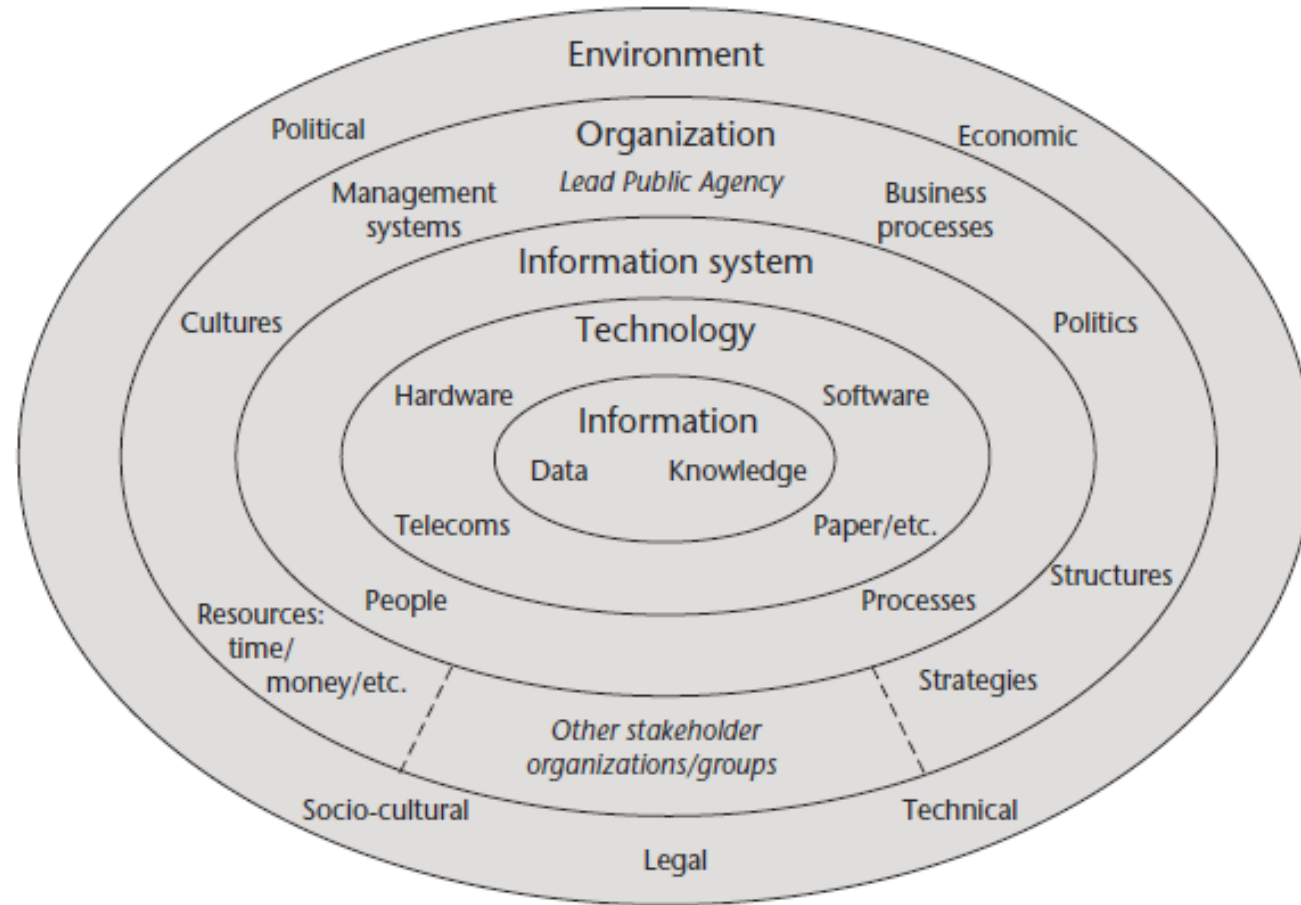


Figure 1.2 Full model of e-government systems

1. Introduction ...

- An e-government project is described by the **ITPOSMOO checklist**
 - Information (formal by digital systems and informal by people)
 - Technology (IT-centric, e-paper, phone, multimedia)
 - Processes (for delivering services to stakeholders – citizens and other bodies)
 - Objectives (aligning employee incentives with office goals)
 - Staff skills (capacity building)
 - Management (structures required to organize operations)
 - Other resources (time and finance)
 - Outer world (project linkages with political, legal, and economic climate of the state)
- This checklist describes, in a structural manner, what an e-government system ***is***

