



NPTEL ONLINE CERTIFICATION COURSES

Management Information Systems

Prof. Surojit Mookherjee

VGSoM, IIT KHARAGPUR

Week 12: Managing Global Organizations and Global Projects
Lecture 01 : Managing Global Organization - Globalization (Part1)

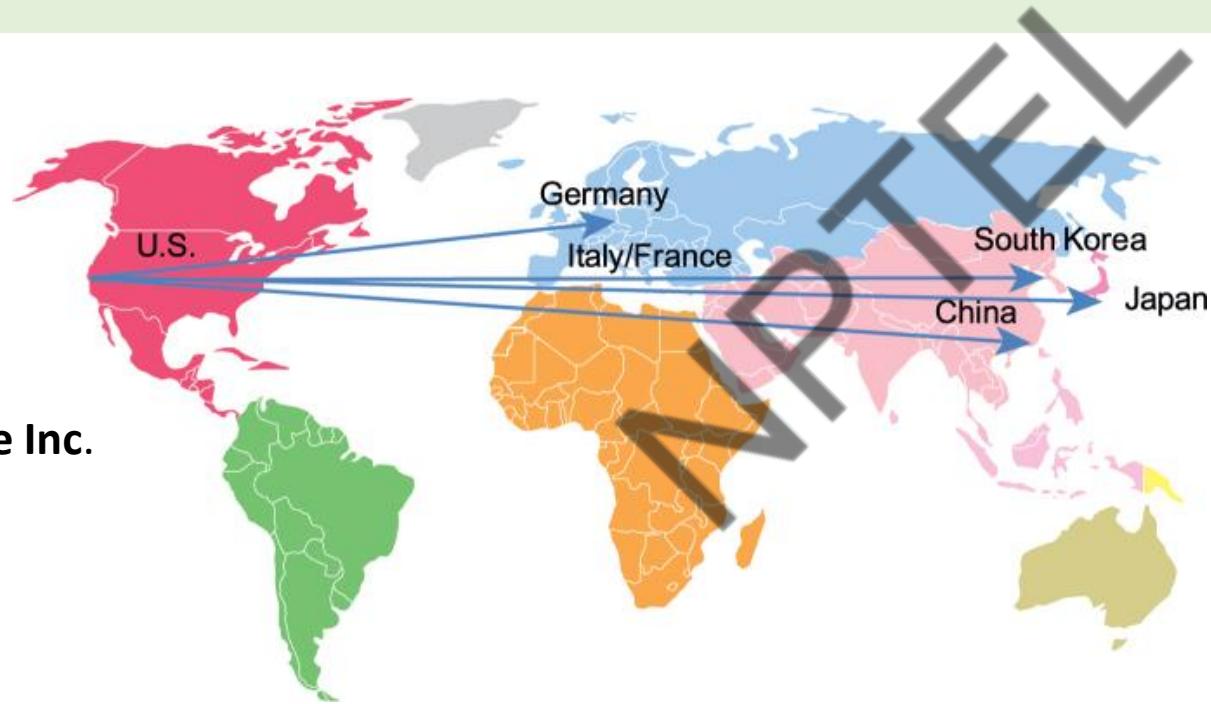
Learning Objectives

- What major factors are driving the internationalization of business?
- What are the alternative strategies for developing global businesses?
- What are the challenges posed by global information systems and management solutions for these challenges?
- What are the issues and technical alternatives to be considered when developing international information systems?

What is meant by a Global Organization (Globalization) ?

International business refers to the trade of goods, services, technology, capital and/or knowledge across national borders and at a **global** or transnational life. It involves cross-border transactions of goods and services between two or more countries.

Example - Apple Inc.



Characteristics of a Global Organization

- Large scale operations.
- Earns foreign exchange in multiple currencies
- Integrates economies.
- Large number of middlemen.
- High risk (e.g. US - China trade conflict)
- International restrictions.
- Highly sensitive nature towards local laws and regulations
- Global Political alignments / Trading Partnerships
- **Multi – Languages , Multi - Cultural**

What are the major Drivers (Factors) affecting International business

- ❖ Transport (Steam engine to Jet engine)
- ❖ Communication (Internet and Telekom)
- ❖ Political
- ❖ Economical
- ❖ Social
- ❖ Technological (Computing power , Cloud , Video conferencing , Analytics , IT Security)
- ❖ Legal

Globalization

Globalization* is the process of business integration among people, companies, and governments , across the world.

It is primarily an **economic** process in integration with **social** and **cultural** aspects of the countries involved.

So we have :

- Economic Globalization
- Cultural Globalization and
- Political Globalization (Belt and Road Initiative of China)

* Wikipedia

Internet users by region				
	2005	2010	2017	2019 ^a
Africa	2%	10%	21.8%	28.2%
Americas	36%	49%	65.9%	77.2%
Arab States	8%	26%	43.7%	51.6%
Asia and Pacific	9%	23%	43.9%	48.4%
Commonwealth of Independent States	10%	34%	67.7%	72.2%
Europe	46%	67%	79.6%	82.5%

^a Estimate. [119]

Source: [International Telecommunication Union.](#)

* Wikipedia

What Major Factors Are Driving the Internationalization of Business?

