

“You go now! No trouble!”

Understanding the Offboarding Process in Companies from an IT Security Perspective

Christina Detsika, **Timo Jagusch**, Nora Weidner, Larissa Weir, Florin Martius, Christian Tiefenau
University of Bonn, Fraunhofer FKIE

Former employee shuts down British Museum IT systems



[1]

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Hospitals Payer Health IT Government Finances Medical Groups Telehealth COVID-19

DIVE BRIEF

[1] Data breach at Geisinger may have exposed data from 1.2M patients

A former employee at vendor Nuance Communications accessed patient data two days after being terminated, according to the health system. The employee is facing federal charges.

Published July 2, 2024

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[2]

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More than 8 million Cash App Investing customers potentially impacted by data breach linked to former employee

By Catherine Thorbecke, CNN Business
2 min read · Published 2:24 PM EDT, Thu April 7, 2022

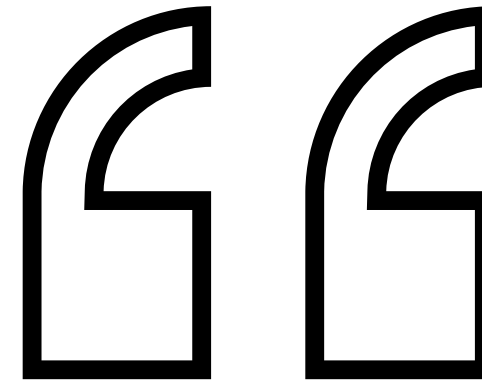
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[3]

“But when I think about it, there are still lots and lots of accounts that IT doesn’t really know anything about.”

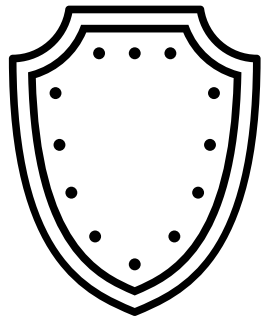
– P9



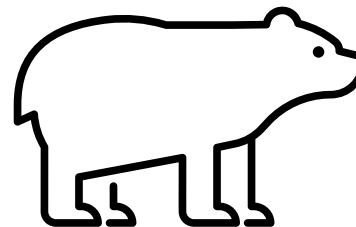
What is offboarding?

“Offboarding, [...] is the process that accompanies an employee when they leave or transfer within the company” [4]

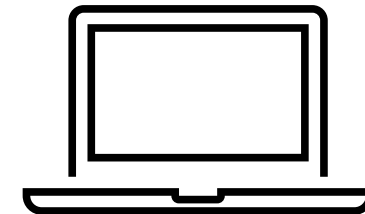
Key objectives:



Protection



Prevent Cyber Threats

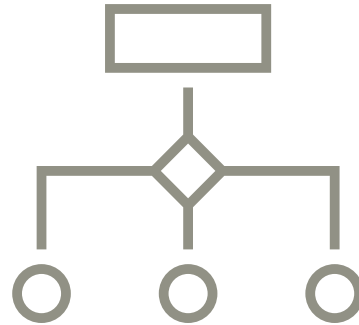


Device retention

Research Questions



Frameworks



Current Processes



Challenges

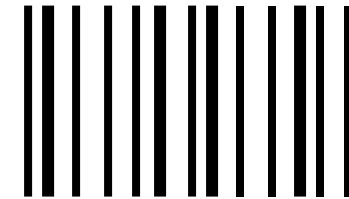
Methodology



Exploratory Study



Interviews (n=15)



