

Cyber Security: It's all about TRUST

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Content



PwC's Digital IQ
Survey

1

Current state of
Cybersecurity in
Vietnam

2

Our global team and credentials

Our team helps organizations understand dynamic cyber challenges, adapt and respond to risks inherent to their business ecosystem, and prioritize and protect the most valuable assets fundamental to their business strategy.

3,000+ professionals

- Focused on consulting, solution implementation, incident response, and forensic investigation
- Knowledge and experience across key industries and sectors
- Largest professional security provider as ranked by Gartner¹

'Leader' ranking by Forrester Research

"PwC has very strong global delivery capabilities, and the firm offers solid, comprehensive services with the ability to address almost all of the security and risk challenges that clients will face"²

Knowledge & Experience

- Advanced degrees and certifications including
 - Certified Information System Security Professional (CISSP)
 - Offensive Security Certified Professional (OSCP)
 - Certified Ethical Hacker (CEH)
 - SANS GCIH, SANS GNFA, CISA, CISM, CRISC, Cisco CCIE
- Security clearances that allow for classified discussions that often stem from cyber related incidents

We provide pragmatic insight and a balanced view of how to prioritize investments in people, processes and technology solutions needed to address the cybersecurity challenge

100+ labs

- Technical security and forensics labs located in forty countries
- Designed to conduct assessments, design and test security solutions, and conduct cyber forensic analysis and investigations

Proprietary tools and methods

- Extensive library of templates, tools, and accelerators
- Cyber threat intelligence fusion and big data analysis platforms to process data related to cyber threats and incidents

¹Gartner: *Competitive Landscape: Professional Security Consulting Services, Worldwide, 2013*

²The Forrester Wave: *Information Security and Risk Consulting Services, Q1 2013, Forrester Research, Ed Ferrara and Andrew Rose, February 1, 2013*

PwC's Digital IQ 2017

1

Digital IQ Survey: The world was a simpler place when PwC first set out to measure Digital IQ 10 years ago.

