# Risk Management and Knowledge Management - Group 45

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# AGENDA

01 **Why Risk Management?**
Motivation of the topic

02 **Recap of Core Concepts**
Risk Exposure, RRL, Risk Categories

03 **KM and Pathway-Dependency**
knowledge at a boundary, challenges, an integrated framework

04 **Grapevine Concept**
details and objective of the grapevine concept

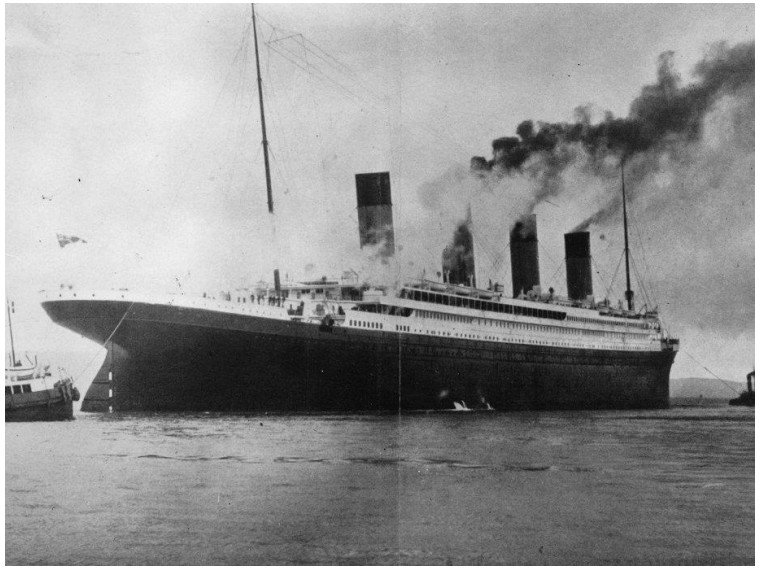
05 **Risk Assessment of Grapevine**
Risk Management process in context of Grapevine

