







CYBER "THREAT" SPACE

Cyberspace is an environment that combines

- People, Processes & Technology

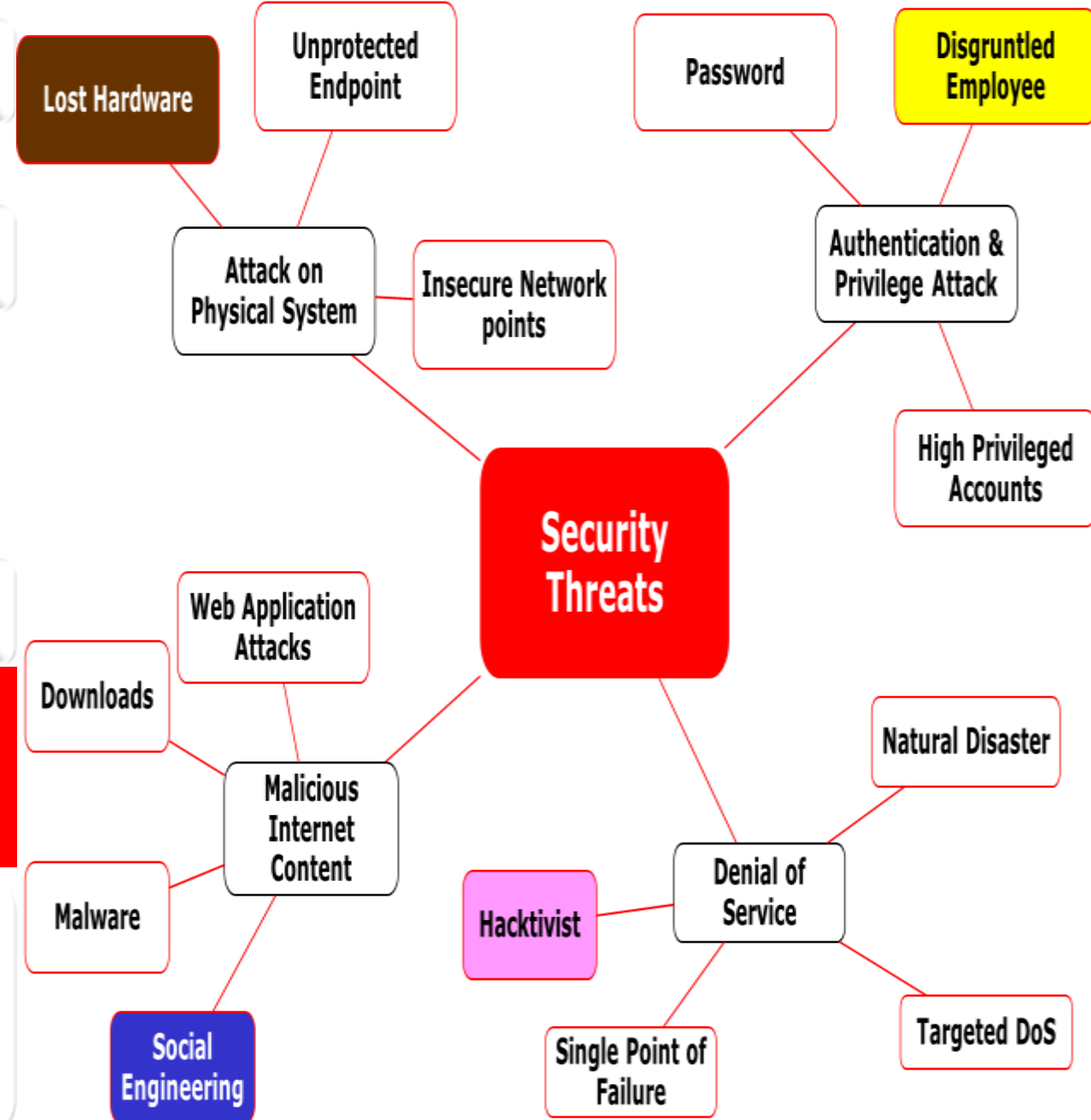
Cyberspace is not borderless:

- Perceived as borderless because its borders are seamless to the end user.
- Every country has its own cyberspace which is defined by its national infrastructure.

Implications:

- Threat actors carry out their activities in an apparently seamless environment,
- National Security & Military Operatives are constrained by issues of jurisdiction.

Nigeria through the National Cybersecurity Policy & the National Cybersecurity Strategy recognizes cyberspace as the **5th domain of warfare** after Land, Sea, Air & Outer-space.