1. Introduction ...

- An e-government project can also be described from a process perspective - the **CIPSODA checklist**
- See fig. 1.3 for the CIPSODA model in the next slide
 - This model tells us what e-government system **does**
 - The essential elements of this model are
 - Capture (gathering data)
 - Input (upload the data into the e-government system)
 - Processing (computations and analysis of data)
 - Storing (store raw data and processed information)
 - Output (the information is made available to the user)
 - Decision, and
 - Action
 - The CIPSO elements describe the e-government processes, but the decision (D) and action (A) elements add value to the public

1. Introduction ...

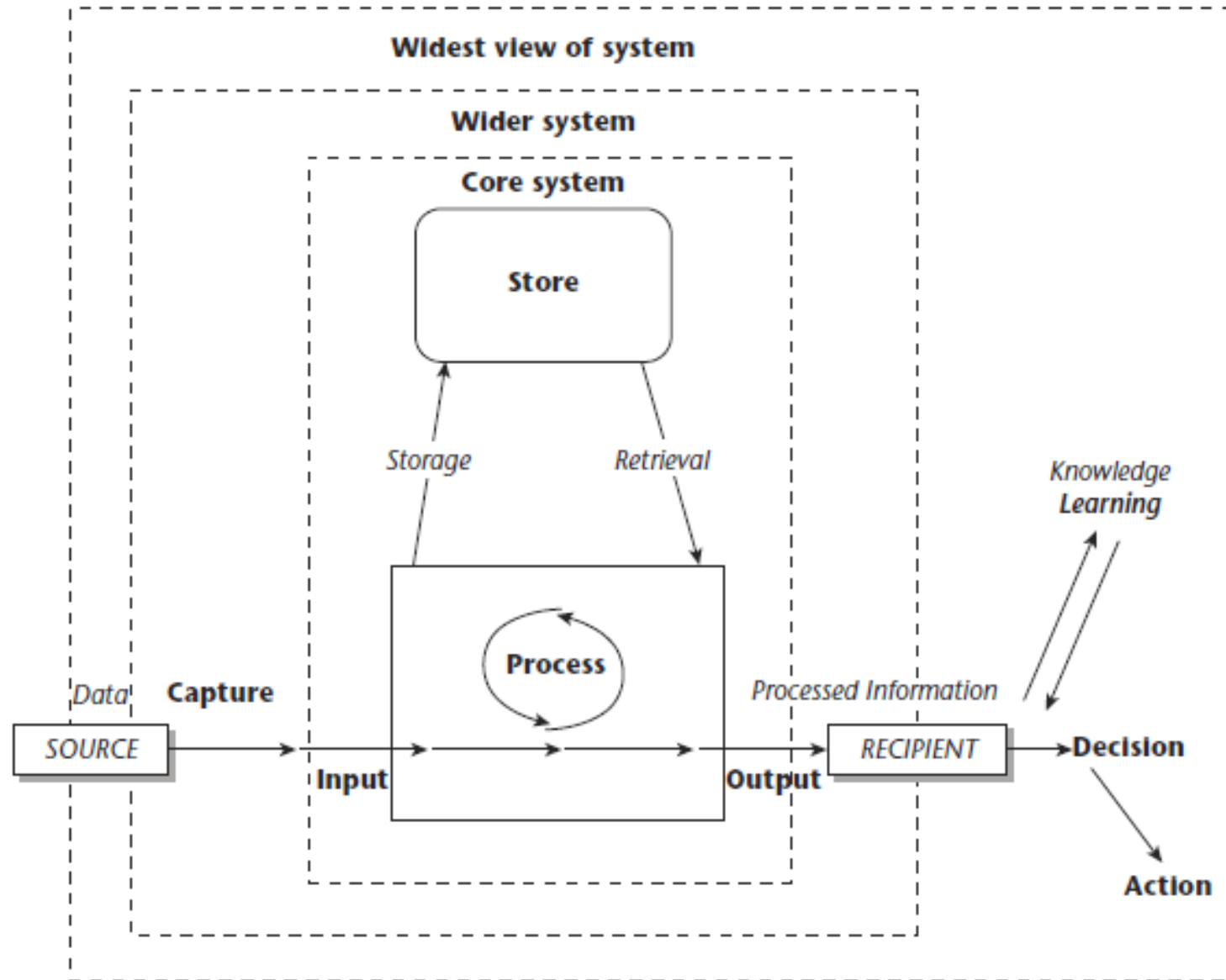


Figure 1.3 eGovernment systems as information systems: Process view

1. Introduction ...

- e-Government systems, in both models, are shown as socio technical systems, which is a combination of the hard and the soft components