- Global economic system and global world order driven by advanced networks and information systems
- The growth of international trade has radically altered domestic economies around the globe
- For example, production of many high-end electronic products parceled out to multiple countries
 - For example: Apple iPhone's global supply chain
Samsung's Mobile phone manufacturing

Strategy for developing an International Information Systems Architecture

- **Understand global environment**
 - Business drivers for global competition
 - Inhibitors creating management challenges
 - Multi – cultural aspects of employees and partners
- **Develop corporate strategy for global competition**
- **Develop organizational structure and division of labor**
- **Consider management issues**
 - Design of business procedures, reengineering, managing change
- **Consider technology platform**

International Information Systems Architecture



The Global Environment: Business Drivers and Challenges

- **General cultural challenges**
 - Cultural particularism
 - Social expectations
 - Political laws
- **Specific challenges**
 - Standards
 - Reliability
 - Speed
 - Personnel

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The Global Environment: Business Drivers and Challenges

GENERAL CULTURAL FACTORS

Global communication and transportation technologies

Development of global culture

Emergence of global social norms

Political stability

Global knowledge base

SPECIFIC BUSINESS FACTORS

Global markets

Global production and operations

Global coordination

Global workforce

Global economies of scale

Challenges and Obstacles to Global Business Systems

GLOBAL	SPECIFIC
Cultural particularism: Regionalism, nationalism, language differences	Standards: Different Electronic Data Interchange (EDI), e-mail, telecommunications standards
Social expectations: Brand-name expectations, work hours	Reliability: Phone networks not uniformly reliable
Political laws: Transborder data and privacy laws, commercial regulations	Speed: Different data transfer speeds, many slower than United States
-	Personnel: Shortages of skilled consultants

State of the Art

- Most companies have inherited a patchwork international system using traditional batch-oriented reporting, manual data entry, legacy systems, and little online control.
- **Significant difficulties in building appropriate international architectures**
 - Planning a system appropriate to firm's global strategy
 - Structuring organization of systems and business units
 - Solving implementation issues
 - Choosing right technical platform

REFERENCES

- **Management Information Systems: Managing the Digital Firm - Kenneth C. Laudon & Jane P. Laudon – Ch 15**
- **The World is Flat : Thomas L Friedman**
- **Enterprise Resource Planning, Rajesh Ray, Tata McGraw-Hill**



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Week 12: Managing Global Organizations and Global Projects

Lecture 02 : Managing Global Organizations – Part 2

Global Strategies and Business Organization....

- Three main kinds of organizational structure
 - Centralized: In the home country
 - Decentralized/dispersed: To local foreign units
 - Coordinated: All units participate as equals

Global Strategies and Business Organization

Four main global strategies

- Domestic exporter (e.g. Tata Motors)
- Multinational (e.g. IBM)
- Franchisers (e.g McDonalds)
- Transnational (e.g. Coca Cola)

Transnational corporations share many qualities with **multinational corporations**, with the difference being that **multinational corporations** consist of a centralized management structure, whereas **transnational corporations** generally are decentralized, having country specific controls.

Global Systems to Fit the Strategy

- Configuration, management, and development of systems tend to follow global strategy chosen
- Four main types of systems configuration
 - Centralized: Systems development and operation occur totally at domestic home base
 - Duplicated: Development occurs at home base but operations are handed over to autonomous units in foreign locations
 - Decentralized: Each foreign unit designs own solutions and systems
 - Networked: Development and operations occur in coordinated fashion across all units

Reorganizing the Business

To develop a global company and information systems support structure:

1. Organize value-adding activities along lines of comparative advantage
 - For example: Locate functions where they can best be performed, for least cost and maximum impact.
2. Develop and operate systems units at each level of corporate activity—regional, national, and international
3. Establish at world headquarters:
 - Single office responsible for development of international systems
 - Global CIO position

A Typical Scenario: Disorganization on a Global Scale

A traditional multinational consumer-goods company based in United States and operating in Europe would like to expand into Asia

- World headquarters and strategic management in United States
- Separate regional, national production and marketing centers
- Foreign divisions have separate IT systems
- E-mail systems are incompatible
- Each production facility uses different ERP system, different hardware and database platforms, and so on

Global Systems Strategy (1 of 3)

- Share only core systems
 - Core systems support functionality critical to firm (e.g. key business processes like Procurement , Pricing , Manufacturing , Inventory)
- Partially coordinate systems that share some key elements
 - Do not have to be totally common across national boundaries
 - Local variation desirable (e.g. HR , Finance)
- Peripheral systems
 - Need to suit local requirements only (e.g. Tax rules)

Global Systems Strategy (2 of 3)

- Define core business processes
- Identify core systems to coordinate centrally
- Communicate across organization leadership for Change Management
- Choose an approach
 - Piecemeal and grand design approaches tend to fail

Global Systems Strategy (3 of 3)

- Make benefits clear
 - Global flexibility
 - Gains in efficiency
 - Global markets and larger customer base unleash new economies of scale at production facilities
 - Optimizing corporate funds over much larger capital base

The Management Solution: Implementation (1 of 2)

