The 2011 Cloud Conference

"SMEs in the Clouds: Global Trends, Research Insights and Lessons Learned

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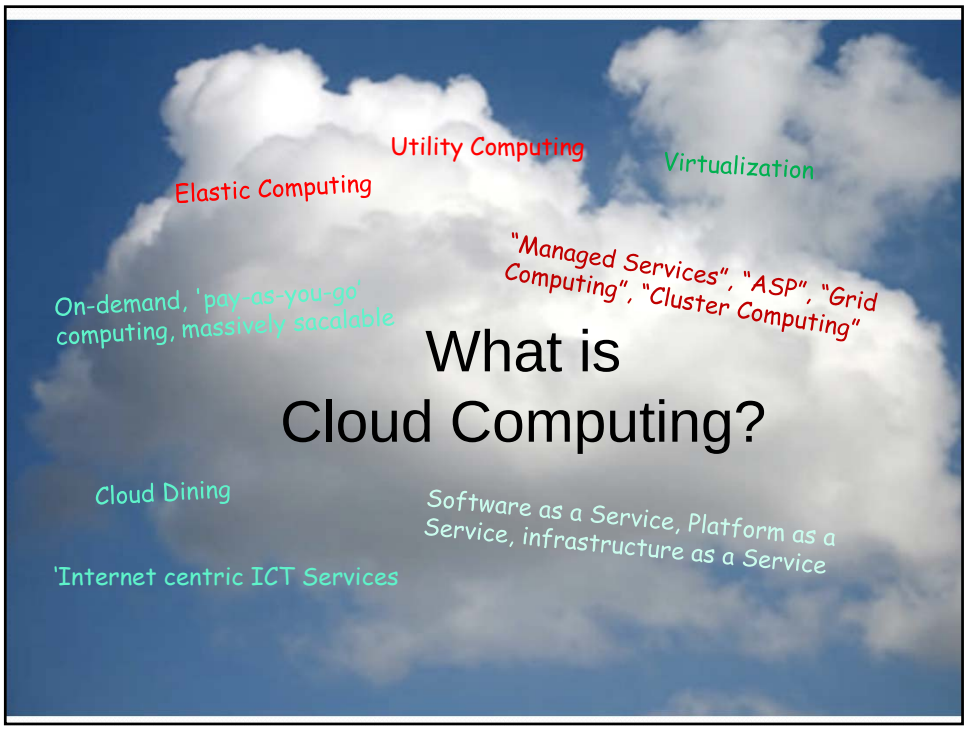
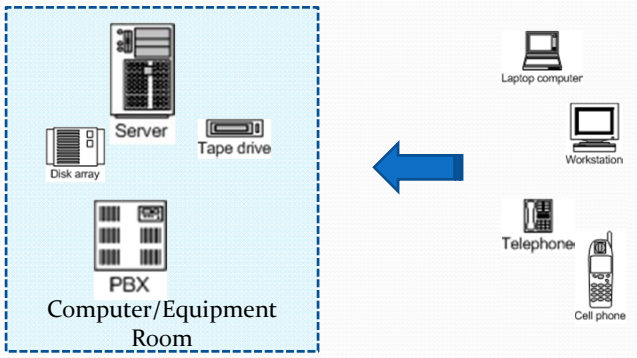
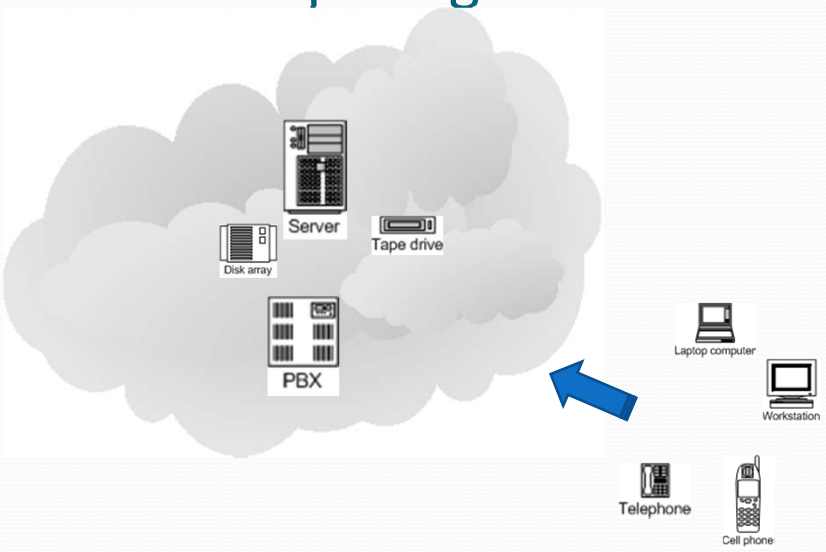