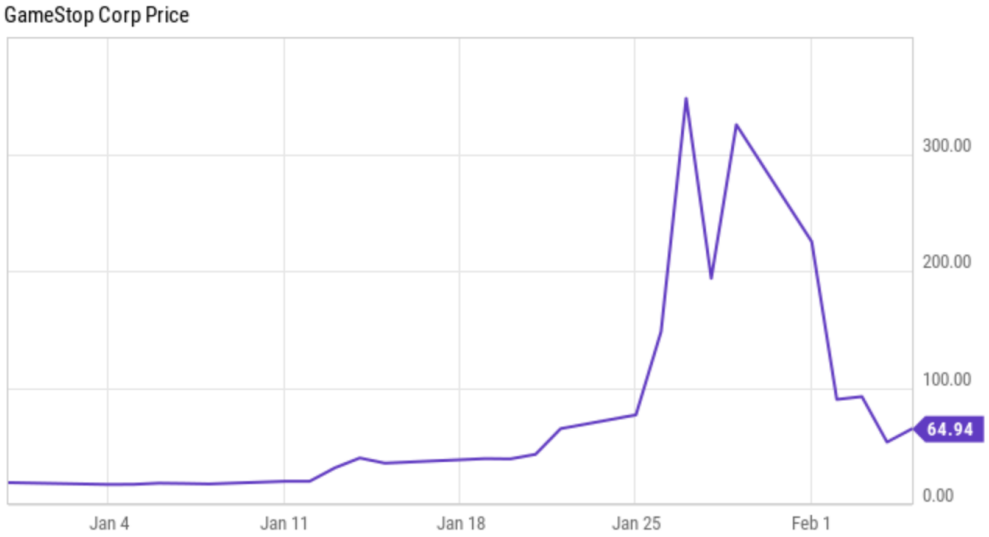
06 **Discussion**

# Why Risk Management?

Past positive experience means nothing → ask the captain of the Titanic

Risk is just a fact, not necessarily good or bad → see stock market





# Core Concepts of the Lecture I

**How to analyze risk:**

**Risk Exposure =** Probability * Magnitude

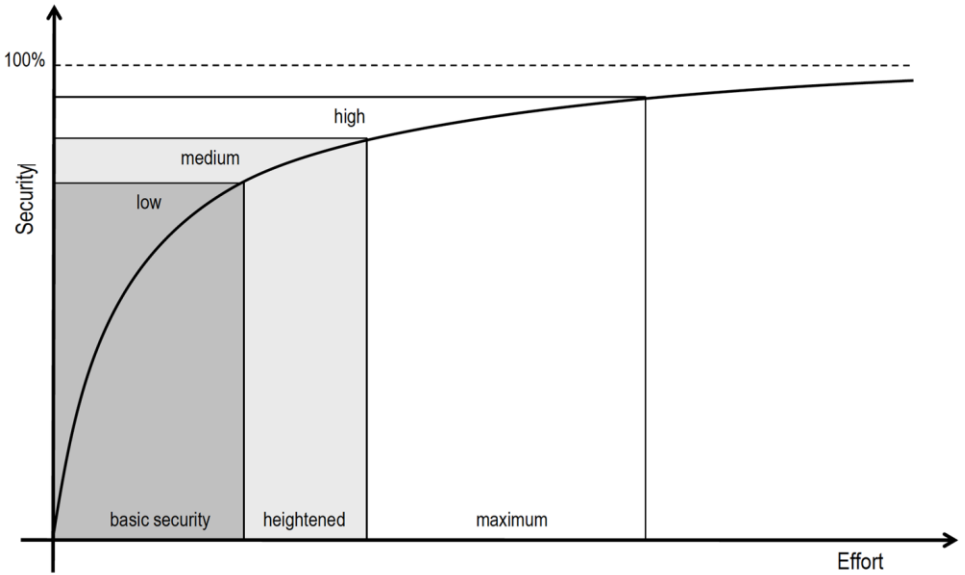
**Risk Reduction Leverage (RRL) =** ( $RE_{before}$ - $RE_{after}$ ) / Cost of intervention

**How to categorize risk:**

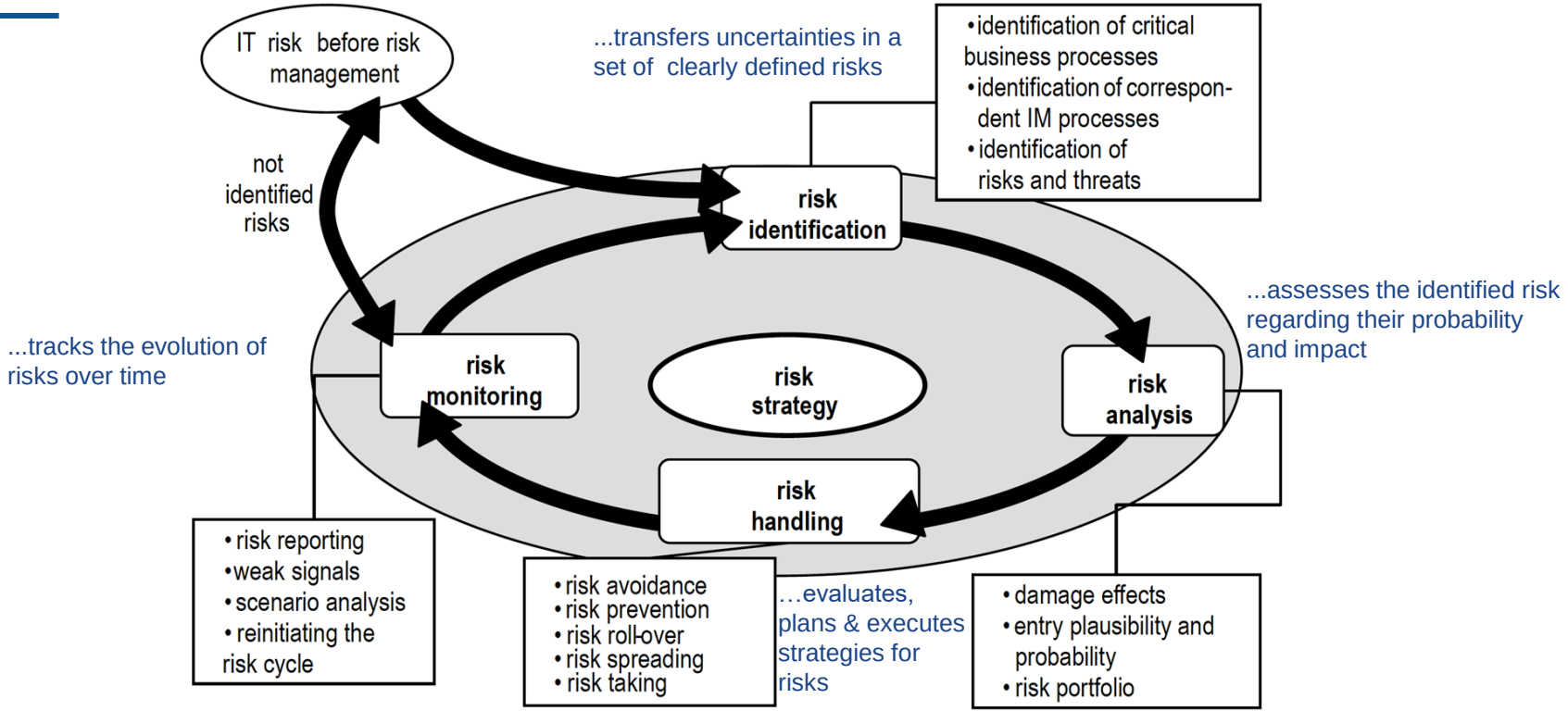
| **Known Risk** | **Predictable Risk** | **Unpredictable Risk** |
|---|---|---|
| Can be uncovered by careful evaluation | Can be extrapolated from past project experience | Difficult to identify in advance |