- Agreeing on common user requirements
 - Short list of core business processes
 - Develop common language, understanding of common elements and unique local qualities
- Introducing changes in business processes
 - Success depends on legitimacy, authority, ability to involve users in change design process
- Coordinating applications development
 - Coordinate change through incremental steps
 - Reduce set of transnational systems to bare minimum

Issues and Technical Alternatives When Developing International Information Systems (1 of 3)

- Computing platforms and systems integration
 - How new core systems will fit in with existing suite of applications developed around globe by different divisions
 - Standardization: Data standards, interfaces, software, and so on
- Connectivity
 - Internet does not guarantee any level of service
 - Many firms use private networks and VPNs
 - Low penetration of PCs, outdated infrastructures in developing countries

Issues and Technical Alternatives When Developing International Information Systems (2 of 3)

- Software
 - Integrating new systems with old – Version and Upgrade management
 - Human interface design issues, languages
 - Commonality of softwares used amongst different countries.
- Software localization
 - Configuring to meet local requirements. Very important for ERP type enterprise systems (SCM , CRM etc.)

Issues and Technical Alternatives When Developing International Information Systems (3 of 3)

Most important software applications:

- Enterprise Resource Planning
- Business Warehousing and MIS
- Electronic Data Interchange (EDI)
- Enterprise systems like CRM , SCM , SRM , PLM
- Collaboration tools, e-mail, videoconferencing , Chat
- Servers and Operating Systems
- IT Security systems
- Data Analytics and Reporting systems.

REFERENCES

- **Management Information Systems: Managing the Digital Firm - Kenneth C. Laudon & Jane P. Laudon – Ch 15**
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Lecture 03 : Shared Services

What is Shared Services....

Defining shared services

Organizations share delivery of similar services across locations / countries to :

- ✓ reduce cost,
- ✓ enhance efficiency and
- ✓ improve quality

However, it requires careful design of the Organization's structure , governance and IT backbone for high quality Management Information System, to ensure that it achieves the level of cooperation required to implement an effective shared services model.

Seamless and real-time communication play a key role in the effectiveness of MIS for the success of the Shared Services.

Three Key things provided by Shared Services

- **external services** — services that Organization provide to its customers such as : consulting or advisory services , non-core service activity like Catering by Railways (IRCTC)
- **back office functions** — functions that support the Organizations functioning such as : Information Technology, Finance, Legal, Payroll, and Human Resources , Corporate Social Responsibility , Training , R&D etc;
- **procurement** — Centralised purchase of goods and services to achieve economies of scale , short lead time of delivery , maintaining lean inventory levels.

Major benefits of Shared Services

- **Cost reduction through economies of scale**
- Increased efficiency through sharing of assets and people
- Improved service delivery and consistency across regions
- Reduced duplication of processes and skilled human resources
- Improved quality of service through larger and more skilled resource pool
- Standardizing the business processes across locations and countries
- Common IT tools – lower costs

Major benefits of Shared Services

- Promotes the consolidation of scarce resources with specific technology skills that can be shared across business units
- Engages industry standards and best practices
- Flexible engagement models to satisfy clients' diverse needs
- Ownership and control remains with the Organization
- Keeps the Organization focused on core activities
- Support of local economies by sustaining local employment (Outsourcing)

Shared Services – Delivery Mechanisms

- **Resource sharing** – Multi National organizations share key resources (plant, equipment or personnel) of individual countries to deliver for Group companies.
- **Centralisation of services** – relocation of multiple delivery sites or services to one centre which then serves the whole organization. These could be located at one place for world-wide operation or have locations each at continent level (Americas , EU , Asia-Pacific etc.)
- **Joint venture** – establish stand-alone entity to share costs and risks of providing goods or services (e.g a separate company for procuring raw-material for the parent organization)
- **Outsourcing** – Key functions outsourced to provider organisations. Non-core functions can be outsourced to a third-party for efficiency and cost saving and agility.

All of these get delivered on a platform (back – bone) of Integrated IT systems and technology

Scope of Shared Services in a business enterprise.....

FINANCE

- Planning and Budgeting
- Treasury/Cash Management
- Internal Audit
- Tax
- Foreign Exchange
- Business Support Analysis

