ICT and the Changing Workplace

External Studies and Personal Experience

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Outline

• Definition
• Facets
• Implications
• Opportunities
• Employee Engagement
• Downside
• Closing
• Resources
Approach

• Academic studies examine subject from outside in
• Academics collect data and report on that data
• Will combine that with a view from inside out
  – based on workplace experience
ICT - Definition

- Information and Communication Technologies
- Technologies that provide access to information through communications networks
- Similar to Information Technology (IT)
- But, focused on communication technologies
  - internet, wireless networks, cell phones
  - other communication mediums
- Real-time enabler
  - instant messaging, voice over IP (VoIP)
  - video-conferencing, social and business networking
Facets

- Widespread
- Applies to all business components
- Time to respond is decreasing
- Paper-based processes are dead or dying
- Basic aspects
  - repeatable functions
  - predictable results
  - accelerated business processes
  - expectation of higher levels of productivity
  - global connectivity, interaction, collaboration
- Responds to worldwide markets
SMAC – Basic ICT Elements

- Social connectivity world-wide
- Media and mechanisms for mobility
- Analytics to derive information from data
- Cloud computing for anywhere data and processes
Implications

• Create global village
• People can communicate with others across the world as if they were living next door
• “Work” is no longer a place
  – “workplace” has far less of a clear definition
  – can no longer be defined in physical terms
• Allows global talent to be offered, hired, applied
• Creates much larger market for specialists
• Not all roses
  – there is a down-side
“Knowledge economy” emphasizes capital factors that are becoming increasingly important.

- Human capital - knowledge, skills, capabilities that people possess.
- Social capital - the relationships between people and their collective individual traits.
- Organizational capital - new workplace management skills and knowledge
  - acquired through learning within modern organization
  - continuously adapts and learns to improve performance.
Capital Assets

- **Intellectual capital** - knowledge that people possess that can be exploited
  - for financial gain or any other useful purpose that might be advantageous to a company or cause
- **Network capital** - contacts individuals draw on as a source of trusted information
- **Combine to become ‘knowledge capital’**
  - people become key organizational assets
  - valuable knowledge exists mainly in individuals
  - sum is greater than the parts
Human Assets

• People: main enabler of knowledge-based economies
• People: any organization’s most valuable asset
  – nation, company, region, profession, stakeholders
• Effective interaction between individuals is of great importance to an organization's success
• Internet aids individual interaction
• Web’s flexibility can lower boundaries
  – distance, language, culture, domains of knowledge
  – builds from bottom up, from individuals to groups
  – fails on any attempt to impose from above
A Cloud of Continuous Activity
Enables New Business Models

- Globally-connected processes, data, people
- Strong opportunities for:
  - commerce, banking, trade, customer discovery
  - remote system monitoring and control
  - data gathering, mining, analysis, collaboration
  - security observation and response
Enables Human Interaction

- Brings diverse people together for mutual benefit
- Automation aids can be put into the mix
- Allows discovery of talent
- Crowd-Sourcing of solutions to complex problems
- Enables additive people, computation, storage
  – as needed – only for as long as needed
Facilitates Human Collaboration
Rapid Collect/Action Chain

- Timely for the situation at hand
- Accommodates human engagement
  - as needed
  - supervise the chain
  - act within the chain
- One physical location or distributed
- Combines processes and people
- Multiple forms of data and information
Evolving Company and Work Styles

• Flatter organizational hierarchy
• Work facets
  – faster, distributed, knowledge-intensive
  – rapid evolutionary pace: products, processes, duties
• Less supervision – requires high initiative
  – also requires common sense, maturity, personal responsibility, sense of direction, knowledge of company and customer needs and goals
• Need to be team player with high flexibility
• Strong performance ethic is required
Performance Ethic

STUDY

PRODUCE

LEARN

WORK
Emerging Long Tail of Specialists

- oDesk
- One market view

Demand vs. Skill
Tendency Toward Virtual Offices

• ICT gives rise to telework
  – office not one physical place, people not co-located
• Global competition yields need for 24/7/366 customer support and expanded customer support
• Workers desire increased flexibility
• Need for reduced overhead expenses
• Ability to attract wider range of workers
  – physically disabled, parents with young children
  – people with elderly care responsibilities
  – members of dual-career families
Other Benefits of Virtual Offices

• Less traffic on the roads
  – less air pollution, fuel consumption, road maintenance

• Teleworkers often work longer hours and more days than average employee
  – potential 30% increase in productivity

• Workers tend to continue to work, despite minor ailments that may have kept them out of office
  – potential 80% reduction in absenteeism
Another Benefit of Virtual Office

• Adapts to changing social values
  – flexible lifestyle preferences
  – improved family relationships
  – more opportunities for community involvement
  – reduced need to commute long time or distance
• But not fit for
  – out-of-site/out-of-mind supervisory styles
  – employees who can not work without direct supervision
  – minimalists who try to hide
  – those without initiative and self-discipline
Social Networking

- ICT facilitates and encourages social networking
- Can increase collaboration between individuals who share a common interest or goal
- Increased collaboration can stimulate knowledge sharing between individuals
- Risks
  - loss of privacy
  - bandwidth and storage consumption
  - exposure to malware
  - lower employee productivity
Your Part

