

# **Cybersecurity Canvas**

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# Benefits

# Benefits



Simplify strategy



Connect cybersecurity  
to business goals



Easy collaboration with  
stakeholders

The canvas stands firm and tall,  
Free to use to guard us all.

# **What is the Cybersecurity Canvas?**



EXAMPLE —Small Online Retailer

### Company

#### Business context

Why did the company start the initiative to improve cybersecurity?

Shareholders are afraid that money is stolen

Customers expect a safe and secure online store

#### Company risks

Which risks, which are not cyber-related, might hurt your company? (ex. failure to acquire funding, completion risks, etc.)

Suppliers are unable to transport our products

Loss of reputation due to low customer ratings

#### Cyber-risks

Which most important cyber-risks might hurt your company?

Losing resources through ransomware

Customer's creditcard details being stolen

### Measures

#### Protective technology

Which protective technology does your company have? (ex. antivirus, firewalls, ...)

Creditcard processing through secure third party

Firewalls

Ant-virus

Web Application Firewall

Backups

#### Identity and access

How are roles and permissions implemented in your company? (ex. role based access, quarterly check-up)

Access to the production environment is restricted

Supplier's access is restricted

Admin access is restricted and regularly reviewed

# Cybersecurity Canvas

Born out of Scientific Research

Helps to design a single view of the cybersecurity strategy

Works like the well-known Business Model Canvas

Created in  
collaboration with:



Antwerp  
Management  
School



# Company

# Measures

## Business context

Why did the company start the initiative to...

Shareholders are afraid that money is stolen

Customers are a safe bet

What does your business do? (e.g. products, etc.)

Art - what

Web Application Framework

## Company risks

Which risks, which are not cyber risks? (e.g. failure to acquire funding, competition)

Suppliers are unable to transport our products

Lack of response due to customer settings

## Cyber risks

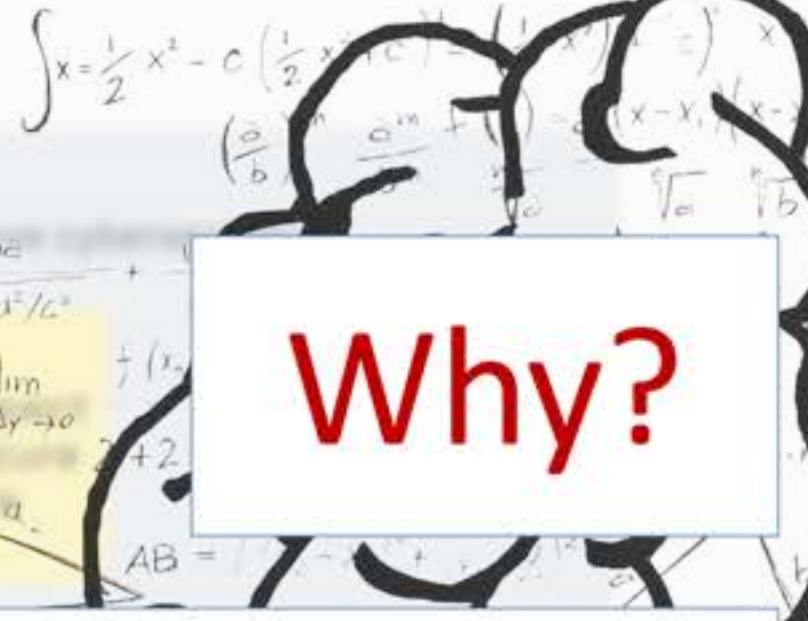
Which most important cyber risks might hurt your business?

Losing resources through malware

Customer's intellectual property stolen

Company's data is corrupted

Admin access is restricted and regularly reviewed



**Why?**

- **Mission**
- **Risks**
- **Laws**



**How?**

- **Technology**
- **People**
- **Process**



# Company

# Measures

## Business context

Why did the company start the initiative to improve its performance?

Shareholders are afraid that money is stolen

Customers are a safe bet

## Company risks

Which risks, which are not cyber risks, are most important for the company?

Suppliers are unable to transport our products

Lack of resources due to low customer ratings

## Cyber risks

Which most important cyber risks might hurt your business?

Using resources through intermediaries

Customer's personal information is stolen

## Measures

Which measures are most important for the company?

Anti-virus

Web Application Firewall

Restricted access to your company's check-out

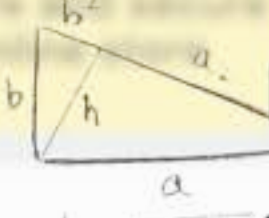
Company's website is protected

Admin access is restricted and regularly updated

$$\int x = \frac{1}{2} x^2 - c \left( \frac{1}{2} x + c \right) = \left( \frac{1}{2} x + c \right) x$$

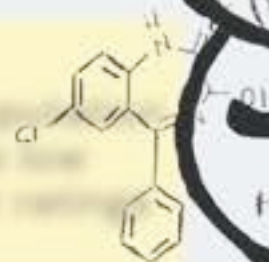
$$F = \frac{m \Delta v}{\sqrt{1 - v^2/c^2}} + W = \frac{m \Delta v}{\sqrt{1 - v^2/c^2}} + m c^2 \left( \frac{1}{\sqrt{1 - v^2/c^2}} - 1 \right)$$

$$\lim_{\Delta y \rightarrow 0} \frac{f(x_0 + \Delta y) - f(x_0)}{\Delta y} = f'(x_0)$$



$$h = \sqrt{a \cdot b}$$

$$f(x) = a(x-x_1)(x-x_2)$$



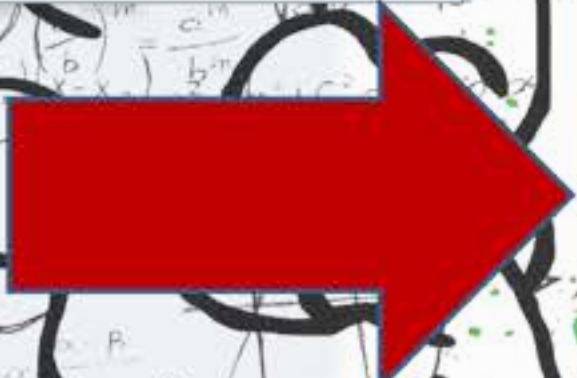
$$\cos \alpha + \cos \beta = 2 \cos \frac{\alpha + \beta}{2} \cos \frac{\alpha - \beta}{2}$$

$$\sin \alpha + \sin \beta = 2 \sin \frac{\alpha + \beta}{2} \cos \frac{\alpha - \beta}{2}$$

$$\int_0^{\infty} \frac{\operatorname{erf}(\sqrt{x})}{e^x} dx = \frac{1}{\sqrt{2}}$$

Left

Right







## Digital Marketing & Co.



30% increased revenue from new digital efforts



There is a high risk at suppliers due to outsourcing all development.