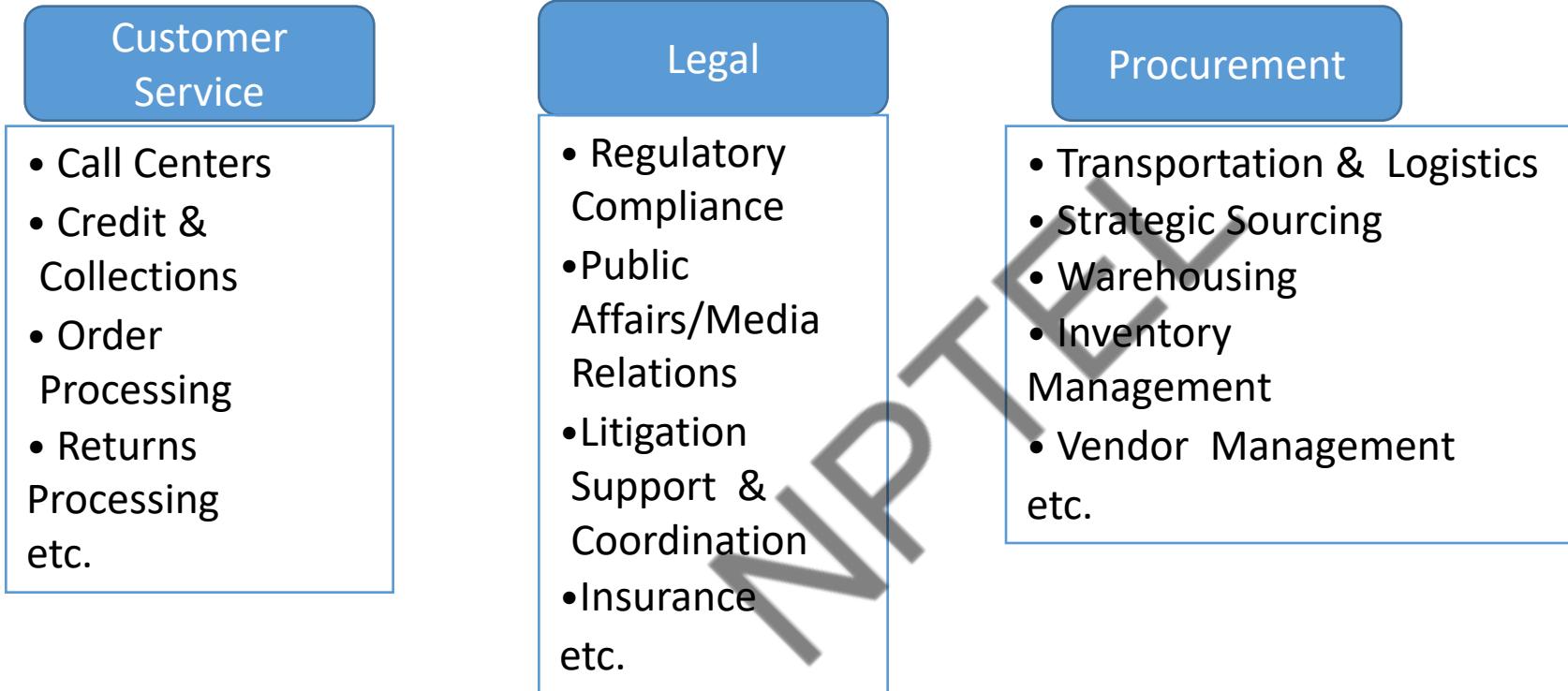
HR

- Benefits Administration
- Records Management
- Training & Development
- Relocation Services
- Recruitment
- Payroll

IT

- Hardware & Software
- Application Development
- Data Center Operations
- Standards
- Technology Planning
- Security
- Cloud
- ERP , CRM , SRM, KM etc.
- enterprise softwares

Scope of Shared Services in a business enterprise



Challenges for Shared Services functioning

Not having common tools and approaches

Lack of Top Management support

Lack of common process management

Maintaining key employee talent

Inconsistent approach to customer service

Lack of a shared center infrastructure

Different Time Zones

Different Legal Requirements

Functional silos for processes execution

Challenges for Shared Services functioning – Change Management

- ❖ Biggest challenge is fear of reduced importance ,for the employee, when ‘business processes’ get shifted to a Shared Service Organization , which would usually be in a different country.
- ❖ Consolidation of common functions in a single location would result in staff reduction
- ❖ Staff relocation to different country with associated problems (family issues etc.)
- ❖ Reporting to managers from different country , different cultural background , habits etc.
- ❖ Need to learn new technologies
- ❖ Multiple Time Zones

How Technology is helping Shared Services

ERP

ERP provides the platform for building operational efficiency and generating MIS reports

Electronic Processing

Electronic Invoicing , Document Management , Automated payment , User Self service, Workflow etc.

Cloud Environment

Has enabled quick setting up , scaling up and scaling down as necessary without any Capex involvement

Social Media

Easier and effective collaboration with partners without any geographic limitation

Locational features impacting global shared service centers

- **Americas:** The Americas region, particularly in the US, have the most established shared services models
 - technology, common language, standardized policies , skilled man power.
- **Latin America:** Low cost manpower , skilled in IT and Spanish language support

Locational features impacting global shared service centers

- **Eastern Europe:**
 - EU process knowledge
 - Multi European language support
 - Moderately expensive labor
- **China:**
 - China is in its infancy stages of developing shared services organizations
 - Most large manufacturing companies have a base in China
 - Lack of English knowledge

Locational features impacting global shared service centers

- **India / Philippines:**

- Cheap labor
- Strong knowledge in English
- Global leaders in business process outsourcing
- Large technical pool
- Very good IT and Telecom Infrastructure

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- Enterprise Resource Planning, Rajesh Ray, Tata McGraw-Hill
- Management Information Systems: Managing the Digital Firm - Kenneth C. Laudon & Jane P. Laudon
- Shared services Analysis report by KPMG
- Trends and Best Practices in global shared services – Chezey Partners



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Lecture 04 : Offshoring / Transitioning Global IT systems

Outsourcing / Offshoring of IT systems of an Organization

- The world has seen since the early 90's , major shift in policies of large corporates towards managing their IT systems.
- They decided to "Outsource" both 'support- maintenance' as well as 'new developments' to specialised IT organizations , whose business is IT development and maintenance (e.g – IBM , TCS, Wipro, Infosys, HCL-Tech , Tech-Mahindra , Cognizant etc.).
- Cost – saving being a major factor , all of these service delivery organizations developed in countries like India , Philippines , Brazil which were located far away from the Headquarters of the Clients. The new locations were thus referred to as "Off-shore Development Centers" .
- **Off-Shoring** thus became a common terminology it the IT domain.