# Core Concepts of the Lecture II

| **Reactive** | **Proactive** |
| --- | --- |
| Risk not likely / low magnitude<br><br>“Crisis Management”<br><br>Firefighting | High probability / magnitude<br><br>Avoid Risk, have contingency plan for unavoidable risk |



# Risk Management Process




Krcmar (2015), p. 532

# Knowledge Management and the problem of path-dependency

Innovation happens at the boundaries between disciplines or specializations

Challenge: Effectiveness of managing knowledge across boundaries

Three properties of knowledge at a boundary:

Difference: in amount and/or type of domain-specific knowledge

Dependence: Consequential links between activities and goals of actors who are dependent on each other

Novelty: how novel the circumstances are

## Challenge in KM at boundary

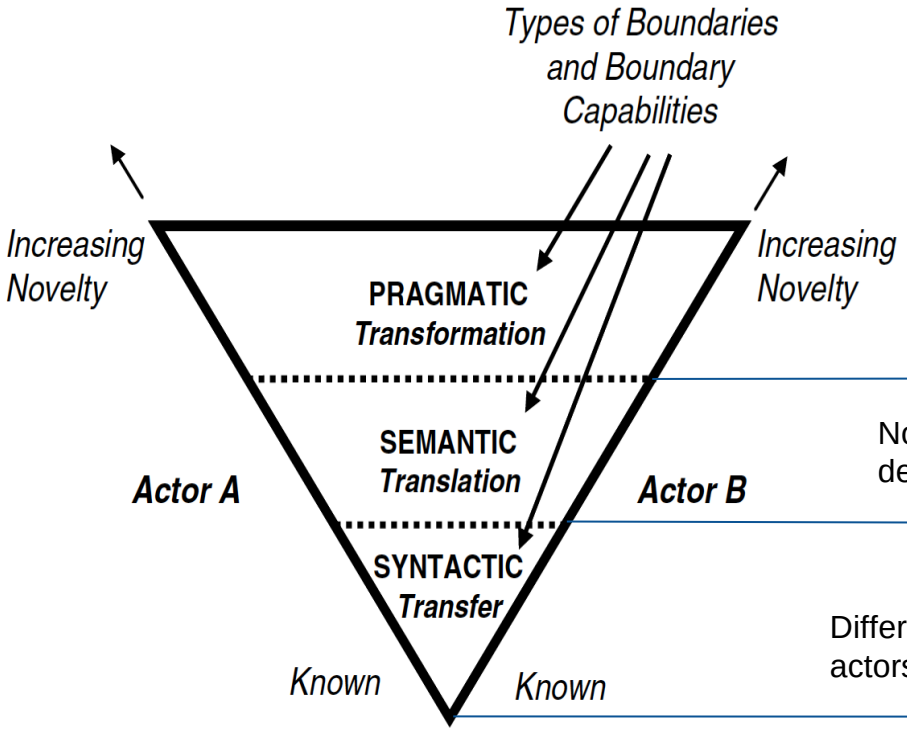
- Knowledge takes investment--- time and resources to acquire. “at stake”
- If knowledge is different in kind, managing dependencies requires the capacity to develop an adequate common knowledge as resources and tasks change.
- Actors should not only share novelty, but assess novelty from others
- When novelty increases, the path-dependent nature of knowledge has negative effects because the common knowledge used in the past may not have the capacity to represent the novelties now present.
- So when novelty is present, the capacity of common knowledge and the ability of the actors involved to use it become important challenges.