ING STATISTICS

0.80% of Nigeria's GDP is lost to cybercrime Equivalent to Cement sector



USA Center for Strategic & International Studies & information security firm McAfee, a subsidiary of Intel, titled "Net Losses: Estimating the Global Cost of Cybercrime; Economic impact of cybercrime II" <http://www.mcafee.com/us/resources/reports/rp-economic-impact-cybercrime2.pdf>
Nigeria's GDP estimated by "TradingEconomics.com" to be \$568.51 billion in 2014.

\$450 million, equivalent to N89.55 billion annual direct losses to the Nigerian economy.

Trading Economics <http://www.tradingeconomics.com/nigeria/gdp>



97,984,736 used the internet on a daily basis in November, 2015

•Nigerian Communications Commission Internet Subscriber Data
http://www.ncc.gov.ng/index.php?option=com_content&view=article&id=68&Itemid=70



45.3% of internet users in Nigeria suffered attack in the third quarter of 2015.

•Kaspersky Lab, 2015 survey, for Third quarter 2015 IT Threat Evolution report <http://bizwatchnigeria.ng/nigerias-cyber-malware-attacks-reach-45-3-in-q3-2015/>



09 Jan 2016, "Anonymous hacker collective has started a cyber-campaign against the government of Nigeria, accusing it of corruption, greed, & theft."

•Catalin Cimpanu <http://news.softpedia.com/news/anonymous-starts-cyberattacks-against-nigerian-government-498676.shtml>

EXAMPLES OF DEFACED NIGERIAN WEBSITES

BETWEEN 13 APRIL 2015 & 01 FEB 2016, ZONE-H RECEIVED NOTIFICATIONS OF 3,599 BREACHES OF NIGERIA (.NG) DOMAINS OF WHICH 2,518 WEBSITES WERE DEFACED.

ZONE-H [HTTP://WWW.ZONE-H.ORG/ARCHIVE/FILTER=1/FULLTEXT=1/DOMAIN=NIGERIA](http://www.zone-h.org/archive/filter=1/fulltext=1/domain=Nigeria)



19-Dec-15 **Federal Court of Appeal** www.courtsofappeal.gov.ng Protest of to deaths of Shiite members in Zaria during clash with Nigerian Army



11 Jul 2014 **Independent National Electoral Commission** by Team Nigerian Cyber Army, <https://www.facebook.com/naijacyberarmy> Support of Kidnapped Chibok Girls



6 August 2015 **Fed Poly Idah** <http://www.fepoda.edu.ng> & <http://www.federalpolyidah.edu.ng> by HackinThunder. Someone aggrieved with the institution



01-Oct-14 **Nigeria's House of Representatives** The warning, which has been on the page for much of the day, ends saying "No hard feelings though this is just a security reminder."



23-Apr-15 **Globacom** www.gloworld.com by The Nigerian Cyber Hunters led by HYPER-DARK a.k.a Brunolin The motive, & reason behind the hack is unknown.



28-Oct-11 **Economic Financial Crimes Commission (EFCC)** www.efccnigeria.org by Naija Cyber Hactivist "Operation: Say No To Internet Censorship"

WHO ELSE IS USING CYBERSPACE?



- **Daesh: Islamic State**
- **Boko Haram: Jama'atu Ahlis-Sunnah Lid Da'awati Wal Jihad [People involved in Call to Islam & Jihad]**
- **MEND: Movement for the Emancipation of the Niger Delta**
- **FARC-EP & FARC: Revolutionary Armed Forces of Colombia—People's Army**
- **Aum Shinrikyo Japanese doomsday cult**

Tool

Medium

Target

• To develop & promote extreme ideologies & disseminate propaganda materials.

• For their illicit activities such as spreading terrorism propaganda, fundraising, financial transactions, recruitment & mobilization as well as activity planning & coordination.