Traditional Premises Computing Infrastructure



Cloud Computing



Cloud Computing

- a means of accessing an expanded range of modern ICT Business Solutions, delivered through the Internet.
- characterized by dramatic scale efficiencies that derive from shared access to a pool of secure, reconfigurable computing resources including networks, servers, storage, applications, and telephony services
- Benefits include:
  - Eliminate fixed assets (space, electricity, hardware, excess capacity)
  - Pay per use, Instant Scalability
  - Lower cost of ownership
  - Reduce infrastructure management responsibility
- Technology industry analysts suggest that Cloud Computing has transitioned from industry buzzword to a business critical solution and forecast "migration to cloud" as the biggest technology trend of 2011

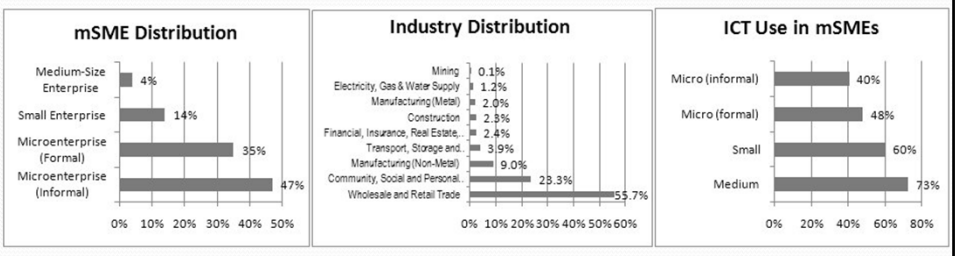
--Grail Research; Gartner

- Small Medium Businesses, Micro-businesses, Startups and Emerging Markets are among fastest growing segments

Jamaican SMEs and ICT

Jamaican SMEs and ICT

- SMEs form a key Segment of Jamaican Economy
  - Contributions to GDP / Employment
- ICT Adoption in many SMEs constrained by financial resources, lack of awareness, appropriate training and technical expertise
- Emerging technologies (FOSS and Cloud Computing) present new opportunities for cost-effective deployment of enhanced ICTs



Models of ICT adoption

- ***technology-determinist*** - rational process where the supply of more advanced ICT applications creates its own demand through the benefits of superior business performance, proceeding in steps to the adoption of increasingly more complex ICT applications and systems.
- ***business strategy***- rational demand-side responses by small firm owners to ICT-induced competitive, market and socio-economic changes whereby, through use, they move to another stage of business development as they test the business possibilities of more advanced ICT applications that enable them to achieve business growth more effectively and more efficiently.
- ***social network*** - adoption is not necessarily a linear process and will not happen until the owner is ready, a state that depends on the everyday influences such as individual expectations, peer pressure and the business *milieu* that, often mediated through network effects, shape opinions, attitudes and behaviour of small firm owners.