- The hard component tends to be
 - Management science and engineering-science inspired
 - Formal, and quantitative and
 - Emphasize the technical aspects of the e-government systems
- The soft component tends to be
 - Social science-inspired
 - Emphasize the human aspects of the e-government systems
- e-Government projects driven by political considerations, based on personal goals, is an example of the soft-approach to e-government (ex. the meeseva project in ap was spearheaded by a tech savvy chief minister)
- e-Government projects, initiated by departments, are designed to produce outcomes, align with departmental objectives, are optimal, reductionist, and could be an example of the hard approach (ex. the passport seva project)
- Both extremes may be avoided, and a hybrid approach is advocated for successful e-government

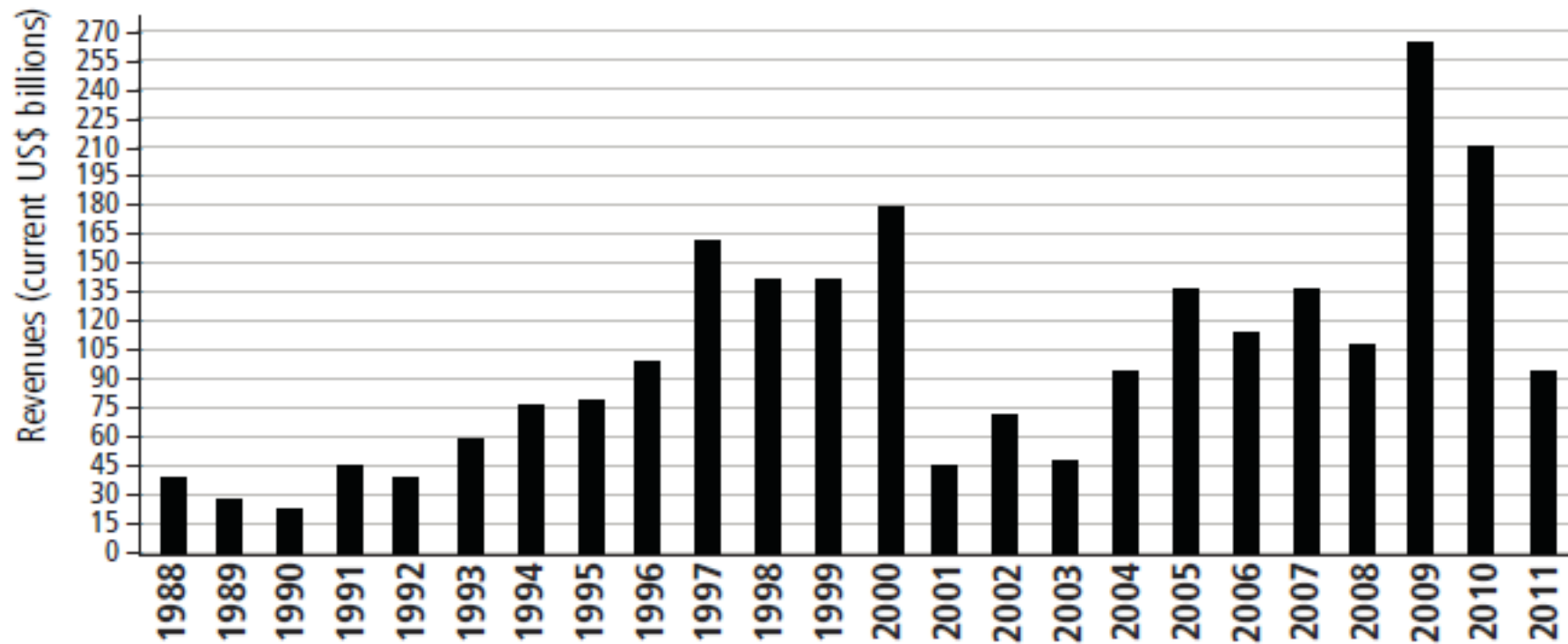
1. Introduction ...