Solution:

Developing the integrative framework:

Complex processes: transfer(syntactic), translation(semantic), transformation(pragmatic)

# Managing Knowledge at boundaries




Novelty generates different interests between actors that impede their ability to share and assess knowledge

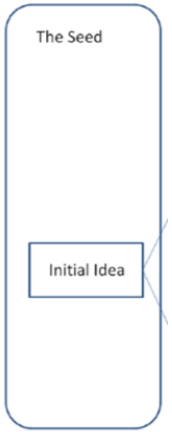
Novelty generates some differences and dependicies that are unclear.

Differences and dependencies between actors are known

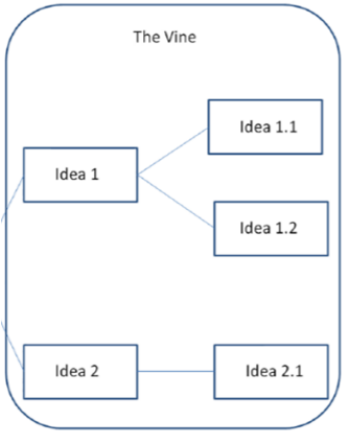
# Grapevine concept

- Grapevine is a collaborative brainstorming tool within organizations or enterprises
- makes use of enterprise crowdsourcing across disciplines and departments
  → objective: foster innovation and knowledge transfer

Step 1: The Seed

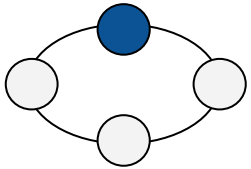



Step 2: The Vine




Step 3: The Wine

# RISK IDENTIFICATION WITHIN THE GRAPEVINE CONCEPT



**PATH DEPENDENCY**

- Common lexicon
- common meanings
- common interests in sharing and assessing knowledge