Fundamental security on maturity 2



Supplier Management on maturity 4

# The Cybersecurity Canvas is

A tool to visualize, discuss and  
compare cybersecurity strategy

# Shape & Design

## Cybersecurity Canvas

Example Small online retailer



## Cybersecurity Canvas Example Small Online Retailer

### Business context

Shareholders are afraid that money is stolen

Customers expect a safe and secure online store

### Company-risks

Suppliers are unable to transport our products

Loss of reputation due to low customer ratings

### Cyber-risks

Losing resources through ransomware

Customer's creditcard details being stolen

### Protective Technology

Creditcard processing through secure third party

Firewalls

Ant-virus

### Identity and access

Access to the production environment is restricted

Admin access is restricted and regularly reviewed

### Doelstellingen

Snelle en goede dienstverlening aan de burger

### Cyber Risico's

Cybersecurity hack

Datalekken

Menselijke fouten

### Maatregelen

MFA

Bewustwording medewerkers

Beperking van toegang



**Origin**

Research into SMB



**Antwerp  
Management  
School**

Small to medium sizes  
companies (SMB)



99%  
Economic activities



60%  
Global workforce

Small to medium sizes  
companies (SMB)



99%  
Economic activities



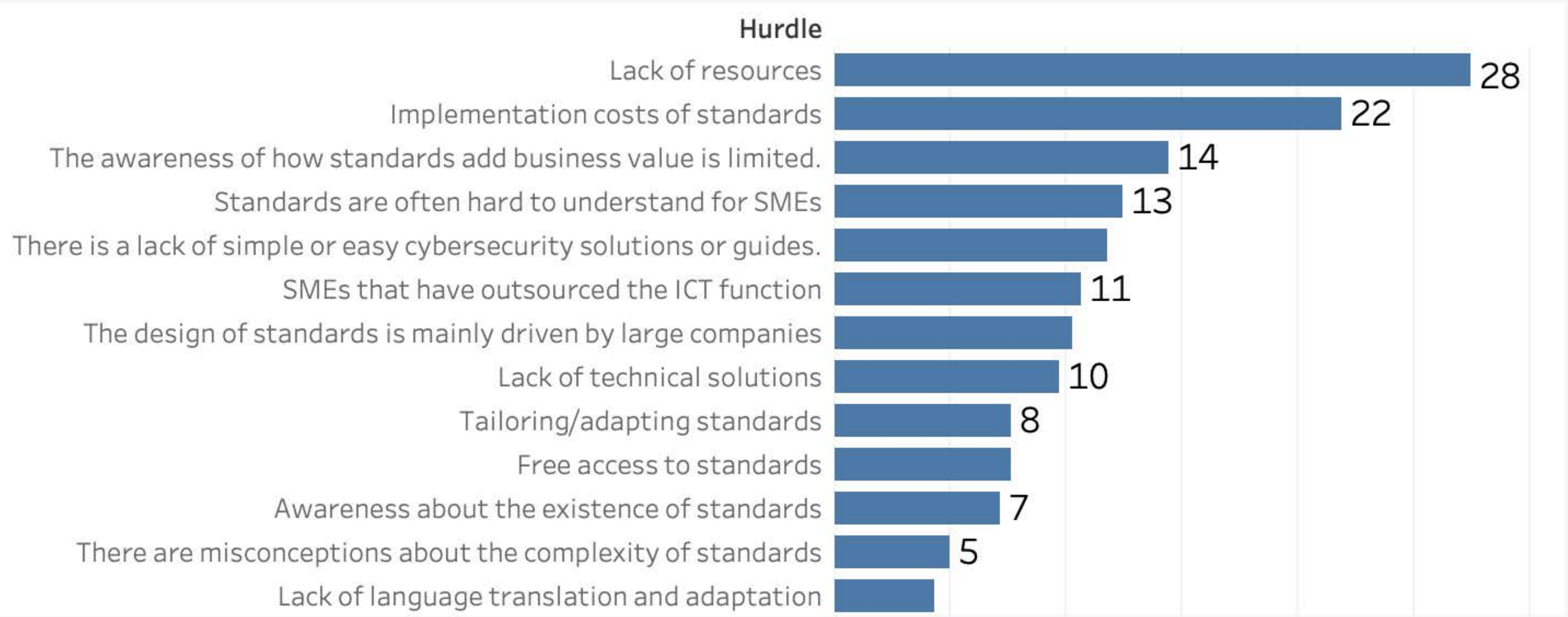
60%  
Global workforce



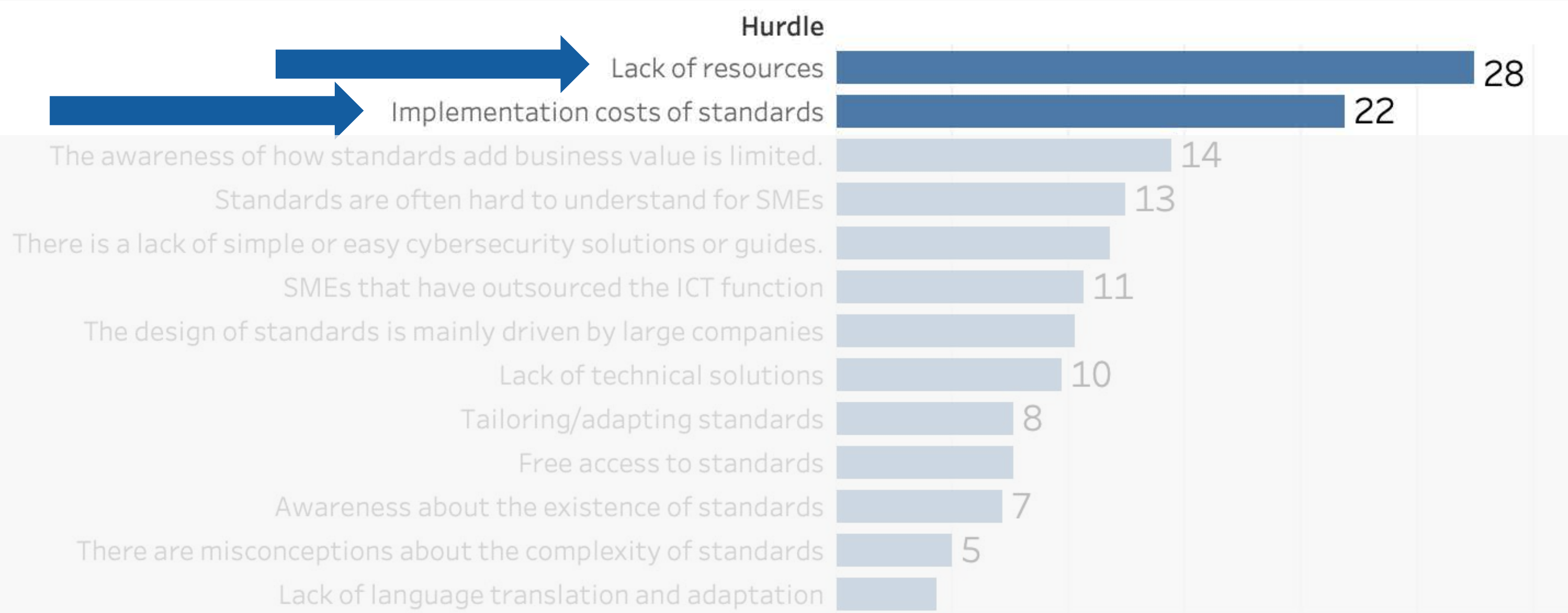
More vulnerable



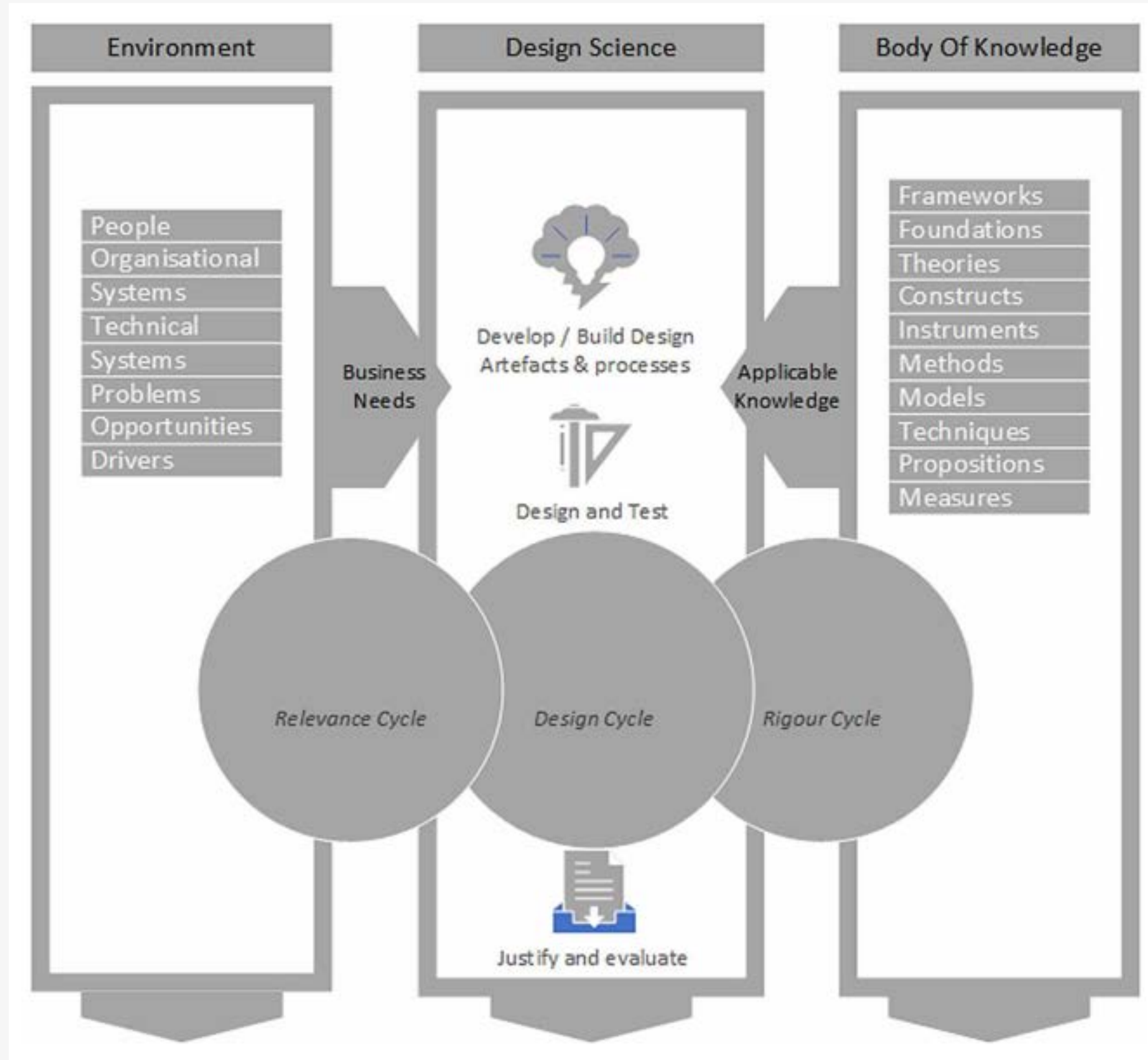
# The problem



# The problem



# Research



Using a scientific approach to design a product :

## Design Science

# Data collection

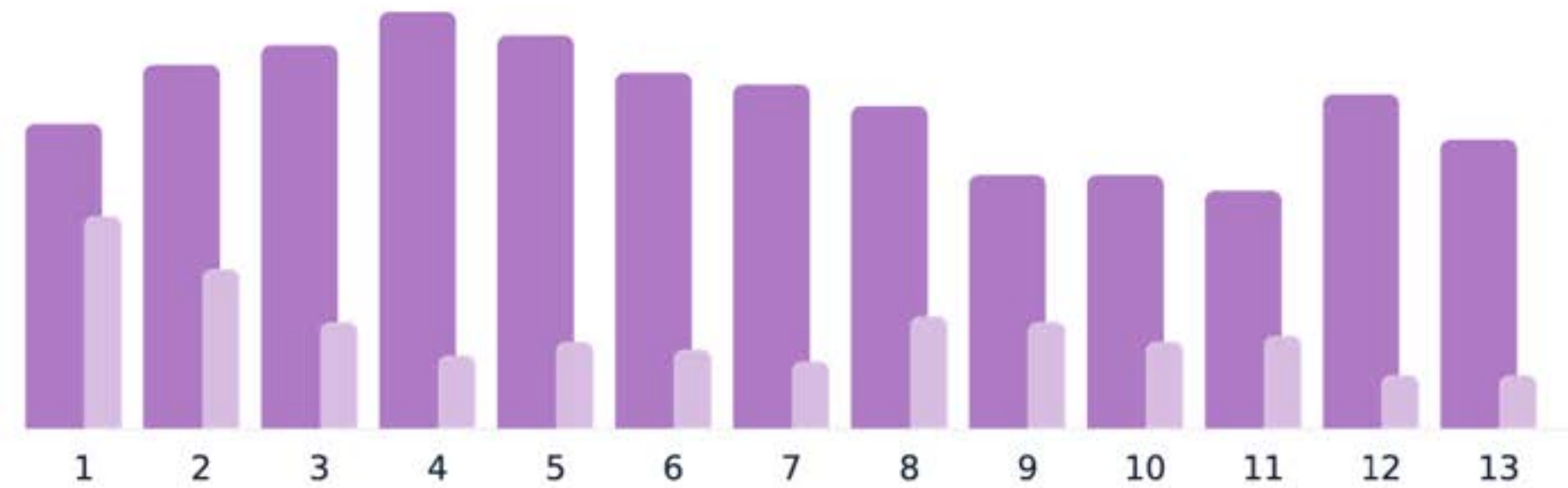
A total of 130 years of expert experience

Three main components

- 1. Obstacles
- 2. Controls
- 3. Design

## 13. Obstacles for the adoption of standards

Allocate 100 points to the most important obstacles for adoption



Evaluation method: Allocate points adding to 100 | Votes: 10

### Table view

Item	Rating	A	Variability
1. Lack of resources	27.5	2	32%
2. Implementation costs of standards	21.9	2	24%
3. The awareness of how standards add business value is limited.	14.4	5	16%
4. Standards are often hard to understand for SMEs which do not have the inhouse expertise for translating standards into specific tasks and activities.	12.5	2	11%
5. There is a lack of simple or easy cybersecurity solutions or guides.	11.8	5	13%