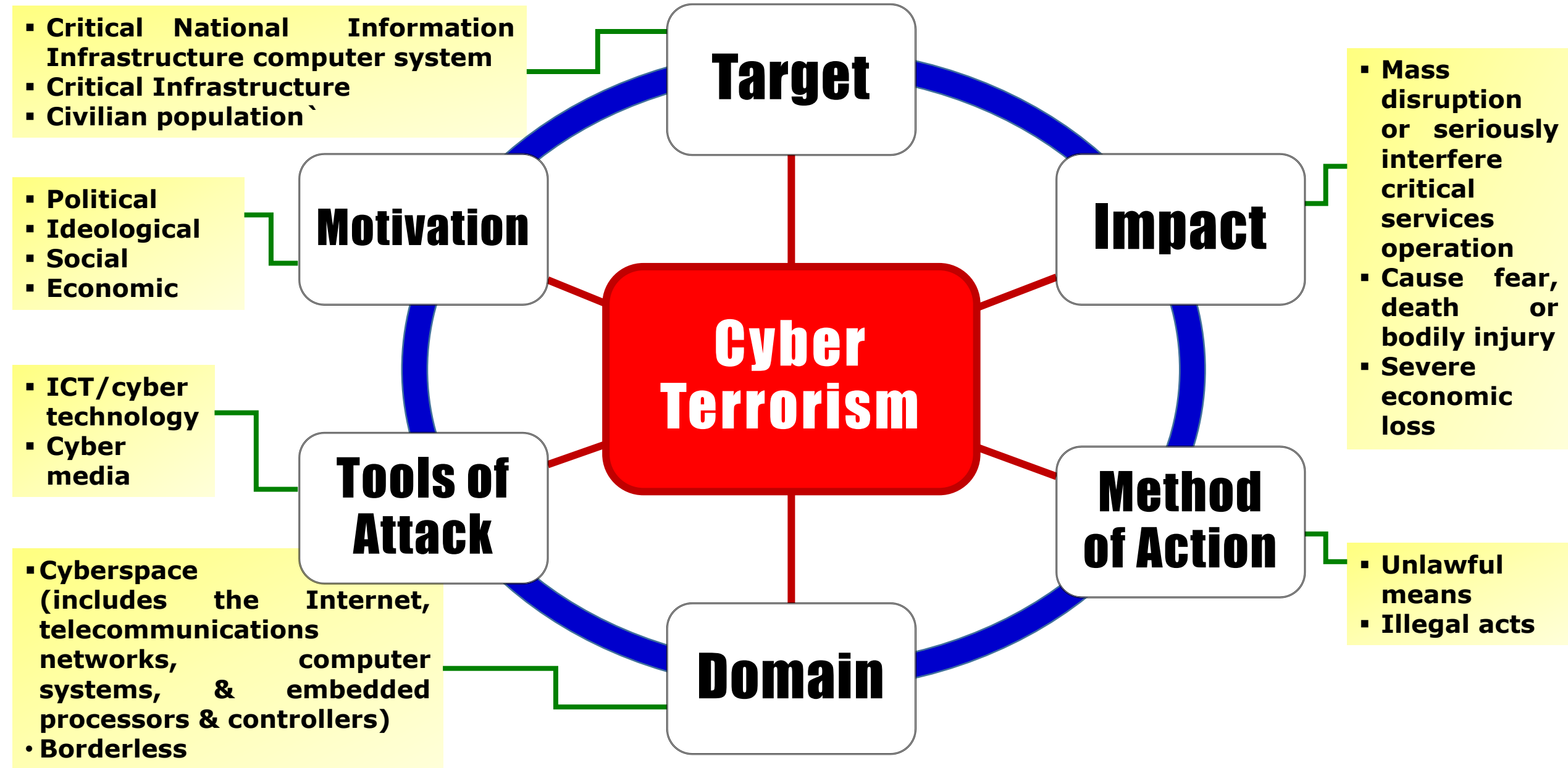
• Take down CNII such as telecoms masts & other Information & Communications; central clearing houses & online Banking & Finance systems; Government services; Supervisory Control & Data Acquisition (SCADA) in the Energy sector; Food & Agriculture value chains privacy of Health Services databases as well as National Defence & Security systems.