Transition

Transition – is the process of transferring the knowledge and management of the IT systems from one organization to another.

Activities in Transition Cycle

Typical transition activities are as follows:

- ✓ **Knowledge transition:** This involves transferring knowledge from the implementation team to support team or from Client to new Service Provider
- ✓ **Project documentation transition:** Different documents created during the project need to be stored properly and to be handed over by the implementation team to support team.
- ✓ **Human resource transition:** Once the implementation is over, some people will go back to their old job, some will remain to support the application in future, new consulting company may take over the support work – planning need to be done for all these.

Transition Activities

Knowledge Transfer

- Client's business process knowledge
- Application Specific knowledge
- Logics for configuration, developments etc

Human Resource Transition

- Location transition / Transfers
- Role transition / New roles
- Compensation and
- Employment conditions

Documentation

- Blueprints
- Business Logics / Design documents
- Development Specifications
- Configuration documents
- Application Information Documents
- Test Scripts

Typical Support Activities for Transitioning / Outsourcing

System Administration

- ✓ Daily Database Administration
- ✓ System performance monitoring
- ✓ Managing Job Schedules
- ✓ Managing Technical Infrastructure

Change Management

- ✓ Develop and Implement Change Control Procedures
- ✓ Applying regular patches, notes etc
- ✓ Testing while implementing changes
- ✓ Transporting changes from one environment to another

Typical Support Activities for Transitioning / Outsourcing

End user application support

- ✓ Provide Ongoing Support to End Users
- ✓ Manage and Resolve problems and issues
- ✓ Root Cause Analysis of problem

Knowledge Management

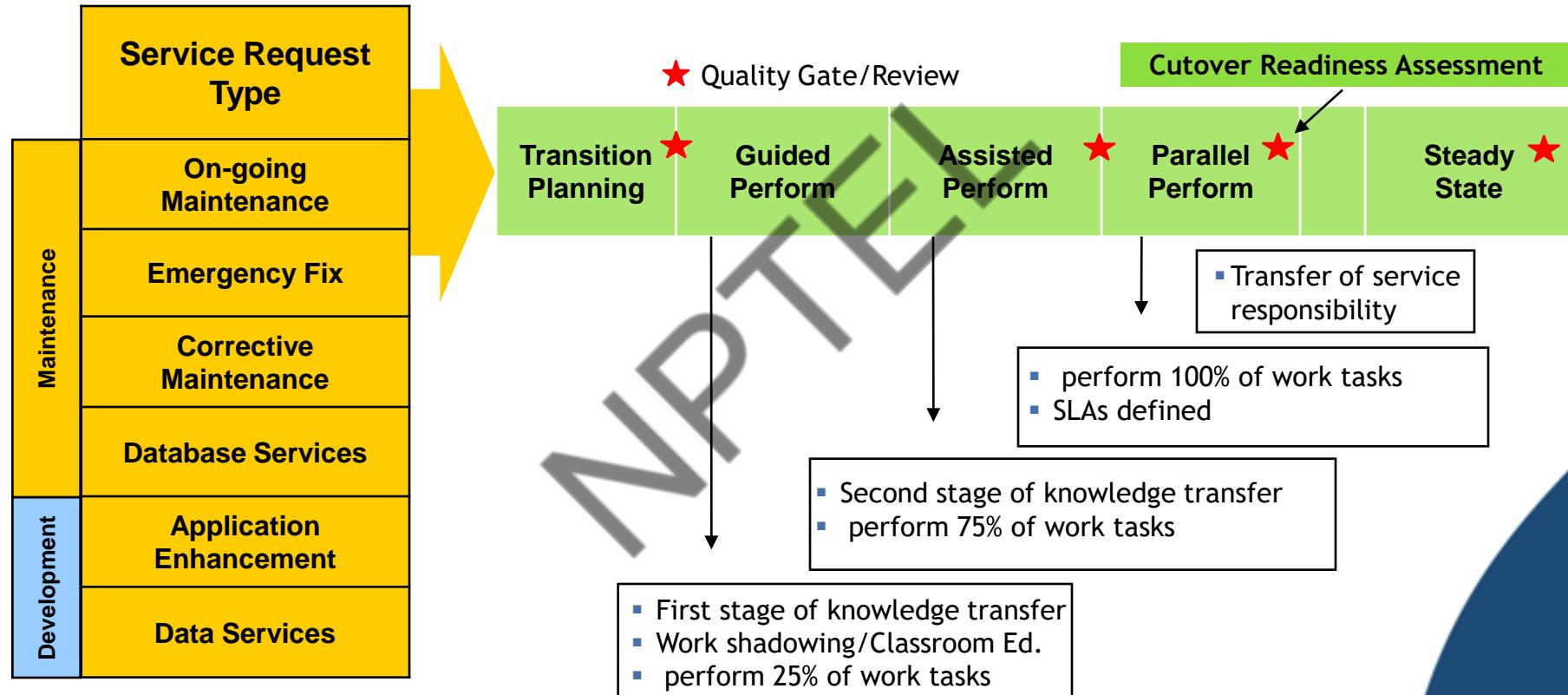
- ✓ Deliver continuous End User Training
- ✓ Evaluate learning effectiveness
- ✓ Document Lessons Learned