Resulting requirements

8

**requirements**

1. Flexibility

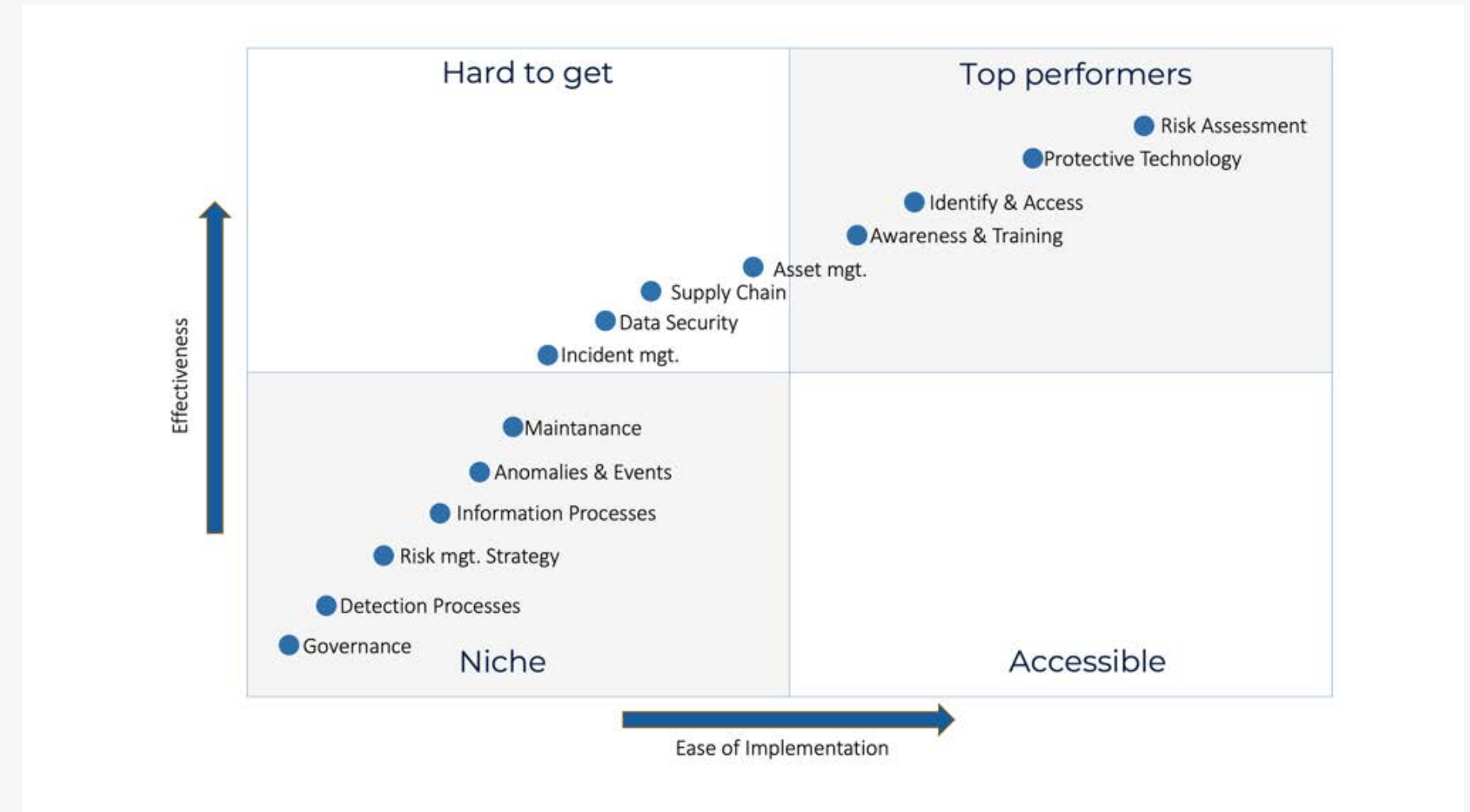
2. Include risk

3. Easy to understand

# Results



Cybersecurity Canvas



SMB Cybersecurity Quadrant

# Canvas



## Cybersecurity Canvas Example Small Online Retailer

### Business context

Shareholders are afraid that money is stolen

Customers expect a safe and secure online store

### Company-risks

Suppliers are unable to transport our products

Loss of reputation due to low customer ratings

### Cyber-risks

Losing resources through ransomware

Customer's creditcard details being stolen

### Protective Technology

Creditcard processing through secure third party

Firewalls

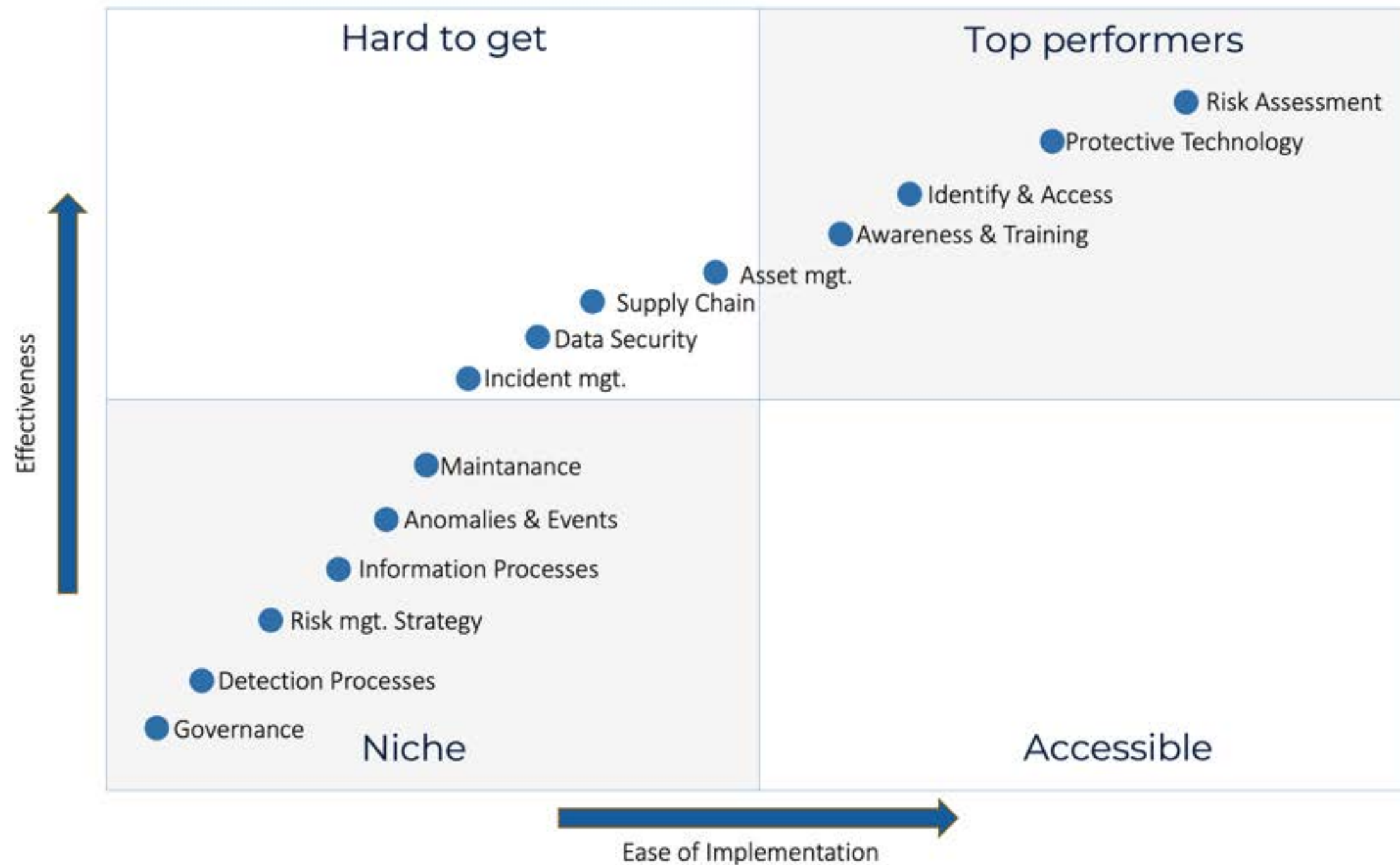
Ant-virus

### Identity and access

Access to the production environment is restricted

Admin access is restricted and regularly reviewed

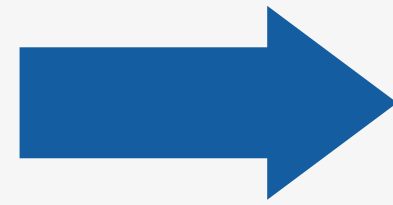
# Prioritized NIST CSF categories



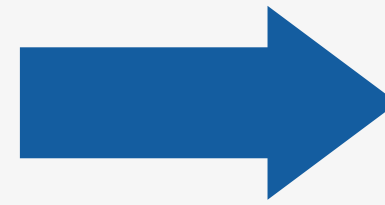


# Summary

130 years of experience



8 requirements



# Further changes

1. Focus on the connection between left and right side rather than the components
2. Removal of the need for the NIST CSF categories
3. Increased flexibility in defining the left-side



Doelstellingen	Maatregelen
Snelle en goede dienstverlening aan de burger	MFA
	Bewustwording medewerkers
Cyber Risico's	Beperking van toegang
Cybersecurity hack	
Datalekken	
Menselijke fouten	

**How to use**

# Cybersecurity Canvas



**01** Define the "Why"

**02** Design the "How"

**03** Connect & communicate



# 1. Define the "why"

## Business context

Business goal

Regulation  
(ex. NIS2)

## Company-risks

Losing shareholder trust

## Cyber-risks

Data leak leads to bad reputation

**Wisely plan your objectives**  
**Have a strong sense of risk**  
**Yield to regulations**

## 2. Design the "how"

**Harness creative thinking**  
**Observe for opportunities**  
**Weigh risks against costs**

### Protective technology

Data Loss prevention

### Identity and access

Access to the production environment is restricted

Admin access is restricted and regularly reviewed

### 3. Connect & communicate

#### Business context

Business goal

Regulation (ex. NIS2)