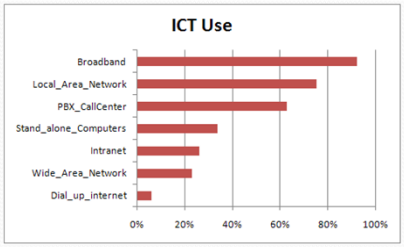
Determinants of SME ICT Adoption

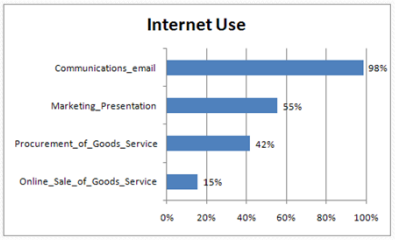
- Supply-side issues
  - Poor communications infrastructure
  - Excessive access costs
  - Inappropriate ICT solutions designed for larger firms and not SMEs
- Demand-side challenges
  - Limited ICT literacy and awareness of SME owners and employees
  - Cost of acquisition of technology & Lack of suitable financing options
  - Lack of the business analytic skills, and absorptive capacity to effectively deploy ICT-enabled solutions

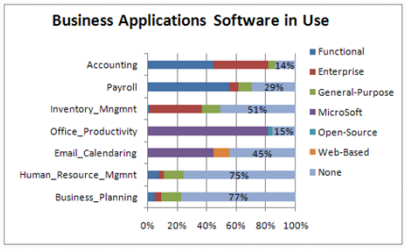
SME ICT Adoption (cont…)

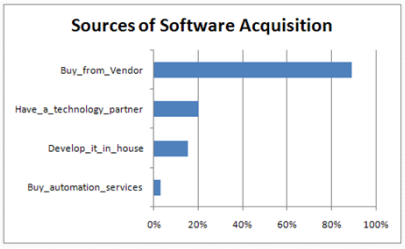
- Characteristics of Owner/Decision-Maker
  - Knowledge and attitude towards ICT
  - Perception of benefits of ICT to the Business
  - Innovation / Innovativeness / Gender(?)
- Role of Intermediaries
  - Intermediaries play a crucial role in the adoption of complex applications by SMEs
  - Roles include those of knowledge disseminators, financial partners, technical advisors, solution providers, post-implementation support
  - Provision of aggregation-specific e-business ICT Services by trusted third parties to SMEs as a group rather than individually will encourage their adoption

ICT Environment - Adoption, Sources & Patterns of Use





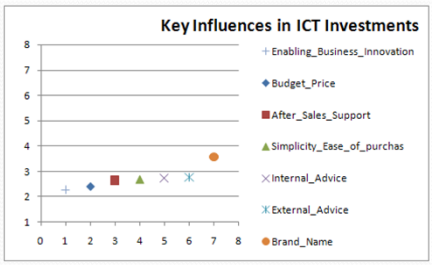


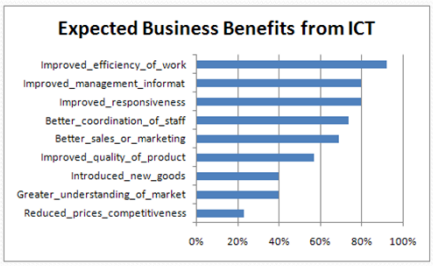


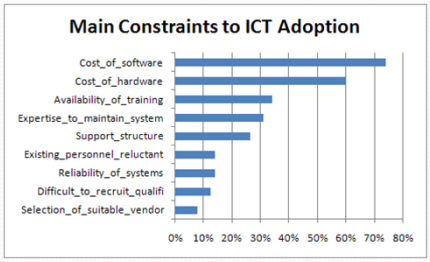
Interpretation

- Most respondents have Broadband Internet Access
  - Primarily used for Communications
- Traditional Business Application Trajectory
  - Accounting -> Payroll -> Inventory Mngmnt
- Business Application Opportunities
  - Human Resource management Systems
  - Collaborative Tools
  - Sales Order management
  - Customer Relationship Management
  - Increased Awareness of alternative deployment options

