

# Implementing and improving awareness in information security

Hallvard Kjørvik

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# Outline

- Introduction
- Problem statement
- Definition of security awareness
- Method for measuring security awareness
- Test of method for measuring security awareness
- Conclusion

## Introduction

- Users are important for the total level of security.
  - What they do in a given situation.
- The level of awareness has to be measured:
  - In order to improve it.
  - In order to estimate it.
- Contribution
  - Method for measuring awareness.

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## Problem statement

1. *To discuss existing definitions of awareness in information security with emphasis on the feasibility of assessing / measuring awareness.*
2. *Compare procedures to measure and /or audit awareness, with emphasis on charting their advantages and disadvantages.*
3. *If possible, to propose an improved procedure to measure and /or audit awareness.*
4. *Choosing the best procedure available to carry out a field study*

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## Definition of security awareness

- The definition of security awareness:
  - Found by comparing existing definitions.
- *"Information security awareness is about ensuring that all employees in an organization are aware of their role and responsibility towards securing the information they work with."*

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## Method for measuring security awareness

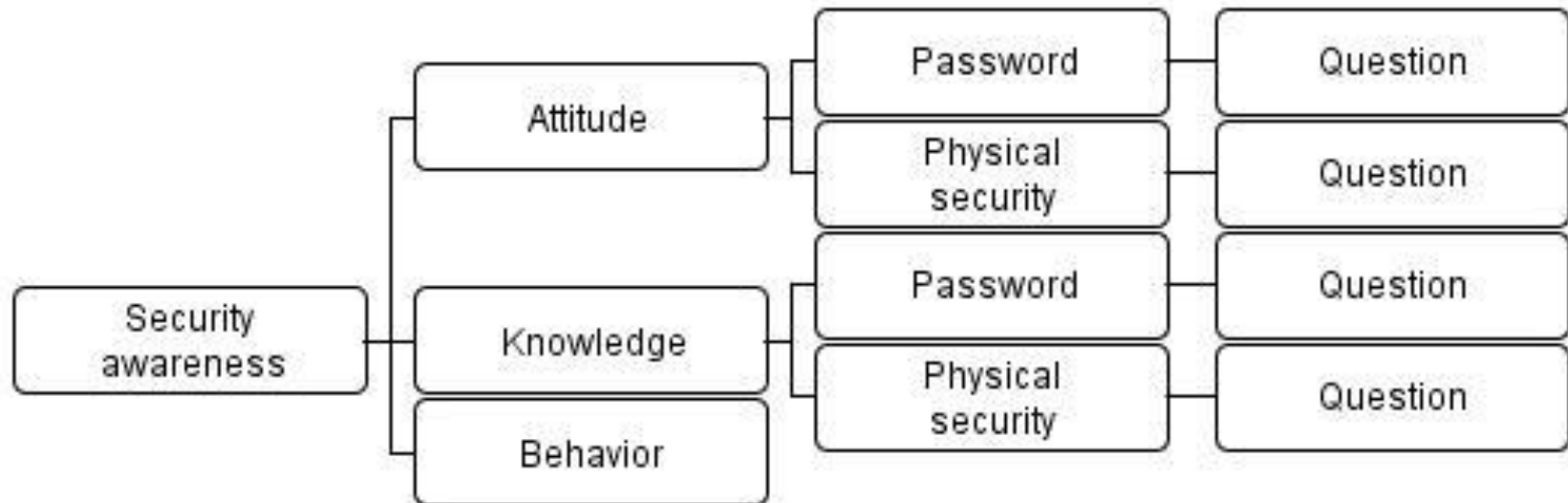
- Finding a method for measuring awareness.
  - Done by searching in existing literature.
  - Comparing the methods found.
- Method found:
  - Measured awareness in an international company.
- Proposed improvement:
  - In the calculation of the result.

## Method for measuring security awareness

- Starts with defining 3 dimensions.
  - Peoples inclination to respond in a certain way.
- The three dimensions:
  - what a person know (knowledge)
  - how they feel about a topic (attitude)
  - what they do (behaviour).

## Method for measuring security awareness

- The focus areas that are to be measured have to be identified.
  - Examples are: password or physical security.
- Each focus area is placed within each dimension.
- Questions are developed for each focus area based on which dimension they are under.