How do the risks impact the goals?

#### Company-risks

Losing shareholder trust

Aren't we missing risks?

#### Cyber-risks

Data leak leads to bad reputation

#### Protective technology

Data Loss prevention

Too expensive for the risk it recudes?

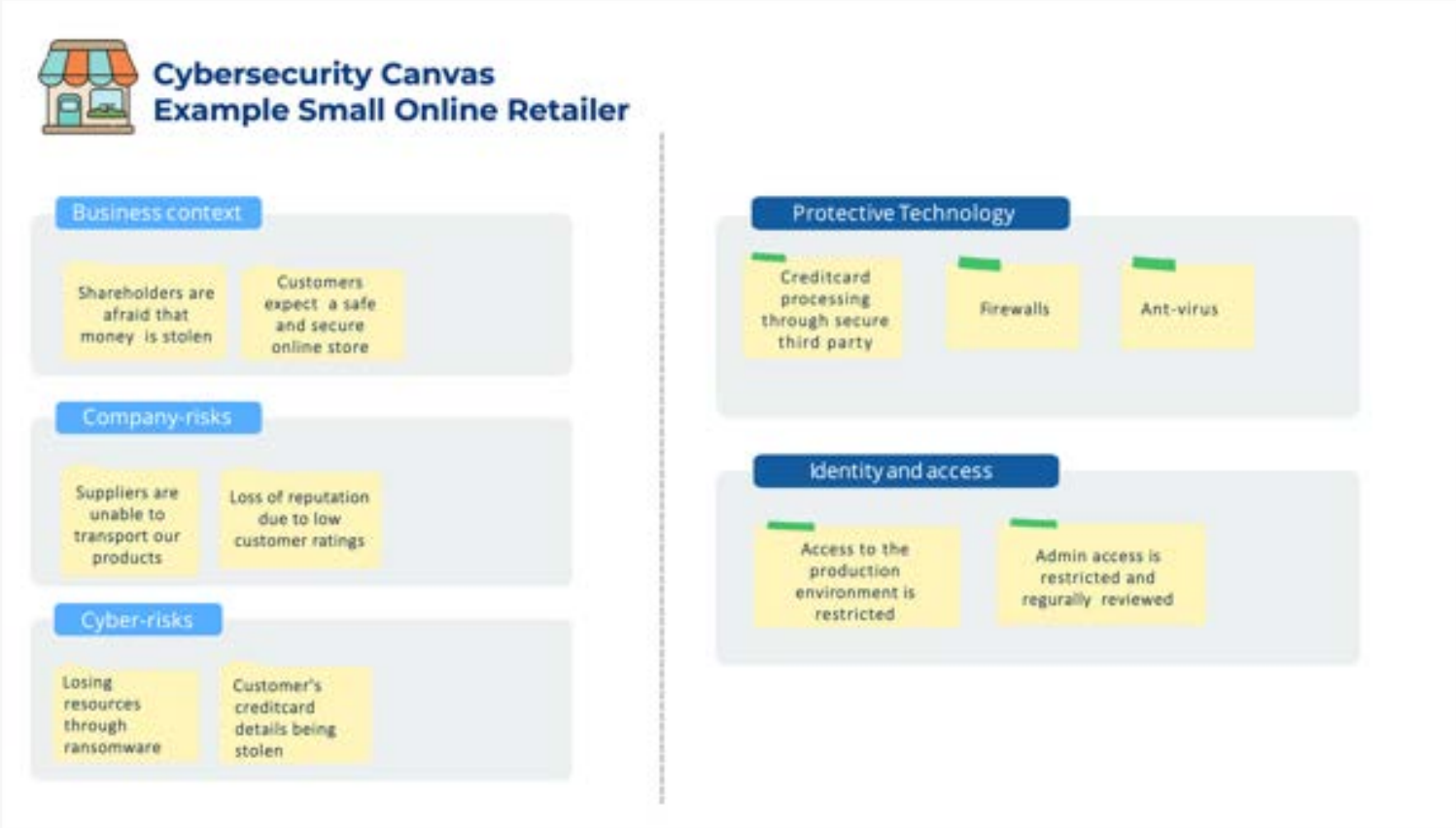
#### Identity and access

Access to the production environment is restricted

Admin access is restricted and regularly reviewed

# Current VS future

## 2023



## 2024





# Per year

## Cybersecurity Canvas Example Small Online Retailer

**Business context**

- Shareholders are afraid that money is stolen
- Customers expect a safe and secure online store

**Protective Technology**

- Creditcard processing through secure third party
- Firewalls
- Ant-virus

2023

**Company-risks**

- Suppliers are unable to transport our products
- Loss of reputation due to low customer ratings

## Cybersecurity Canvas Example Small Online Retailer

**Business context**

- Shareholders are afraid that money is stolen
- Customers expect a safe and secure online store

**Protective Technology**

- Creditcard processing through secure third party
- Firewalls
- Ant-virus

2024

**Cyber-risks**

- Losing resources through ransomware
- Customer's creditcard details being stolen

**Company-risks**

- Suppliers are unable to transport our products
- Loss of reputation due to low customer ratings

## Cybersecurity Canvas Example Small Online Retailer

**Business context**

- Shareholders are afraid that money is stolen
- Customers expect a safe and secure online store

**Protective Technology**

- Creditcard processing through secure third party
- Firewalls
- Ant-virus

2025

**Cyber-risks**

- Losing resources through ransomware
- Customer's creditcard details being stolen

**Company-risks**

- Suppliers are unable to transport our products
- Loss of reputation due to low customer ratings

**Identity and access**

- Access to the production environment is restricted
- Admin access is restricted and regularly reviewed

**Cyber-risks**

- Losing resources through ransomware
- Customer's creditcard details being stolen

# Examples

# Workshop



A workshop is a great way to set up a shared cybersecurity design.