**RISK OF REDUNDANCY**

- Same problem within multiple seeds

**LACK OF END USER CONTRIBUTION / USAGE**

- Users are not willing to use or contribute

**DETERMINING RELEVANCE**

- one user sees the link between ideas, suggestions or proposals others don´t

**RISK OF POOR QUALITY KNOWLEDGE**

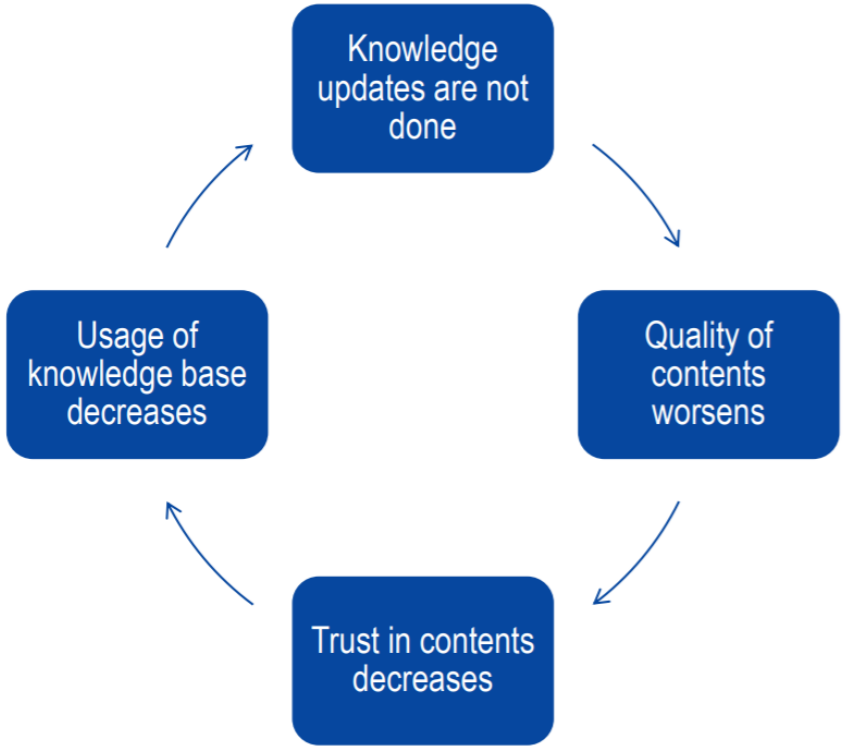
- Missing context and background knowledge
- Knowledge is presented uncomplete or wrong

**RISK OF MAINTENANCE AND STRUCTURE**

- Poorly structured knowledge repositories

# RISK OF THE NEGATIVE REINFORCEMENT CYCLE OF KNOWLEDGE LOSSES

Threat Tree



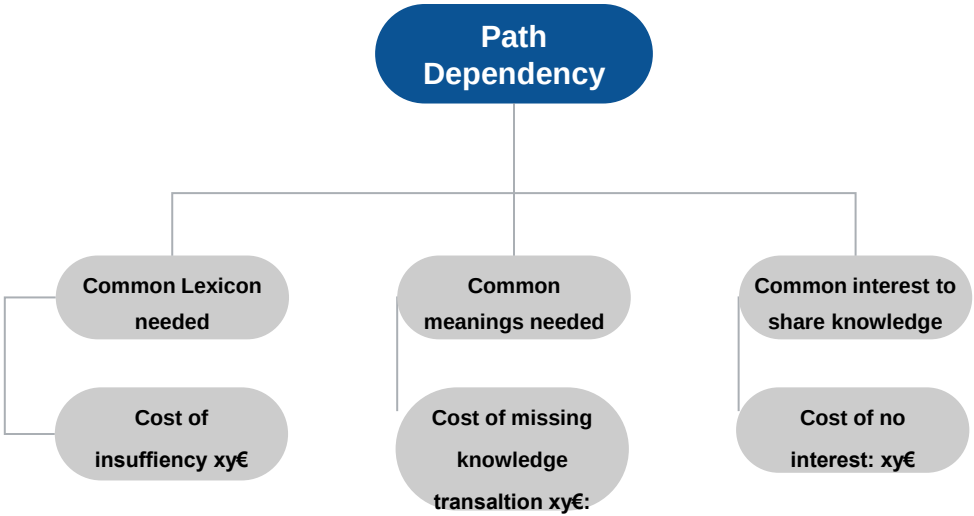
# RISK ASSESSING FOR THE PATH DEPENDENCY RISK WITHIN THE GRAPEVINE CONCEPT

## Threat Tree

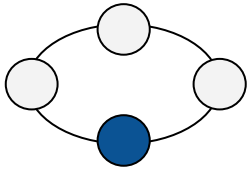
Threat trees summarize potential threats in a top-down view

Example:

- Path Dependency
- Leaves are threatened goals
- Division in sub-trees – AND or OR relations