• Be sure your social networking leads to increased personal productivity
  – how much, how well you produce from resources used
  – if you produce more or better goods from the same resources, you increase productivity
  – if you produce the same goods from fewer resources, you also increase productivity
  – 'productivity' refers to the time and resources you spend actively executing the job you were hired to do
  – also refers to your growing value and maturity
  – need to produce the desired outcomes expected from your job description, at minimum
Use Social Networking Wisely

• Follow company guidelines
  – condition of employment
• Aim your social networking at increasing your value as a key organizational asset
  – customer relationships
  – increased knowledge that matters: company, customers
• Do not become distracted
• Show that your social networking is an effective combination of human capital and technology required to increase productivity
First Steps in ICT

- Maintain human centricity
- Consider two requirement types
  - functional
  - individual employee
- Consider basic work arrangements
  - mainly in the office
  - in and out
  - mainly out
  - home based
  - constantly mobile
Required ICT Synergy

- Must combine with complementary resources
  - organizational structure, human resources, appropriate management, other organizational assets
- ICT can help improve productivity and efficiency of all stages of production process
  - reducing set-up time, run time, inspection time
  - helps efficient firms improve their market position
Down-Side (1/2)

• Lack of privacy
  – data has no age-out, there is no forgetting
  – once you send or post something, content and traceable sender-id are permanently available
  – hard to learn from mistakes and “live them down”
  – forgiveness therefore is lacking

• No such thing as anonymity
  – in spite of what hackers in “anonymous” would have you believe, possible to track to physical address
Many jobs become measurable to smallest detail
Micro-measures can turn professional jobs into assembly-line sweat-shops
– high stress, under-staffed
– little room for thoroughness, quality, creativity
This has already happened in medical practice
– including doctors
– especially in capitalist countries
Talent can be found anywhere
– low-cost talent hired by high-cost countries
– deleterious impact on in-country workforce
NOT Always Valuable

• Resource to sustain competitive advantage
  – must be scarce and hard to imitate
  – complementary with firm’s other elements and assets

• ICT widely available
  – not scarce or difficult to imitate
  – does not satisfy necessary criteria as differentiator

• Critical value may reside in complementary or synergic effects of ICT with firm’s internal resources, people, capabilities, processes
  – something unique that ICT enables your firm to offer
NOT Always Successful

- ICT not isolated source of improvement
- Availability of ICT not necessarily successful
- Requires system or cluster of mutually-reinforcing organizational approaches
- Major sources of ICT disfunctionality
  - mismeasurement of outputs and inputs
  - lags due to learning and adjustment
  - redistribution and dissipation of profits
  - mismanagement of information and technology
Potential Loss of Human Element

- Nothing beats face-to-face interaction
- Physical togetherness leads to better team bonding
- Wahab’s findings
  - face-to-face interaction is important
  - interaction declines with distance
  - small impact of telecommunication technology in replacing face-to-face interaction
Older vs. Present Generation

• Present generation attuned to ICT-enabled work
• Older generation not always so attuned
  – sometimes resistant
• Meyer finds
  – several studies show older workers are less likely and less qualified to use ICT
  – possibility that firms in ICT-intensive service sectors with a high share of older workers are less likely to adopt new technologies
  – leads to non-competitiveness as other firms progress
  – survival threatened thereby
What are older employees to do?

• Embrace IT and ICT revolution
  – do not resist if you want to stay employed
  – seek to learn – volunteer for training – take hands-on classes

• Continue learning and adapting so that you remain valuable by applying your experience to new situations
  – experience counts only if skills and abilities are up to date

• No one in the older generation who is let go is a victim of age or pay discrimination
  – unable to adapt and learn – outdated skills
  – unable to fit in with present generation – retired on the job
  – expecting senior-level pay for doing junior-level work
National Infrastructure is Critical

• Poor national institutions and infrastructure negatively impacts companies’ performance

• National infrastructure issues impacting ICT:
  – cost, availability, reliability, speed
  – electricity, internet, education, training, equipment
  – software, tools, maintenance
  – leads to need for transportation infrastructure
  – also to health improvements, whole country has to rise

• ICT success correlates positively with highly-educated personnel
  – negatively with low-educated personnel
Lack of solid ICT that resolves downside issues can leave organization in non-competitive position relative to other organizations that implement and integrate ICT well.
Closing Remarks

• ICT can yield tremendous benefits
• Becoming baseline for business engagement
• There are downsides though
  • Must solve those issues lest investment be lost
  • Creates clear differentiators
    – all components of business – all types of employees
    – poor employees, managers, supervisors do not last long
• Requires solid national infrastructure
  – reliable, affordable, fast
• Platform for future social and business evolution
Resources

- Definition: http://www.techterms.com/definition/ict
- Implications: http://www.techterms.com/definition/ict
  http://www.linkedin.com/today/post/article/20130808135707-7374576-half-of-us-may-soon-be-freelancers-6-compelling-reasons-why?trk=tod-home-art-list-large_0
- Long Tail: https://www.odesk.com/blog/2013/08/1billion-odeskskillslongtail
- First Steps: http://www.leeds.gov.uk
  http://hdl.handle.net/10419/34045
  http://is2.lse.ac.uk/asp/aspecis/20090152.pdf