PwC 2017 Global Digital IQ Survey: A Decade of Digital

2007: Digital means IT

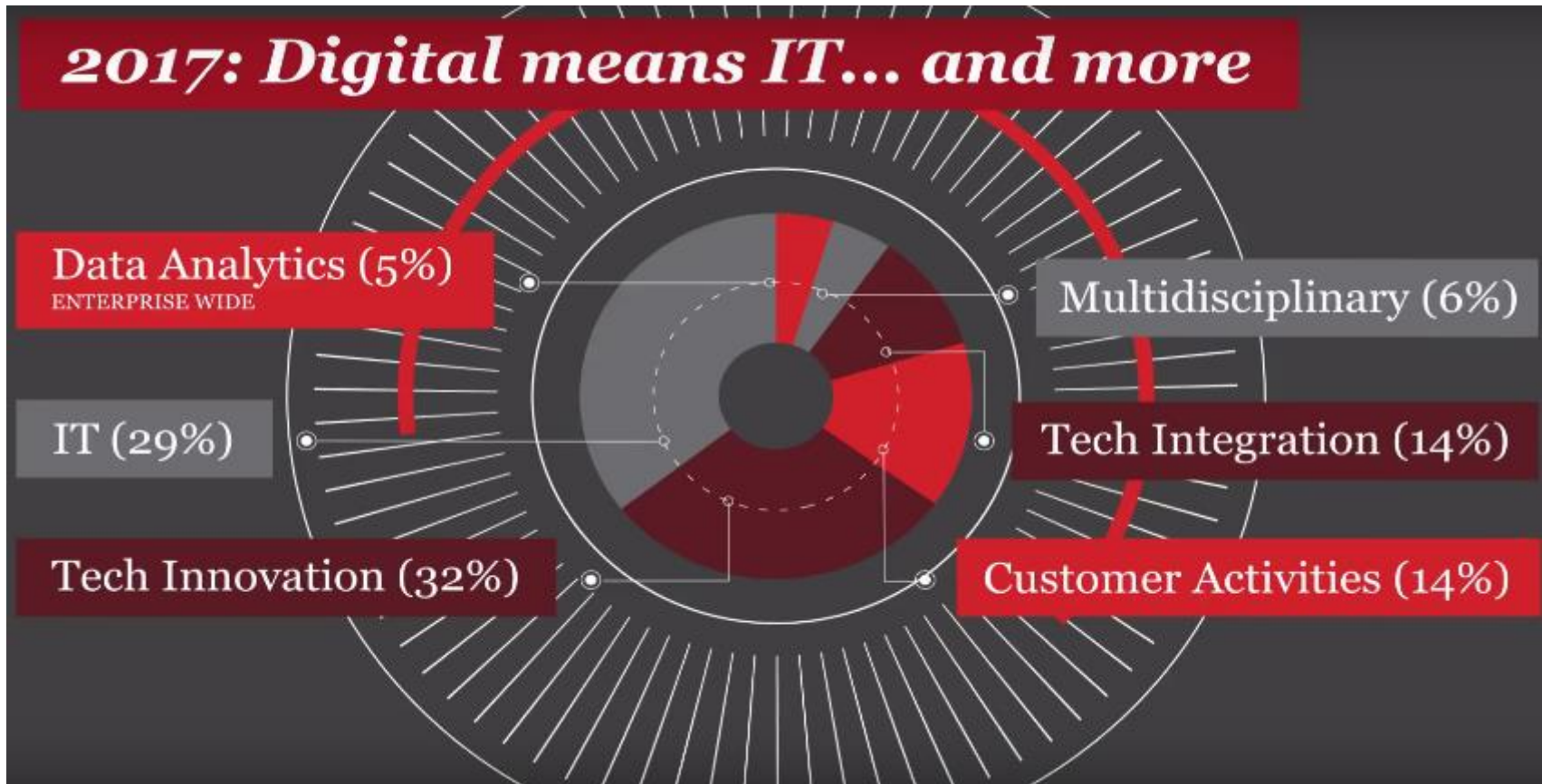


84%

Execs strongly associated IT with strategic success

<http://www.pwc.com/us/en/advisory-services/digital-iq.html>

Digital IQ Survey: The world was a simpler place when PwC first set out to measure Digital IQ 10 years ago.



<http://www.pwc.com/us/en/advisory-services/digital-iq.html>

Up to 38% of existing US jobs could be impacted by automation by early 2030s

- Up to around 30% of existing UK jobs are susceptible to automation from robotics and Artificial Intelligence (AI) by the early 2030s, but in many cases the nature of jobs will change rather than disappear
- This is lower than the US at 38% and Germany at 35%, but higher than Japan at 21%
- Male workers could be at greater potential risk of job automation than women, but education is the key differentiating factor for individual workers



Sources: ONS; PIAAC data; PwC analysis

Digital disruption already happened



- The world's largest taxi company owns no taxis (**Uber**)
- The largest accommodation provider owns no real estate (**Airbnb**)
- The largest phone companies own no Telco infrastructure (**Skype, WeChat**)
- The world's most valuable retailer has no inventory (**Alibaba**)
- The most popular media owner creates no content (**Facebook**)
- The fastest growing banks have no actual money (**SocietyOne**)
- The world's largest movie house owns no cinemas (**Netflix**)
- The largest software vendors don't write the apps (**Apple & Google**)



Cybersecurity in Vietnam

2

Current State of Cybersecurity in Vietnam



News

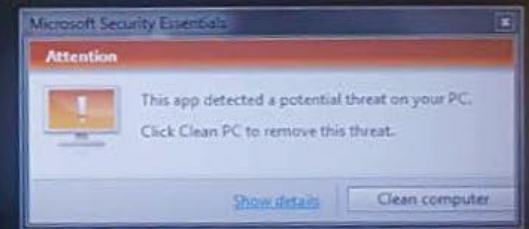
Vietnam among world's most vulnerable to malware threats: Microsoft