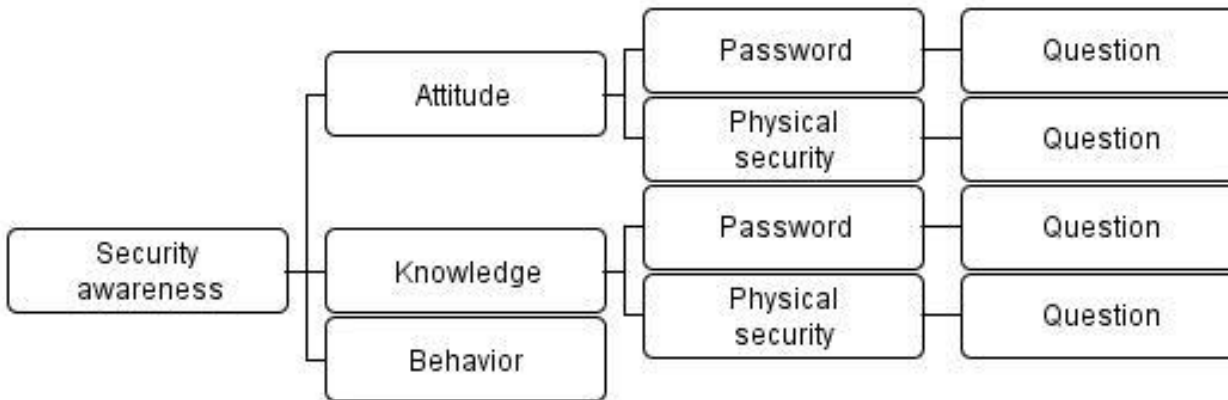


## Method for measuring security awareness

- Calculating importance:
  - Questions
  - Focus areas
  - Dimensions
- Reason for weightings:
  - The importance may not be the same.

## Method for measuring security awareness

- Calculating the result:
  - Within the focus areas.
  - Within the dimensions.
  - Calculating the total level of S.A.



## Method for measuring security awareness

- Assess the result:
  - Good (80% - 100%)
  - Average (79% - 60%)
  - Poor (59% and less)

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## Test of method for measuring security awareness

- Subjects were the students at UiA; Faculty of technology and science, Grimstad.
- The tool used was Fronter.



## Test of method for measuring security awareness

- Measured areas:
  - General computer security
  - E-mail usage
  - Use of Internet
  - Backup
  - Physical security
  - Password

## Test of method for measuring security awareness

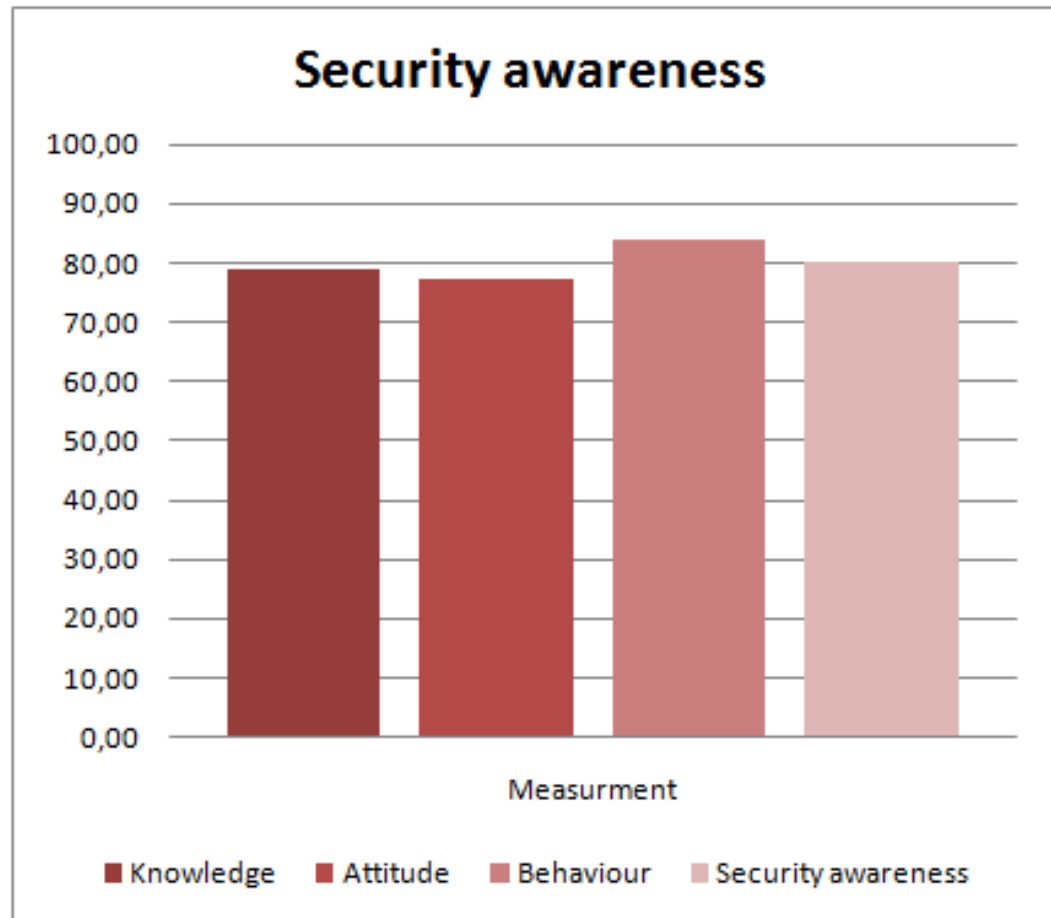
- The answer alternatives were given a value based on how correct the answer was determined to be.
- Each dimension contributed equally to the result.
  - An average rate was used to accomplish this.
  - The reason was an unequal distribution of questions.

## Test of method for measuring security awareness

- Evaluation of the method:
  - The method seems to be well suited to measure S.A.
  - Low response rate.
  - Some questions were of poor quality.
- Results from the survey:
  - An indication of a good level of security awareness.

## Test of method for measuring security awareness

- Results from the survey:
  - Between average and good.



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## Conclusion

- The method for measuring awareness
  - Can be recommended for this purpose.
- The survey of the level of awareness at UiA.
  - Gave an indication off the level of awareness.