Continuous Improvement

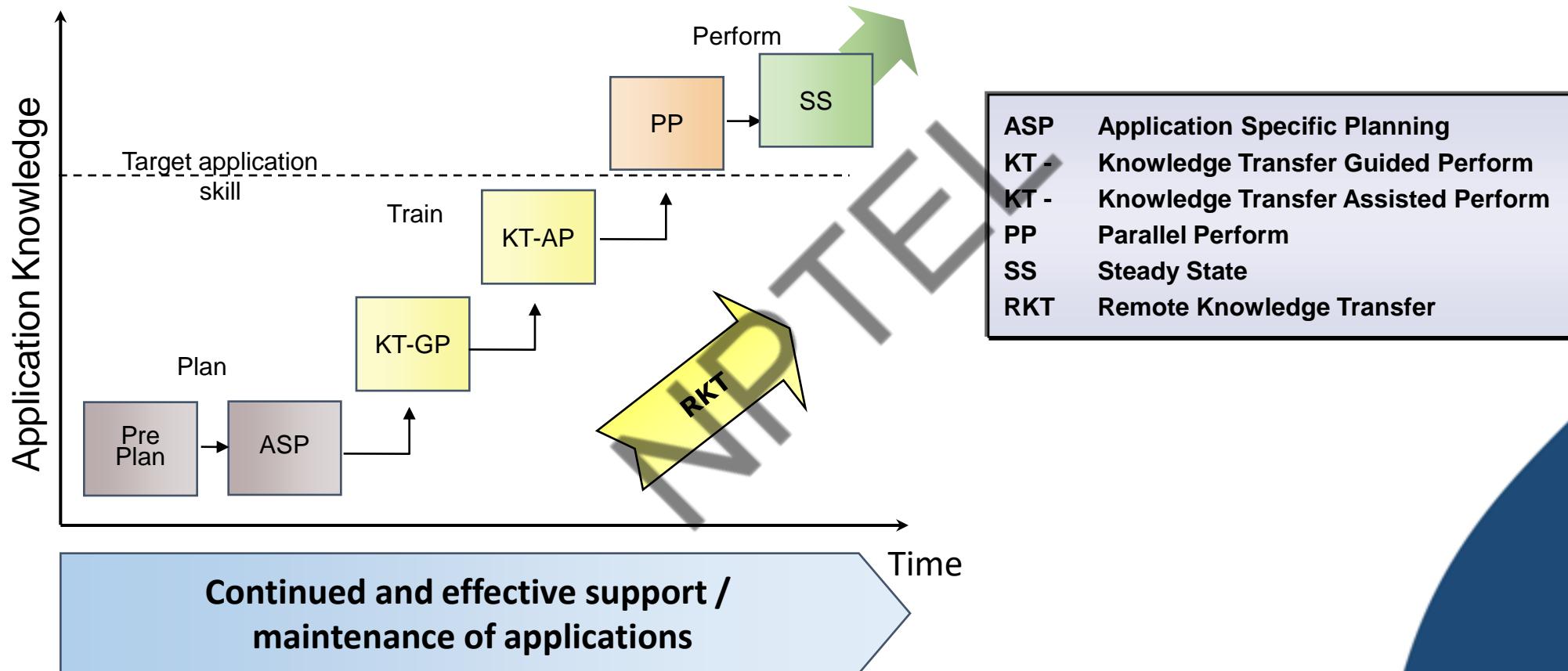
- ✓ Plan for Continuous Improvement
- ✓ Value Realization
- ✓ Measuring Business Benefits

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Transition activities manage a successful transfer of knowledge to global delivery support staff.

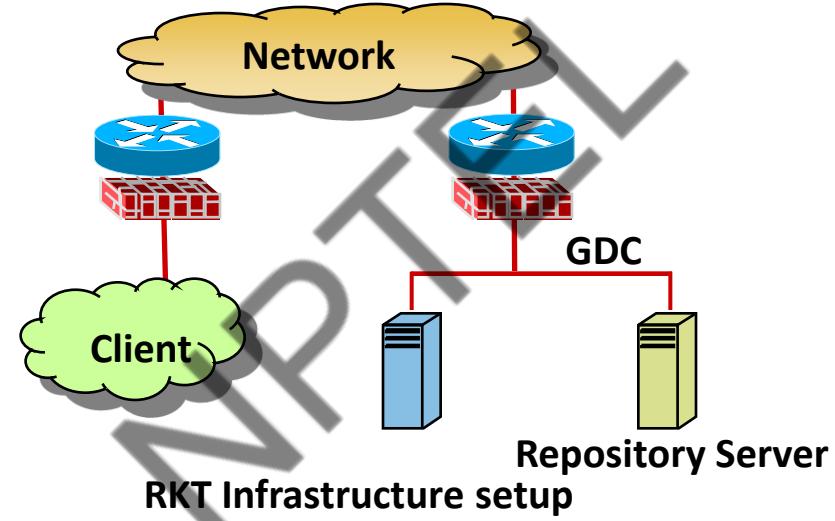
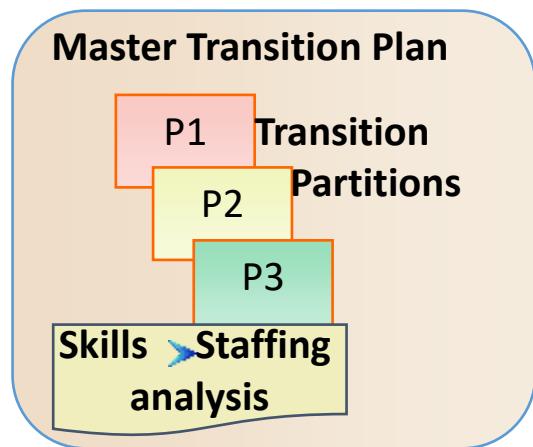