Attitude towards ICT Use In Business



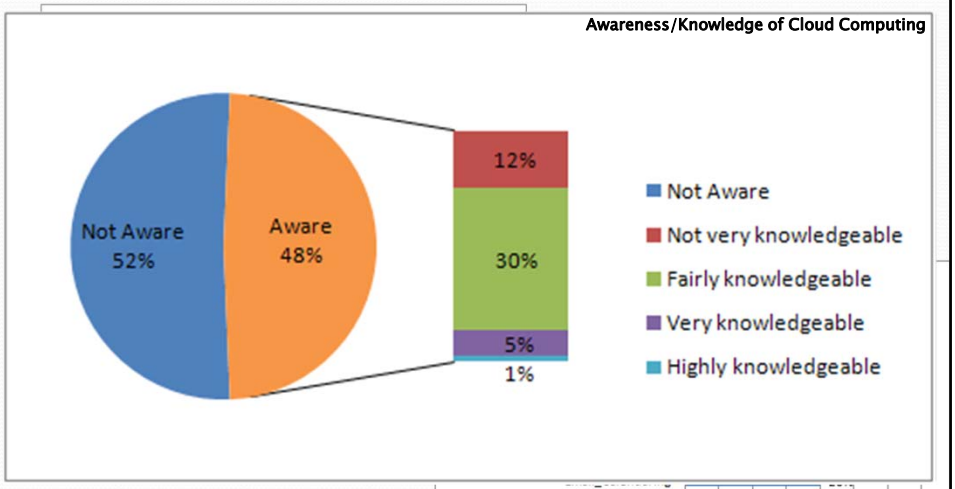




Interpretation

- Top 5 Business Expectations
  - Improved Productivity (Collaborative Tools)
  - Improved Customer Service (CRM)
  - Better Coordination of Staff (HRMS/Collaborative tools)
  - Sales / Marketing (Sales Order / CRM)
- FOSS-based Business Model can address Barriers
  - Cost of Software
  - Availability of Training
  - Expertise/Support capabilities

Awareness of Outsourcing Options



Opportunities / Imperatives

- Pervasive Internet Access
  - Penetration and Quality of telecommunications infrastructure
  - Accessible pricing
  - Most small businesses (SMEs) have / have access to broadband internet facilities
- Wide Portfolio of Business IT Solutions
  - Enterprise-grade business applications delivered through Software as a Service
  - Increasingly mature portfolio of FOSS business applications with flexibility to adapt / customize to suit individual business requirements
  - Lean, low-cost implementation methods that utilize Internet-based software and support delivery mechanisms
  - Mode of ICT services delivery and access extremely amenable to small, agile, nimble business with mobile workforce and virtual operations

Opportunities & Imperatives

- Awareness / Education
  - Ensuring the awareness and education of business owners and decision-makers on the value-proposition and opportunities presented by emerging technologies as business applications
- Solution Identification/Facilitation
  - Value-added service delivery that can help small business managers identify opportunities and make better use of ICTs in their business effectiveness
    - Business Solution as a Service >> SaaS
- Quality of Service Delivery
  - Consistent, reliable and sustained quality of service delivery & support is an imperative to match/exceed current service levels being experienced through premises-based computing and communications infrastructure
- Training

MSB – Perspectives on Cloud Use

- Business ICT Applications Sourcing
  - eLearning Application
  - Open Source Applications (Conferencing, Survey tools, Development tools)
- Research & Services Delivery
  - FOSS in SMEs Research (Staging, Testing, Deployment)
  - OpenData Research initiatives
- Capability Building
  - Software development
  - GIT Software repository
  - FOSS Maturity Assessment & Testing

Solutions Delivery Philosophy

Instead of this approach

- "*Blank Slate*" Business Alignment Approach (Traditional)
  - Identify Strategic initiatives, process improvement initiatives, Business Problem/challenge
  - Drive Business Requirements Analysis / Solution Definition
  - Typically Method Heavy / Custom Implementation

We're adopting this approach

- Solution Menu / Agile Implementation Approach
  - Establish portfolio of maturity-certified Open Source business applications
  - Match to Business/Process requirements, Problem Solving
  - Turnkey Implementation
    - Prototyping, Business Stakeholder engagement
    - Incremental Solutions Delivery (4 – 12 weeks max timeline)
  - Lean, template-driven, repeatable solution delivery (leverage FOSS & Cloud-Computing)
  - Adaptability of FOSS /Flexibility of Cloud is a key enabler

MSB – Cloud Rationale

- PROS
  - Speed of Provisioning
  - Flexibility
  - Accessibility
  - Cost-Effectiveness / OpEX vs CaPEX
  - Learning by Trial-and-Error
- CONS
  - Backup & Recovery
  - Support Accessibility