- e-Government is **not** e-business; several differences are noted below
 - View of customers (more broader for the government)
 - Relation with customers (mixed with the role of citizens and consumers of the service)
 - Accountability (optimum usage of tax payers' money)
 - Human and technological infrastructure (weaker)
 - Politicization (greater)
 - Competition (smaller)
- The above differences indicate that ideas, lessons, and applications of e-business package cannot be shoe-horned directly into e-government without changes
- Returning to why e-government projects fail, one reason is the mismanagement to integrate the socio-technical aspects of e-government information systems

2. Building blocks of e-government (a) privatization

- Privatization trends in government projects, in general, is shown below –

Figure 1.1 Worldwide Revenues from Privatisation of State-Owned Enterprises, 1988-2011 (in US\$ billions)



Source: Privatisation Barometer (2011)

2. Building blocks ... (a) privatization

- Two waves of privatization can be seen in fig. in the previous slide
 - The first wave from 1980s to 2000
 - The governments sold the state enterprises to private firms
 - The easiest opportunities to divest were exhausted by 2000
 - Lack of institutions and legal policy rendered privatization ineffective (the IT bubble burst in 9/2000)
 - The second wave picked up in 2004-05
 - Auto and equity markets which were taken by the state post-2008 crisis were privatized (usa and europe)
 - A peculiar feature of this wave is the tendency of government to “partially privatize”
 - By retaining control, government could influence commercial activities
 - Efficiency of government increased due to infusion of private sector best practices
 - **Government could attract capital from financial markets**
- Note that “partial privatization” is a key feature of e-government project models which involve various shades of public private partnerships

2. Building blocks ... (a) privatization

- On e-government business models with private participation, the public choice theory of microeconomics predicts that:
 - Politicians, bureaucrats and managers are utility maximizers, often with selfish ends ([ex. politicians may want to be re-elected](#)), and so tend to use public projects for this end
 - This is done typically through additional employment, and more capital to stabilize backward regions ([ex. subsidy to service providers for meeseva kiosks in tribal mandals](#))
 - Note that
 - this improves employment and incomes for a specific period, which enables re-election
 - the extra cost can be made invisible for years by hiding this under general budget deficit
 - results in higher staff and higher capital ratios
 - e-Government projects tend to be more growth- and not wealth-oriented, as higher capital boosts productivity
 - Government can increase the demand of e-government services through policies ([e-brick donation scheme for amaravathi](#)) or decrease ([abolish residence certificate, improve validity of caste certificates from 2 to 4 years](#))
 - This tends to increase employment and wages in the economy
- There may be over-supply of e-government services due to lack of competition in production and lead to improved employment and incomes in the short run

2. Building blocks ... (b) e-business model

What is a business model (bm) ?

- A bm defines how an enterprise
 - Creates and delivers value to its customers
 - Converts payments received by the customers into profits
 - Integrates the organizational and financial architecture of its business
- Bm has catapulted into public consciousness since late 1990s due to the
 - Emergence of the knowledge economy
 - Growth of the internet and e-commerce
 - Outsourcing business activities
 - Restructuring of financial services
- In the industrial era, bm was simple: the firm packed its technology and intellectual property into a product and sold it to customers
- In the digital age, internet allows customers to access information for comparison shopping, and provides a distribution channel to producers – this has destroyed bms in the music and news industries