Incremental Progress towards the Goal



Plan - Transition Master Planning

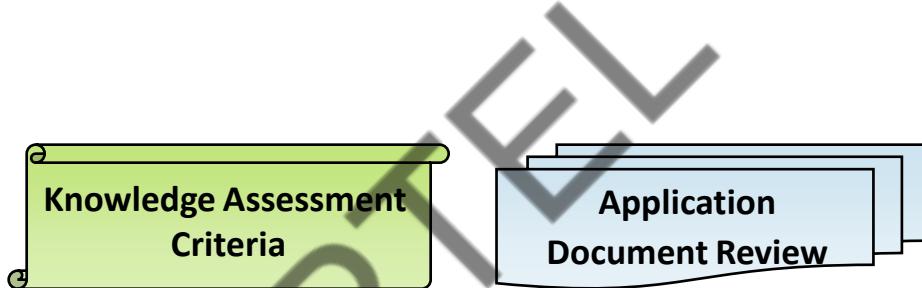
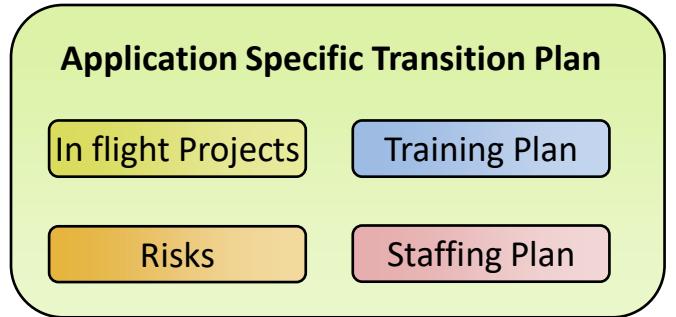
Deliverables



RKT – Remote Knowledge Transfer
<Virtual> – Desktop to Desktop
GDC – Global delivery Center

Plan - Application Specific Planning

Deliverables



AID – Application Information Document
ASCP – Application Support Control Plan

Application Specific Planning (ASP) is done for each logical application group to develop detailed Training Plans

Perform - Parallel Perform & Steady State

Deliverables

- ✓ Steady State Delivery Organization
- ✓ Service Levels
- ✓ Disaster Recovery (DR) / Business Continuity Plan (BCP)
- ✓ AID / ASCP updated in steady state
- ✓ Recording Repository of Knowledge Transfer Recordings

AID – Application Information Document
ASCP – Application Support Control Plan

Transition documentation.....

Application	Document Repository
Steady State Organization	<ul style="list-style-type: none">▪ Reporting Chain▪ Management Functions▪ Contact Information
Application Specific Transition Plan	<ul style="list-style-type: none">▪ Transition Staffing, Schedule▪ Training, Resources▪ Risk Management
Steady State Governance Model	<ul style="list-style-type: none">▪ Client/ Governance Model▪ Metrics & Measurements▪ Escalation Procedures

Transition documentation

Application	Document Repository
Application Information Document	Application Overview Technical Architecture Functions, Interfaces and Modules
<Virtual> Recordings (RKT Tool)	Business Specific Training Detailed Application Reviews Support Tasks Training
Global Delivery Center Disaster Recovery Plan	Risks and Mitigation Identification Key Resource Identification Recovery & Contingency Planning Travel Ready Planning

eCC Remote Knowledge Transfer Tool

- **eCollaboration Center**
 - Uses Industry standard Audio, Video & Data channels
 - Trainers (SMEs) and Trainees (Global Resources) conduct Knowledge Transfer from eCC equipped Conference Rooms
- **Recorded Training Sessions**
 - Training sessions are recorded in remote location (VCR recording)
- **Replay/reuse of recorded sessions**
 - Valuable knowledge base available resources in steady state for retraining, induction of new resources into team and cross training to create backups
- **Collaborative environment in Steady State**
 - The on-site and remote teams can collaborate for reviews, design and critical production problems ticket resolution



eCollaboration Center

REFERENCES

- Enterprise Resource Planning, Rajesh Ray, Tata McGraw-Hill
- The World is Flat: A Brief History of the Twenty-first Century ; Friedman, Thomas. Picador/Varrar, 2005.