In this workshop, I used [meetingwizard.nl](https://meetingwizard.nl) to collaborate.

Other tools such as Miro can also work great

# Result

## Doelstellingen

Snelle en goede dienstverlening aan de burger

## Cyber Risico's

Cybersecurity hack

Datalekken

Menselijke fouten

## Maatregelen

MFA

Bewustwording medewerkers

Beperking van toegang



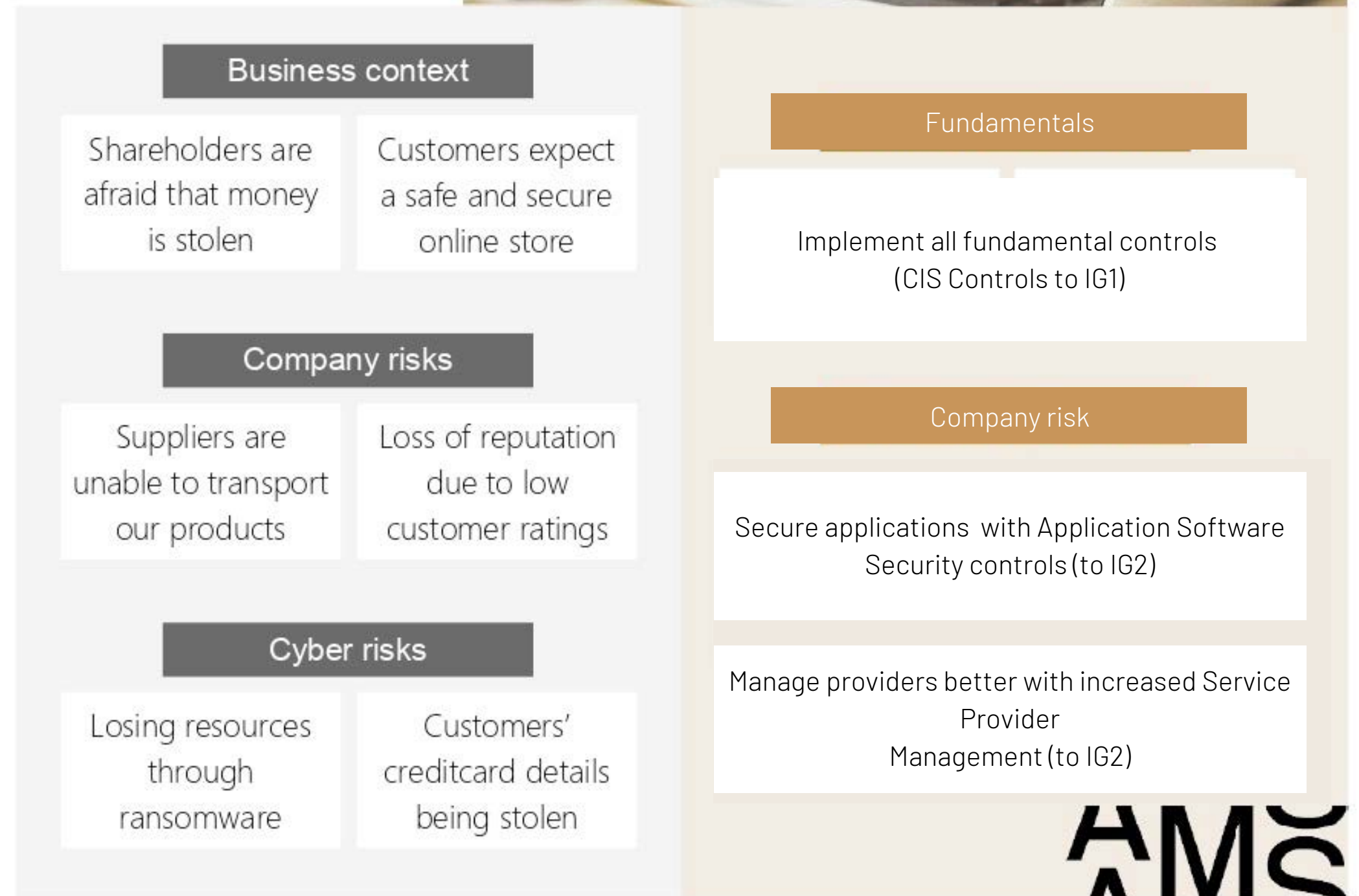
# Maturity approach

- In collaboration with MeetingWizard
- Higher level of abstraction
- Great for larger organizations

However, difficult to get to the right level of abstraction

## Cybersecurity Canvas

Example  
Small online retailer



# IT Service Provider



CUSTOMEXAMPLE —Small IT Service Provider

## Company

### Business context

Why did the company start the initiative to improve cybersecurity?

Other IT Service providers have suffering extensive cyber incidents

Customers are demanding higher security standards

### Company-risks

Which risks, which are not cyber-related, might hurt your company? (ex. failure to acquire funding, completion risks, etc.)

Employees mistakes result in claims

Unable to recruit new people to support growth

### Cyber-risks

Which most important cyber-risks might hurt your company?

Mistakes of employees

Loss of customer data

## Measures

### Protective technology

Which protective technology does your company have? (ex. antivirus, firewalls, etc.)

Firewalls

Ant-virus

### Identity and access

How are roles and permissions implemented in your company? (ex. role based access, quarterly check-up)

Access to the production environment is restricted

Admin access is restricted and regularly reviewed

### Awareness and training

The company personal has admin access to customer's sensitive data, the access is required and cannot be further restricted. Training is required.