2. Building blocks ... (b) e-business model

- There is no theoretical grounding in economics and business studies for the bm
 - In standard competitive markets, the problem of capturing value is assumed away
 - Firms capture value by selling their goods in markets that is assumed to exist
 - Customers buy if price is less than utility yielded; producers will supply if price is at and above costs
 - The price system solves all problems
 - Economics, thus, assumes that business design issues are redundant
- In reality, a sound business design is required to create value and derive profits
- Example 1
 - American express's J. C. Fargo conceived the idea of a traveler's check when he experienced a problem of obtaining cash in foreign countries
 - The bm was simple: for a small fee, travelers could buy peace (the checks were insured against loss) and convenience (widely accepted due to American's brand value)
 - Due to wider acceptance, more merchants accepted these checks, creating the "bandwagon effect"

2. Building blocks ... (b) e-business model

- Example 1 ...
 - American's was a riskless bm:
 - Usually costs precede revenues, but here it was the other way round
 - Many checks were not cashed, which resulted in more revenues
 - Fargo's bm changed the rules of the game and the economics of travel
 - The check eliminated the fear of being robbed and encouraged more travel
- Example 2
 - While pc makers sold through re-sellers and retailers, dell chose a bm where it sold its pc directly to end users
 - This eliminated a costly link, and enabled dell to understand its customers better, reduced inventory costs, and had a cost advantage
 - Dell's rivals tried to sell direct, but this alienated the resellers which affected their other businesses and so, were trapped by their own strategies
 - In its bm, dell chose to sell to corporates with high margins, and ignored the "no margin" businesses to home users
 - Now that everyone is selling direct, dell tweaked its bm and pursuing new opportunities in servers, a different product

2. Building blocks ... (b) e-business model

A good business model must thus answer the following questions:

1. Who is the customer?
2. What does the customer value?
3. How do we make money in this business?
4. What is the underlying economic logic that explains how we can deliver value to customers at an appropriate cost?

2. Building blocks ... (b) e-business model

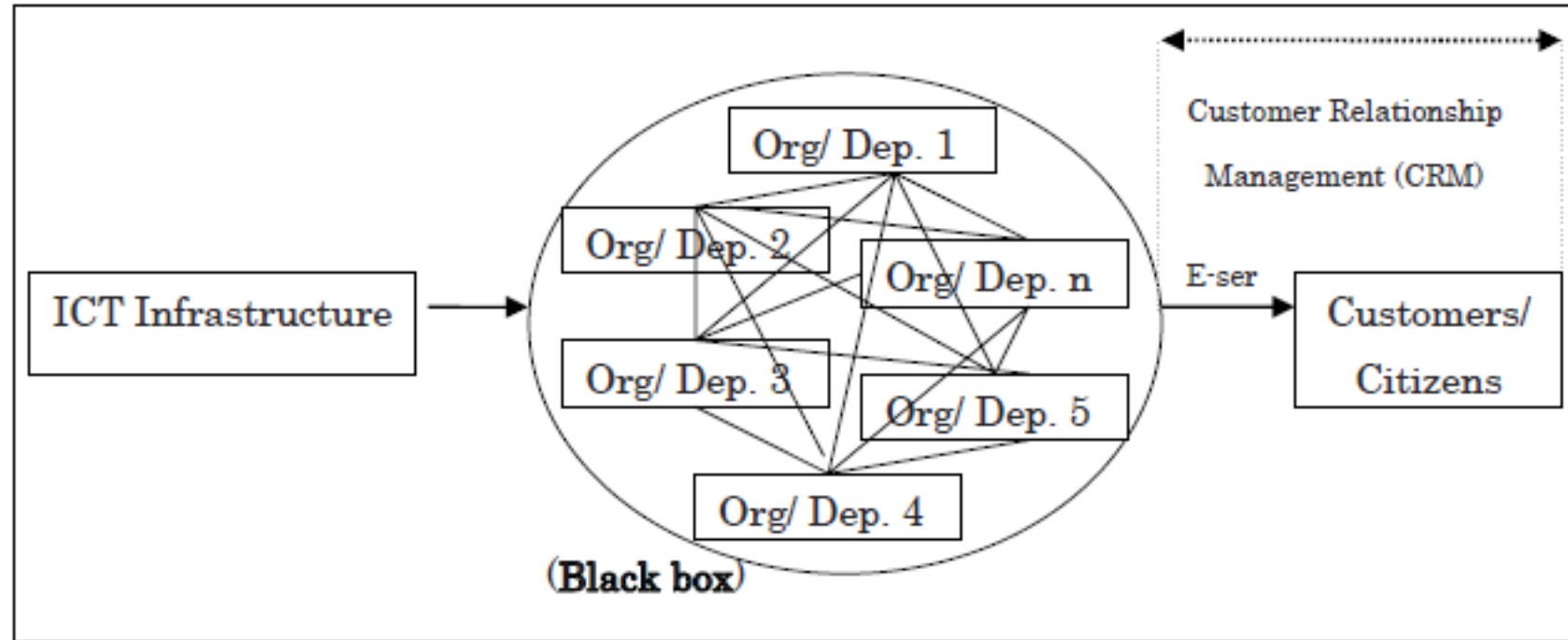
- e-Business models are structures that use networks and real time interactions to accomplish any or all of the following six core business goals-
 1. empowerment of customers
 2. enhancement of trade
 3. increased business agility
 4. extension of enterprises in a virtual manner
 5. invention of products and services, and
 6. development of new markets and customers (Ref: Sharma. (2000). *Strategy and Leadership*, pp. 27-31)
- From the definitions of e-government and e-business, the common elements are
 - ICT
 - Providing services to customers and users profitably
 - Government
 - Customers or citizens