Values, Propaganda, Financing & Recruitment

Pentagon Manipulates Social Media for Propaganda Purposes

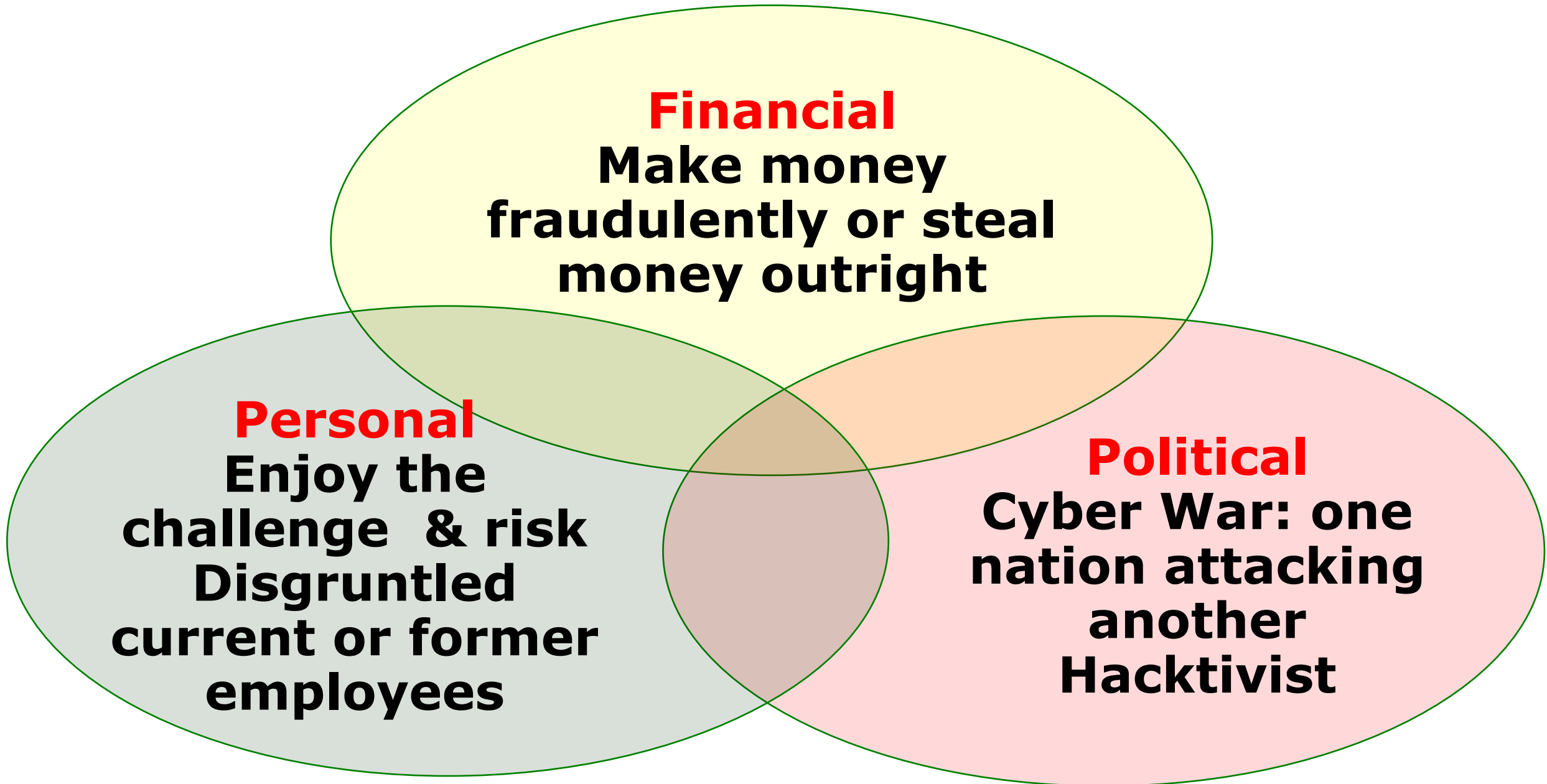
Source <http://www.globalresearch.ca/pentagon-seeks-to-manipulate-social-media-for-propaganda-purposes/25719>

Not all cyber-crimes are acts of cyber-terrorism





WHY DO PEOPLE COMMIT CYBER CRIMES



YOUR ADVERSARIES



- **These boys from California, in 2002, successfully 'cracked' Madblast.com & Hamsterdance.com using cracker tools freely available on the web**

• **Ringleader is centre**

• <http://www.newtechusa.com/NTDStaging/NewsBriefs/YoungestHackers.asp>

- **Possible members of Anonymous hacker group arrested for allegedly conspiring to damage protected computers at PayPal; Indicted by U.S. Dept. of Justice July 19, 2011**

- Christopher Wayne Cooper, **23**, aka "Ananon;" "Anthrophobic;"
- Vincent Charles Kershaw, **27**, aka "Trivette," "Triv" & "Reaper;"
- John Covelli, **26**, aka "Absolem" & "Toxic;"
- Keith Wilson Downey, **26**;
- **Mercedes Renee Haefer, 20, aka "No" & "MMMM;"**
- Donald Husband, **29**, aka
- Ethan Miles, **33**;
- James C. Murphy, **36**;
- Drew Alan Phillips, **26**, aka "Drew010;"
- Jeffrey Puglisi, **28**, aka "Jeffer," "Jefferp" & "Ji;"
- Daniel Sullivan, **22**;
- **Tracy Ann Valenzuela, 42**;
- Christopher Quang Vo, **22**.
- Court withheld name of One individual



- Source: <http://www.fbi.gov/news/pressrel/press-releases/sixteen-individuals-arrested-in-the-united-states-for-alleged-roles-in-cyber-attacks>



THINGS HAVE CHANGED: HAVE YOU CHANGED YOUR BUSINESS THINKING?