1. Mongolia	6. Cambodia	11. Malaysia	16. South Korea
2. Vietnam	7. Philippines	12. Taiwan	17. Australia
3. Pakistan	8. Thailand	13. China	18. New Zealand
4. Indonesia	9. India	14. Singapore	19. Japan
5. Nepal and Bangladesh	10. Sri Lanka	15. Hong Kong	

Source: Microsoft

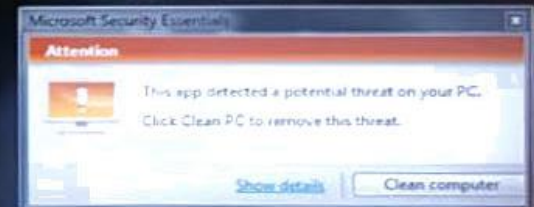
5 days after Tan Son Nhat airport's hack

CHUYẾN ĐI / DEPARTURES		WED, 15/03/2017 07:01:50				
CHUYẾN BAY FLIGHT No	NƠI ĐẾN DESTINATION	STD	ETD	CỬA GATE	GHI CHÚ REMARKS	
 BL 362	CAM RANH	08:30		02		
 VN 224	HÀ NỘI	08:30		06		
 VN 1392	QUY NHƠN	08:30		08		
 0V 8055	CÔN ĐẢO	08:45		04		
 BL 261	PHÚ QUỐC	08:45		03		
 VJ 606	CAM RANH	08:50		18		
 VJ 304	HUẾ	08:55		14		
 VJ 206	TUY HÒA	07:50	09:00	17		
 0V 8079	CÔN ĐẢO	09:00				
 VN 226	HÀ NỘI	09:00				
 0V 8053	CÔN ĐẢO	09:10				



And 1 week after

CHUYẾN ĐI / DEPARTURES						WED, 22/03/2017 06:59:58	
	CHUYẾN BAY FLIGHT No	NƠI ĐẾN DESTINATION	STD	ETD	CỬA GATE	GHI CHÚ REMARKS	
	BL 570	BUÔN MA THUỘT	06:30		01	Boarding	
	VJ 622	ĐÀ NẴNG	06:30		16	Boarding	
	VN 1182	HẢI PHÒNG	06:50		05	Last Call	
	BL 782	HÀ NỘI	06:55		03	Last Call	
	VJ 124	HÀ NỘI	07:00		19	Last Call	
	VN 1264	VINH	07:00		10	Last Call	
	VN 216	HÀ NỘI	07:00		07	Last Call	
	VN 218	HÀ NỘI	07:15		06	Last Call	
	VJ 321	PHÚ QUỐC	07:20				
	VJ 372	CHU LAI	07:25				
	VJ 190	HÀ NỘI	07:30				
	VJ 206	TUY HÒA	07:50		18	Last CheckIn	



DDoS attack that disrupted internet in October 2016 was WORLD's largest of its kind in history

- In October 2016 The Cyber attack that brought down much of America's internet was caused by a new weapon called the Mirai botnet and was likely the largest of its kind in history
- Mirai (future in Japanese) is malware that exploits the vulnerable IP cameras around the world.
- It was the world's largest DDOS attack lunched from hacked IoT IP cameras



IoT: Vietnam is the Top country of origin of Mirai DDoS attacks

Country	% of Mirai botnet IPs
Vietnam	12.8%
Brazil	11.8%
United States	10.9%
China	8.8%
Mexico	8.4%
South Korea	6.2%
Taiwan	4.9%
Russia	4.0%
Romania	2.3%
Colombia	1.5%

Source: [incapsula.com](https://www.incapsula.com)

Top countries of origin of Mirai DDoS attacks



Source: incapsula.com

What's next



- **Stop thinking** that you are so small to be a hacker's target
- When we invest in the best technical tools, we are **NOT** safe: it's time to move on **from prevention to detection**
- It's time to move on from prevention to detection and response
- Be prepared for Cyber breach, it's **not a matter of IF but WHEN**
- *“There are only two types of companies: those that have been hacked and those who have not discovered that they have been hacked.”* – James Comey, Director, Federal Bureau of Investigation
- Cybersecurity, it's all about **TRUST**

Thank you!



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