3. Business models in e-government projects

- Two contemporary approaches for implementing e-government citizen-centric business models
 1. Customer relationship management (crm) approach
 - This approach tries to understand citizens' needs through forums and surveys
 - Crm is different for the government and business
 - e-Businesses (ebay) make their websites as attractive as possible to encourage repeat buys, but the citizen may avail e-government services much less frequently (tax payment, registration)
 - Absence of market incentives and legislative constraints have limited the adoption of crm
 - Back office work processes, so essential in e-government does not receive focus; only front end activities are of concern in crm
 2. “One stop service center” approach
 1. Integration of departments and their services is required and often, difficult in practice
 2. The tendency of public offices for functional insularity is the main reason
- The literature suggests that the deficiencies of the above approaches can be addressed through the “value chain model”; see fig. 2 in next slide

3. Business models in e-government projects...

Figure 2. The e-service value chain in citizen-centric e-government



- The basic model consists of 3 elements-
 1. Infrastructure- the government and the business set up the ict infrastructure
 2. Black box-collaboration of the government departments
 3. Customers and citizens-the requested services are delivered to the citizen

3. Business models in e-government projects...

1. Infrastructure

- Setting up ict infrastructure by government and business is the first step
- Government can increase demand for e-services through policy and digital literacy
- Frequently, e-government services have ended up with unstable number of end users
 - Only 12% of the citizenry availed the national e-identity card service in japan resulting in massive waste of ict infrastructure
- In india too, we measure the success of e-projects on the amount of money spent in ict infrastructure

2. Black box

- This remains a challenge as employees' wages are not tied to e-government performance
- Generic e-businesses focus on economic efficiency and profitability, and so, chooses to serve specific customers
 - while e-government has to achieve policy missions, hold political appeal, be economically efficient, and be equitable

3. Citizens and customers

- Civic and public interests of citizens are much deeper than the service rights of customers²¹

3. Business models in e-government projects...

Value chain model recommendations

1. Specialization in a group of e-services

- Instead of a “one-stop shop” which requires enormous ict resources, and interdepartmental coordination, e-government can focus on commercial e-services
 - Financial e-services like tax payments, insurance, pension, banking correspondent services are easily amenable to crm practices, have a high demand, and profitable;
 - e-Services like boiler license, and brick donation scheme may not be profitable
 - Education and health require capital, and may require private participation
 - For services like army, police, and licenses, it may be difficult to apply e-business model as they relate to regulation