On-demand cybersecurity training

Montly cyber training

# **Integration with standards**

# How does the Cybersecurity Canvas integrate

## Protective technology

Data Loss prevention

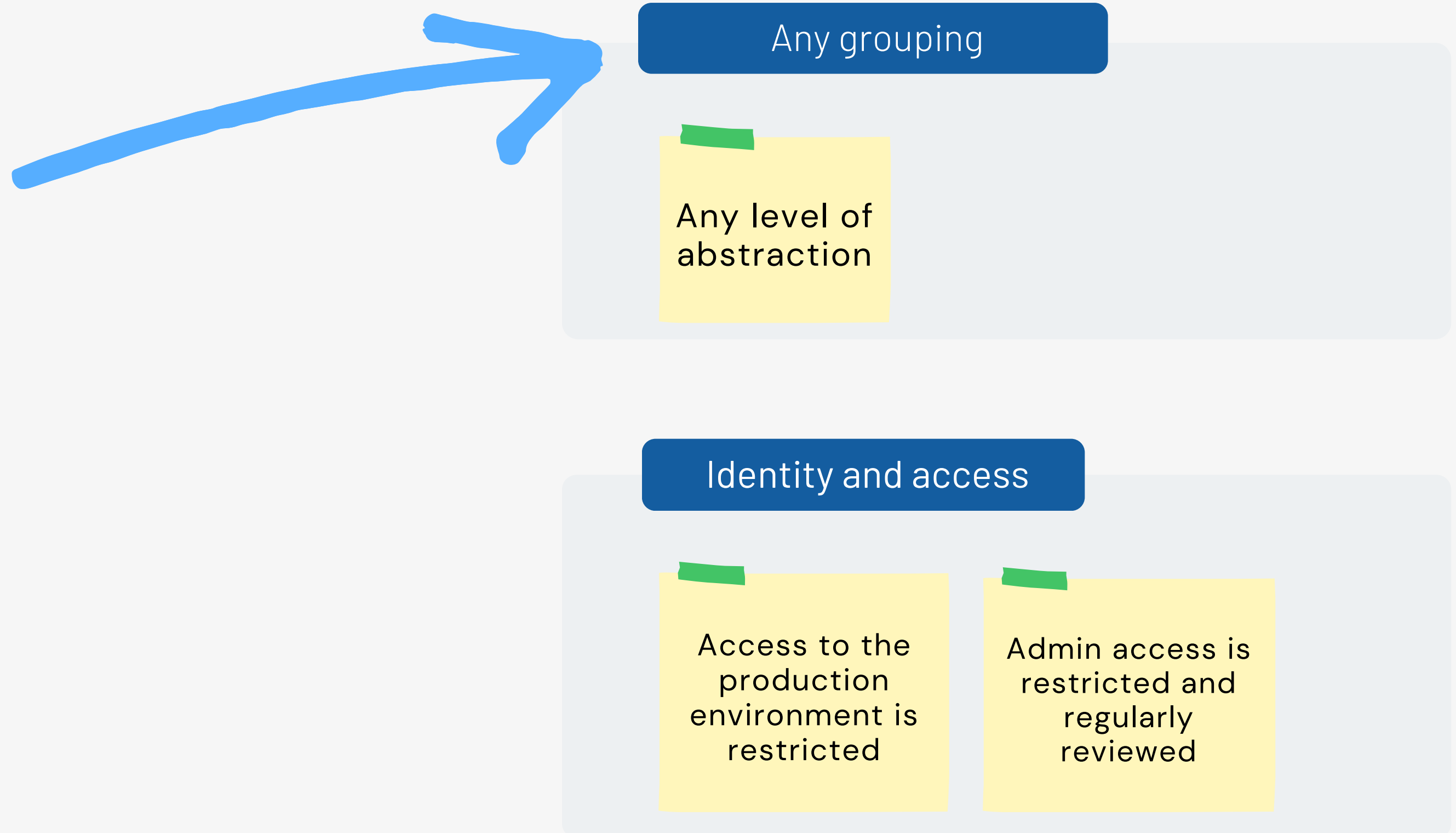
## Identity and access

Access to the production environment is restricted

Admin access is restricted and regularly reviewed



# How does the Cybersecurity Canvas integrate



# ISO27001

## Fundamental

Maintain current controls

Comply to the ISO changes

## Focus

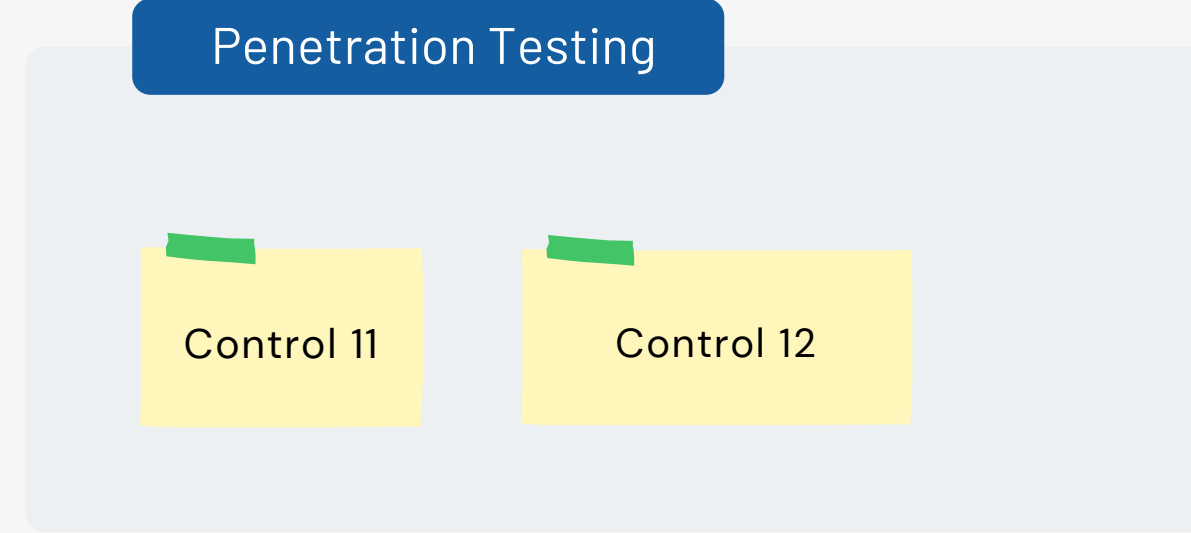
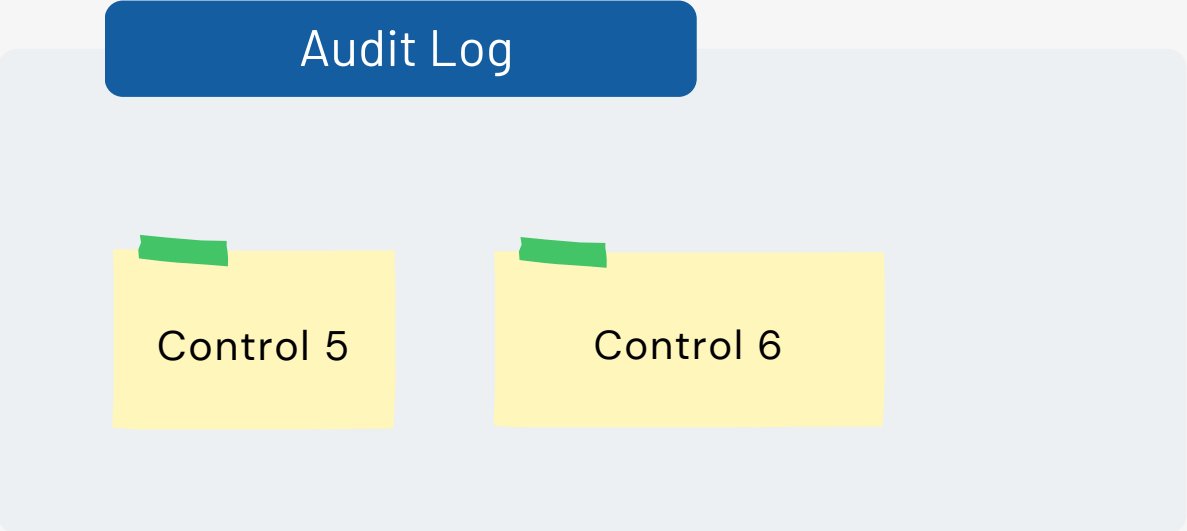
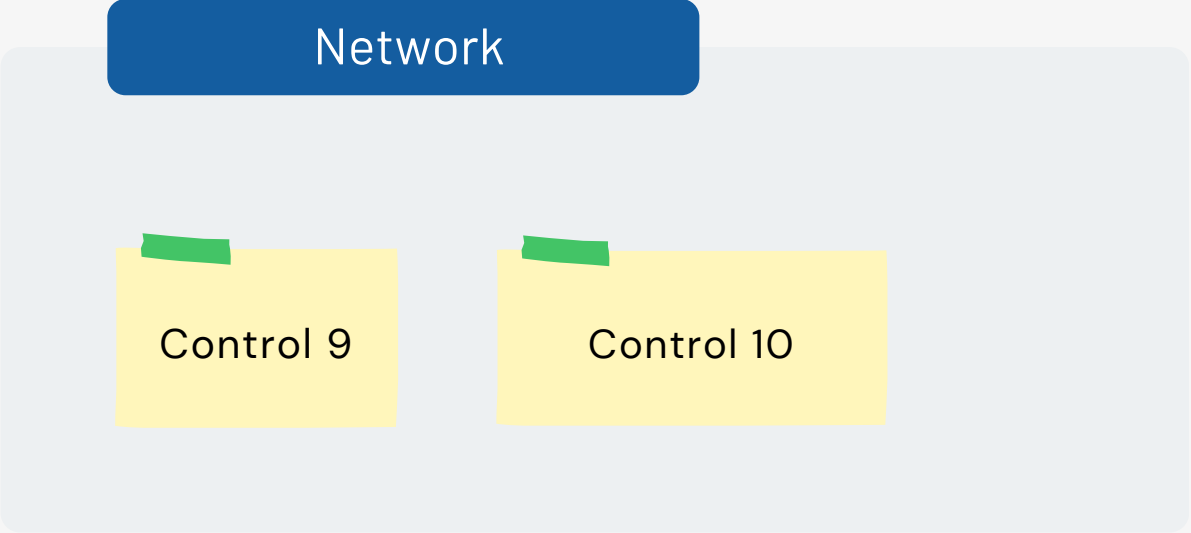
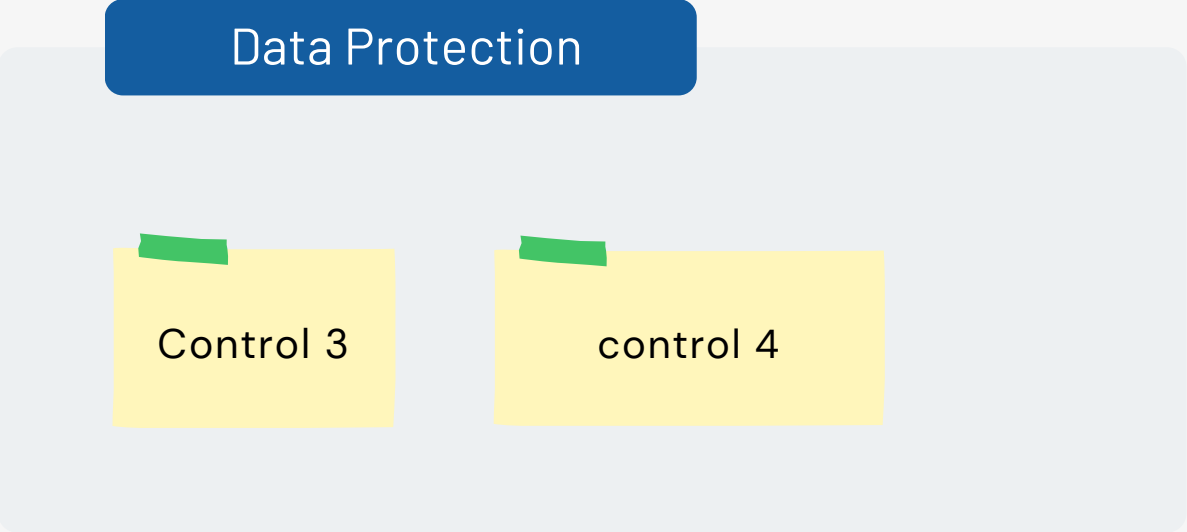
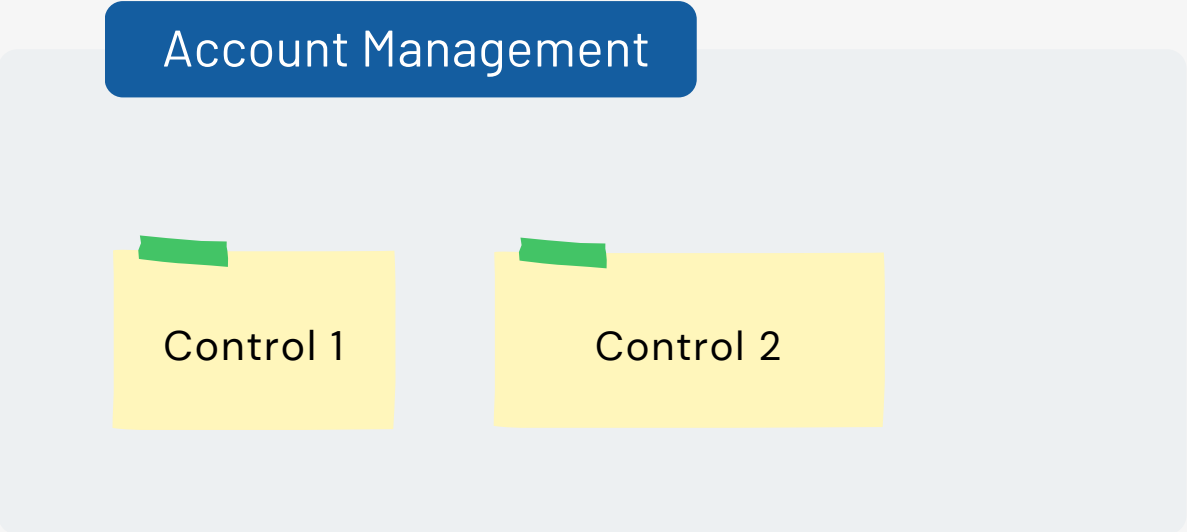
In-house SOC

Endpoint detection & response

# CIS Controls

You can make  
the canvas  
larger.

It's up to you



# NIST CSF

NIST CSF is included in the original.

Even with a catalog of components

## Catalog

The catalog provides you with pre-defined components you can use in your canvas.

### Company

Components you can use to organize the business side of the canvas. These components are examples. It is promoted to create your own components if it helps you better express the business's context.



### Measures

The measure categories are sorted based on the perceived effectiveness and ease of implementation from research among experts. You can use these categories or create your own. All the categories are based on the NIST Cybersecurity Framework.



**Q&A**



**Extra's**

## **The complete research**

*<https://www.securityscientist.net/blog/research-a-cybersecurity-standard-for-sme/>*

## **Cybersecurity Strategy guide with the Cybersecurity Canvas**

*<https://www.securityscientist.net/blog/complete-cybersecurity-strategy-guide/>*

## **Editable PowerPoint of the Cybersecurity canvas + examples**

*<https://www.securityscientist.net/content/files/2022/11/Cybersecurity-Canvas.pptx>*