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Lecture 05 : Globalization of Corporates in a Flat World

The Three Eras of Globalization

Era	Year /	Dynamic Force / Key Agent of Change
Globalization 1.0 (Country)	1492 (Columbus set sail) to 1800	How brawn, how much muscle. Colonization by countries
Globalization 2.0 (Company)	1800 to 2000	Breakthroughs in transportation and telecommunication costs. Railways , ships , Steam engines Telegraph, Telephone, PC, Fibre Optics, WWW.
Globalization 3.0 (Individual)	2000 to present	Connectivity , softwares and Collaboration

Ten Forces That Flattened The World

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Ten Flattening Factors.....

- Berlin Wall Coming Down (collapse of Communism)
- Netscape IPO
- Work Flow Software
- Uploading
- Outsourcing

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Ten Flattening Factors

- Offshoring
- Supply-chaining
- Insourcing
- In-forming
- The Steroids



COVID-19
RESPONSE

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Flattener # 1

1989 -

- Berlin Wall comes down
- Tipping point for free marketsocieties
- Moved away from central planning
- Empowered individuals

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Flattener # 2

1995 -

- Netscape IPO -4 years after Berners-Lee invented the Web
- Universal usability, accessibility and interoperability of the Web
- Win 95 shipped
- Overabundance of fiber optic capacity
- Communication costs plummeted

Flattener # 3

Workflow Software

Have Your Application Talk to My Application

- Collaboration
- Rapid development
- Rapid deployment
- Cheapest sources for coding, testing, implementation
- Everyone can create and maintain digital content

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Uploading – The Open Source Movement

Self-Organizing Collaborative Communities

- Open source
 - For production
 - Linux Operating Systems
 - Geeks making business decisions
- Blogs
- Wikipedia
- Not controlled by corporations or Government



Firefox



WIKIPEDIA
The Free Encyclopedia

Flattener # 5

Outsourcing

- Y2K and India – Major outsourcing started with this
- Competent programmers and engineers who will deliver the same quality at a lower cost (coas-arbitrage)
- Economic imperative (cost saving , getting large volume of skilled resources)
- Outsource everything you possibly can (and build on your core competence)



Offshoring

Rather than outsource jobs :-

- Send the whole factory to India or China or Indonesia or Philippines or
- Not just manufacturing but also and not limited to :
 - Legal processing
 - Medical Transcription
 - Consulting Services
 - Accounting back-office

Supply-chaining

- Wal-Mart (one of the largest organization)
- JIT (Totally integrated)
- IT infrastructure as a key competitive advantage
- Suppliers as Partners
- RFID (Radio Frequency Identification)

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Flattener # 8

Insourcing

UPS (one of the largest Courier service company)

- Intimate collaboration
- 3rd-party managed logistics
- “They” act as part of “Your” company
 - Fixing **Toshiba** laptops
 - Managing delivery of **Papa John’s** Pizza supplies
 - Packaging **Segrest Farms** live tropical fish for delivery
 - Picking, inspecting, packing and delivering **Nike** shoes
 - Working with **Plow and Hearth** furniture suppliers to improve packaging and reduce breakage

Flattener # 9

In-forming

- Building and deploying your personal information supply-chain
- Google – now 1 billion searches per day
- Search Engines - Soon “everything” will be searchable
- Wikipedia (Knowledge sharing)

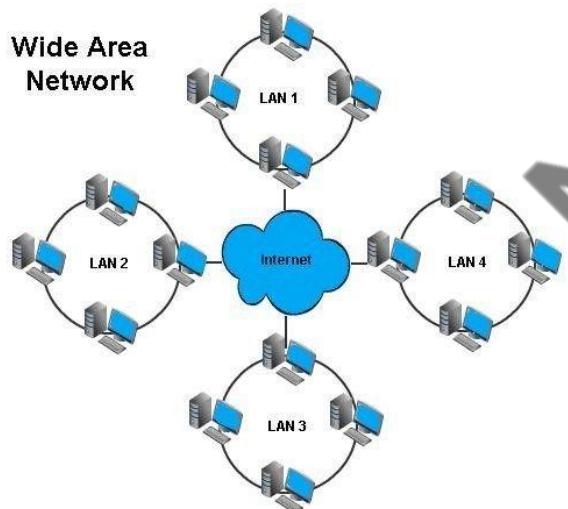
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Flattener # 10

The Steroids....

- “*Making collaboration digital, mobile, personal, virtual*” – Carly Fiorina
 - Computing capabilities - including speed, I/O rate and storage capacity
 - Instant Messaging and File sharing – BitTorrent, Kazaa
 - VoIP – Skype
 - Video Conferencing – Google Hangout , Zoom , CISCO- Telepresence
 - Advanced graphics – from video games
 - Wireless – communicate with Anyone from Anywhere

The Steroids



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The Great Convergence

We are in a convergence of three powerful, technological forces:

- ✓ Low cost and powerful computing devices
- ✓ Low-cost, high bandwidth network connectivity
- ✓ Open standards

To Summarize :

We have computing everywhere and anywhere, anytime and all the time, with access to limitless amounts of information and services.

Emerging Regions – BRIC Countries



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- **The World is Flat: A Brief History of the Twenty-first Century ; Friedman, Thomas.**
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