Coding

Methodology - Coding



Results

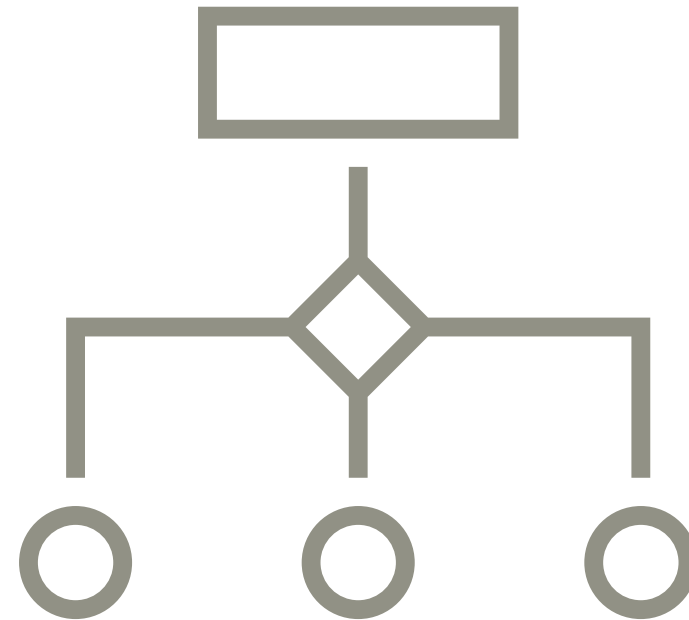


Frameworks

Offboarding in Frameworks

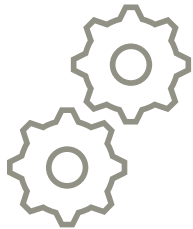
Offboarding Element	Frameworks						Interview (p/15)
	BSI ORP [5]		ISO/IEC 27002:2013 [14]		NIST CSF & SP [7, 24]		
	Reference	Usability	Reference	Usability	Reference	Usability	
Automation	-	○	-	○	SP 800-53r5 PS-4(2)	●	(9/15)
Checklists	ORP.2.A2	●	-	○	-	○	(11/15)
Documentation Assets	-	○	A.8.1.1	◐	CSF ID.AM-01 Ex1	◐	(9/15)
Exit Interview	-	○	-	○	SP 800-53r5 PS-4 c.	●	(5/15)
Logging and Monitoring	-	○	-	○	CSF GV.RR-04 Ex1	●	(5/15)
Organizational Communication	ORP.2.A2	●	-	○	CSF GV.OC-02 Ex1 CSF GV.RM-05 Ex2	◐ ◐	(15/15)
Returning Devices	ORP.2.A2	●	A.8.1.4	●	SP 800-53r5 PS-4 d.	●	(13/15)
Revoke Access Rights	ORP.4.A7	◐	A.9.2.6	●	SP 800-53r5 PS-4 a.,e.	●	(15/15)
Revoke Physical Access	ORP.4.A5 ORP.4.A1+A2	◐ ●	A.9.2.6	●	SP 800-53r5 PE-2 d. CSF PR.AA-05 Ex1	● ◐	(13/15)
Update Assets	ORP.2.A2	●	- -	○	SP 800-53r5 AC-2 k.,l. SP 800-53r5 PS-6 c.2	● ◐	(4/15)
Update Process	-	○	A.7.2.2	◐	SP 800-53r5 PS-1 c.	◐	(8/15)
Wipe Devices	-	○	A.11.2.7	◐	CSF ID.AM-08 Ex7 CSF PR.DS-10 Ex1	◐ ◐	(7/15)

J



Process

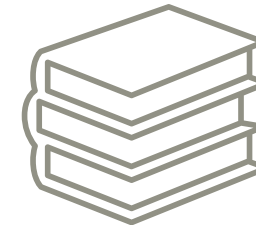
Offboarding Process in Organizations



Largely different
Processes



Often based on
personal experience



Constrains

Offboarding Process in Organizations



Retrieving Assets



Revoking Access Rights



Deactivating User
Accounts



Notification of
stakeholders



Challenges & Risks

Challenges & Risks



Role- and Permission Management

Challenges & Risks



Role- and Permission Management

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Challenges & Risks

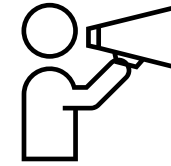


Role- and Permission Management

"There is a major attack vector here. If access has already been blocked in the system but the employee's laptop is offline, it is theoretically possible to access local files, even though this should not be possible." – P5 (translated)

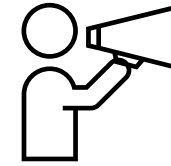
Challenges & Risks

Communication



Challenges & Risks

Communication



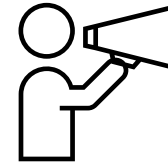
Stakeholders not informed



Disgruntled employee

Challenges & Risks

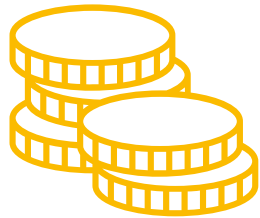
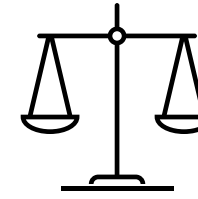
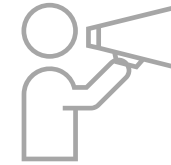
Communication



“If you have a disgruntled employee that knows that he is in danger [...]. They [...] can do a lot of [...] things, you know, that are not [...] ethical.” — P4

Challenges & Risks

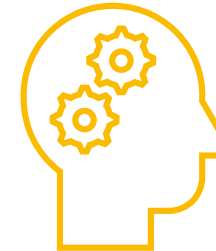
Missing resources



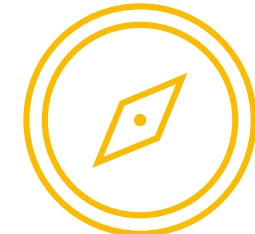
Cost



Staffing



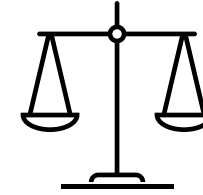
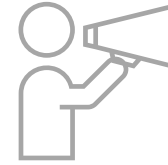
Knowledge



Usability

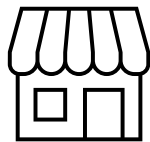
Challenges & Risks

Missing resources

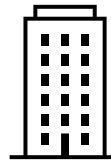


“The topic of security and IT security is, I would say, something that hasn't been given much importance in the past.” – P1

On Process to Rule them all?



Small Business

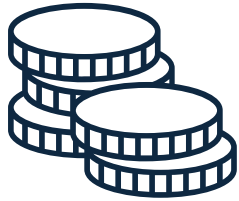


Medium Organization



Large Enterprise

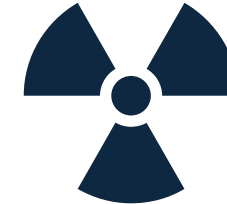
Why One Process Doesn't Fit All



Resource Mismatch



Experience



Risk Exposure

Takeaways

- Current practices are inconsistent
- Frameworks lack actionable guidance and are hard to navigate
- Gaps in the security emerge
- Offboarding closes some of these gaps



Paper

Thank you!
Questions?

Contact: jagusch@uni-bonn.de

Sources

[1] <https://www.hrmagazine.co.uk/content/news/former-employee-shuts-down-british-museum-it-systems/>

[2] <https://www.healthcarediver.com/news/geisinger-nuance-communications-data-breach/720382/>

[3] <https://edition.cnn.com/2022/04/07/tech/cash-app-investing-breach>

[4] Michael Treier. Siebte Station des Personalmanagements: Personalfreisetzung, pages 385–430. Springer, Berlin, Heidelberg, 2019.