2. Commercialization of public services through sub contracts and outsourcing

- Here, the government is accountable, but the service is operated by the private sector ([ex. the meeseva project of andhra pradesh](#))
- Thus, customer-centric e-business can be successfully integrated into citizen-centric e-government model through **specialization and commercialization**, which transforms the whole value chain

3. Business models in e-government projects...

Ensuring competition in prequalification stage in outsourcing and ppp

- Often, the size of e-government projects range from rupees 10-150 crores
- Prevailing DietY guidelines prescribes
 1. 20 times the turnover (annual sales revenue minus discounts minus sales tax) as a prequalification for software integration projects only
 2. Turnover need not be insisted upon, as this curtails competition; insist on adequate performance bank guarantees, instead
- Thus, these guidelines, though useful, are broad in scope, not rigorous enough, not sufficiently granular, and discourage competition
- See table 1 in next slide for a more granular model (as being panned in ap) prescribing the minimum turnover
- See table 2 which prescribes the required project experience for participating bidder firms which implement IT projects for other firms in the private sector and non government sector

3. Business models in e-government projects...

Ensuring competition ... (a) Turnover criterion

Table 1

Serial No	Type of service	Minimum turnover as a percentage of proposed project cost
1	Software development (SW)	100% of the proposed project value, computed on an annual basis
2	System Integration	100% of the proposed project value, computed on an annual basis
3	Hardware Supplies	200% of the proposed project value, computed on an annual basis
4	<ul style="list-style-type: none">• Networking equipment• Facilities Management (FM)• Administrative and Management Contract (AMC)	150% of the proposed project value, computed on an annual basis
6	Other IT related projects (consumables, bandwidth)	100% of the proposed project value, computed on an annual basis

3. Business models in e-government projects...

Ensuring competition ... (b) Past experience

Table 2

S.No	Type of service	Minimum cost of implemented projects as a proportion of the proposed project value, computed on an annual basis (%)			
		Single Project (%)	Two Projects (%)	Three Projects (%)	Four Projects (%)
(1)	(2)	(3)	(4)	(5)	(6)
1	SW development	50	35	30	25
2	System Integration	60	45	35	30
3	Hardware Supplies	100	55	40	30
4	Networking	100	55	40	30
5	FM&AMC Services	90	50	35	25
6	Other IT related project	50	40	30	20

3. Business models in e-government projects...

Ensuring competition ...

- Table 2 prescribes minimum project experience for participating bidder firms implementing projects for other private sector firms and non governmental organizations
 - For firms which have implemented projects for governments and psus, a discount of 10% in each category may be given
- In addition,
 - the net worth (firm's assets minus liabilities) must be positive and increasing, and must be a minimum of 25% of the capital cost of the project, when averaged over the three previous financial years
 - for software development and systems integration projects
 - which exceed rupees 100 crores, we may insist on capability maturity model integration (CMMI) levels 3 and higher (3 = firms processes adhere to industry standards; 4 = quantitatively managed, measured, and controlled processes; 5 = optimization)
 - which are below rupees 100 crores, CMMI level 2 appraisal and higher may be insisted

4. Cost components

Two major cost components in e-government projects are:

1. Capital expenditure (capex)

- Benefit of this expense continues over a long period
- Non recurring
- Results in permanent assets (property, buildings, and equipment)
- Usually fixed, and independent of the level of output
- Usually occurs in the financial statement as “investment in plant, property, and equipment”
- From tax perspective, capex cannot be deducted from the expenses of that year, but must be written off (depreciated or amortized) over the life of the asset
- Intangible assets like software development and licenses, laptop, and servers

2. Operating expenditure (opex)

- Ongoing day-to-day costs for running a business
- Varies with output and measures efficiency of the business
- Revenues - opex = earnings before interest, tax, depreciation, and amortization (ebitda)
- Examples include paper, cartridges, labor costs, travel expenses, utilities fees, and taxes

4. Concluding remarks

- E-government projects in india partially subscribe to the value chain model
 - Most states have commercialized the delivery of public services by partnering with private firms; examples include
 - Meeseva, e-tendering, and e-permits (mines and geology) from andhra pradesh
 - Mobile one from karnataka
- Several developed economies (usa, denmark, australia) have attempted the “one stop shop” with mixed success

End of session

Thanks