Trust and Security Implications related to Adoption of Emerging Technologies and Internet Economy

Hafedh Gharbi Yahmadi.
ICT Professor at TBS
Which Approach?

Answer:
We approach it on how it should be managed,
Less Technical with more “Social and economical”
The 4th fourth industrial revolution (human)

- Approximately 12 billion networked “things” worldwide
- By Cisco Analysis: There will be more than 50 billion devices connected to the Internet by 2020
Three main axes to abort the subject of “Cyber risk in an IOT, AI, Cloud…world”

1. Trust, Privacy & Security implications related of emerging technologies
2. Corporate management in digital transformation and risk management.
3. Corporate Governance (Institute the data Governance)

- Whenever we communicate, we will leave traces of ourselves behind.
- Privacy and trust expectations will change
So, what makes the emerging technologies the traditional Internet?
Hidden Web, Deep services: Death of the 7 layer model.

OLD INTERNET:
FLAT ARCHITECTURE

FUTURE WEB:
DISTRIBUTED “AGGRESSIVE” SERVICES

Emerging technologies don’t rely on human intervention to function?
Emerging Tech are increasingly creating entirely new businesses and revenue streams.

Are we ready for the change?

Example: Skype architecture
The new landscape in security

- DDoS
- Domino effects
- Illicit computations
- New standard bodies
- Quantum Crypto for distribution of secrets
- Physical attacks on individuals,

- ONS
- Trans-continent Virtual Organizations
- Spontaneous massive attacks

- Overlay, P2P, Grids
- Identification of IP addresses

- Intrusion, Malware
- Illicit content

- XML, Message, document
- Zetta bytes of data

- Asymmetric cryptography
- Computer virus
top ten security issues with emerging technologies

1. Insecure Web Interface
2. Insufficient Authentication/Authorisation ‘poorly protected credentials’
3. Insecure Network Services
4. Lack of uniform standards
5. Privacy Concerns
6. Insecure cloud interface
7. Insecure mobile interface
8. Insufficient Security Configurability
9. Insecure Software/Firmware
10. Poor Physical Security
Internet is broken: how to heal the future fragile communications?

More data, more opportunity, more risk

Privacy  Security  Mobility  Efficiency  Trust

IDS  Honey-pots  PKI  SSL  Firewall
IPv4  IPv6  IPSec  virus  spam
TCP  Packet  Web  DNS  XML
IKE  MPLS  URL  Router

IETF  3GPP  Anti-virus  Patches
1- Trust, Privacy vs Security implications of emerging technologies

Dependability

Trust

Security

Privacy

Convergence of disciplines
Tools, Methodology

Trust matters

Divergence of conceptual models
Trust is a binary relationship

Context matters
What’s the difference between security and privacy?

In fact both can be difficult to define, and can mean different things to different stakeholders. Should be debated over and developed by society.

What’s privacy vs. Security and trust, emerging technologies are reshaping the privacy definition, many new interpretation of what privacy really mean to individuals while using this emerging technologies.
Practical examples

- **Jordan case: e-banking survey**
  In January 2016, the Journal of Engineering and Applied Sciences

- Does user control options, would actually enhance privacy or security?

- Several emerging privacy concerns about connected vehicles.

*In reference that privacy is a social product, privacy is something that people create over time, based upon experiences, with the resources available*
Leaders of big enterprises are proactive to the impact
They talk about Cyber-governance In technologies,
  ▪ Emerging technologies are forcing many business leaders to reassess their decentralized approaches to cyber risk management (INTEROPERABILITY)
  ▪ Cyber risk management and innovation must be also on equal footing

Best practices (Standards project mngt, Change mnt and data governance)
In most large organizations, the approach to cyber risk may differ by region, product, or business unit.

Ex: Microsoft case
The world is changing. We have to accept some other models.

- Metadata
- Enforce the data governance model
- Institute the concept
  - Effective structure
  - Effective legislation
Recommendations

- “PPP” Public Private Partnership is one solution;
- Multistakeholder collaboration is required for managing effectively the change
- GDPR as best practices
- Institute the data governance
- Engage Academia, Engage private sector in this debate....