Uber



Facebook



Alibaba



Airbnb



**LESSONS: 1) CREATE THE PLATFORM 2) NEW LENDING STRATEGIES (E.G. COLLATERAL)
3) We must combine solutions 4) Online Adverts!**



TOP 10 MOST VISITED WEB PROPERTIES

If something is "free" then know that you are not the customer, but you are the product being sold

Unique Visitors Per Month
150,444,000
Time Spent Per Person Per Month in hh:mm:ss

137,644,000
Time Spent Per Person Per Month in hh:mm:ss 7:45:49



Issue

• Microsoft warns that a rapidly growing shortage of technology-savvy graduates is putting the world's cyber security in danger.

Antimalware:
Data loss prevention (DLP):

• Microsoft's report titled "Cyberspace 2025: Today's Decisions, Tomorrow's Terrain", indicates that more must be done to boost the number of students studying Science, Technology, Engineering and Maths (**STEM**) subjects:

DDOS Mitigation:

Disaster Recovery & Business Continuity:

• To ensure the world's pool of cyber skills can cope with a "dramatic" rise in broadband adoption, particularly in the developing world.

Source

Encryption:

• Source: <http://www.v3.co.uk/v3-uk/news/2347936/microsoft-predicts-huge-tech-skills-shortage-by-2025>

Firewall:

Identity Management

• Despite this huge rise in more people getting online and wanting to access services from social media to online banking, Microsoft predicts there will be just 16 million STEM graduates in 2025, versus billions of web users.

Access (IAM):
Intrusion prevention systems (IPS):

Risk & Compliance Management:

Deduction

Security/ Vulnerability Management:

Unified Threat Management (UTM)/ Unified Security Management (USM):

• "This imbalance in education sets the stage for fierce competition for technology talent, and global economic competition...."

Effect

Web Filtering:



QUESTIONS TO ASK YOURSELF

- **Do not ask yourselves, your children or younger ones what profession then want to take up, ask them what problem they want to solve.**
- **People pay for pain relief;**
 - **You must understand the future pain points.**
 - **If I offer you a painkiller/ aspirin how much would you pay & why would you pay for it when you don't need it.**
 - **However, how much would you pay for such a painkiller/ aspirin if you have a headache?**

HOW DO I BECOME A CYBER SECURITY EXPERT CONVERTING ANALOGUE-WARRIORS TO CYBER-WARRIORS



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**Education/
Certifications:**
**With practical
examinations &
continuing education**

Essential Work Habits:
**Ability to work
methodically & is very
detail oriented**

Soft skills:
**Ability to clearly
articulate complex
concepts both written &
verbally**

**Technical detailed
knowledge of:**
**Open Source
Applications**
Network Implementation
IP

**Solid Technical
Foundation:**
**Understand architecture,
administration,
management &
evaluation of operating
systems, networking
(especially routers), &
virtualization software**

Creative Perspectives:
**Examine security from a
holistic view, including
threat modelling,
specifications,
implementation, testing,
& vulnerability
assessment**

Time & Money Wait for No One or Nation

2015 .ng Budget N4.74Tn approx.
\$24Bn @ N200/\$



2014 Konga Yakata one-day sale, it
directly sold over N600 million



China Singles' or "bare sticks" day,
\$1bn was spent in first 8 minutes



Alibaba.com™

Alphabet is the world most valuable
company \$200bn (£139bn)

In the five seconds it has taken us to
read this sentence, Samsung has
earned \$32,430 (£20,200)

October 2014 Facebook Buys
WhatsApp for \$22Bn



Alphabet

Proposition for Adoption

- **By the year 2020 an MSME based **Cybersecurity Solutions** economic sub-sector should be in place principally driven by suitably empowered knowledge workers below 35 years of age**



**Thank you,
for your
attention**



**O ʒeun, fun
akiyesi re**

**Na gode,
don kulawa**

**Na-ekele gi,
n'ihhi na gi na
anya**