# RISK HANDLING WITHIN THE GRAPEVINE CONCEPT



**PATHWAY DEPENDENCY**
HANDLING: storage and retrieval technologies Cross-functional teams or boundary translators Pragmatic capacities, prototyping and other kinds of boundary objects

**RISK OF REDUNDANCY**
HANDLING: Find similar ideas and link them in order to benefit from several perspectives

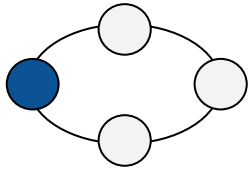
**LACK OF END USER CONTRIBUTION / USAGE**
HANDLING: Avoiding Insufficient Project Sponsorship and Stakeholder Management
f.e. Incentivise users and build a whole company culture around

**RISK OF DIFFUSION AND FOCUS**
HANDLING: Avoiding Shortchanging Quality Assurance; Admins / Management has to structure and keep an eye on activities in order to not let it outgrow in chaos

**RISK OF POOR QUALITY KNOWLEDGE**
HANDLING: Guarantee right and competent user with common knowledge

**LACK OF OVERVIEW & STRUCTURE**
HANDLING: text mining might be able to discover knowledge inherent in a Grapevine

# RISK MONITORING WITHIN THE GRAPEVINE CONCEPT



Goal: track the evolution of risks over time

- makes use of tools such as
  - status reports
  - to-be analyses
  - risk visualizations

| C | Risks | Visualization | Temporal Characteristics |
|---|---|---|---|
| 1 | Complex System Architecture<br>Customer Financial Obligations<br>Solution Uncertainties |  | Remain constant initially<br>Gain importance towards project end |
| 2 | Low Project Priority<br>Implementation Partner Unknown<br>Ongoing Escalation Events<br>Unclear Critical Success Factors<br>Unrealistic Budget |  | |
| 3 | Inexperienced Project Lead<br>No Quality Assurance/Risk Management<br>Post Go Live Approach Not Defined<br>Risk Tolerance |  | |
| 4 | Inadequate Technical Infrastructure<br>Internal and External Decision Makers<br>Hardware Partner Not Involved<br>Weak Business Commitment |  | |
| 5 | Development Methodology<br>High Customer Visibility<br>Undocumented Third Party Services |  | |
| 6 | Core Development Dependencies<br>Customer Inability to Undertake Project<br>Functionality Gaps |  | Lose importance before project end<br>Re-gain importance towards project end |
| 7 | Implementation and Dev. Interdependencies<br>Incomplete Contract Requirements<br>No Comparable Installations<br>No Ramp-Up<br>No Risk Sharing Agreements<br>Production Downtime Impact<br>Unclear Customer Objectives<br>Unclear Governance Model |  | Peak just after project start<br>Lose importance thereafter |
| 8 | Customer Expectations<br>Expected Performance Issues<br>High Number of Interfaces<br>Industry Specific Solutions<br>No Change Management Approach<br>Requirements Not Understood |  | Lose importance initially<br>Re-gain importance towards project end |
| 9 | Complex Data Conversion<br>High Impact on Processes<br>Non-Conducive Political Environment<br>Non-T&M Payment Terms<br>Unclear Roles |  | Steadily lose importance |

*Table 3. Derived Risk Clusters*

# Discussion

- What risks do you identify with the Grapevine concept?
- What alternative knowledge management tools would be suitable?
- How to minimize the negative effects of pathway dependency?

# Appendix

# Sources


- https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1308&context=acis2003
- Paul R. Carlile (2004): „Transferring, Translating, and Transforming: An Integrative Framework for Managing Knowledge Across Boundaries", in Organization Science Vol. 15, No. 5, September–October 2004, pp. 555–568
- Daniel E O'Leary (2020), „Driving innovation using enterprise crowdsourcing", in Journal of Information Technology Teaching Cases 2020, Vol. 10(1), pp. 2–10

# Risk Assessment: 1. Risk Identification

Potential risks arising within grapevine:

1. Path Dependency
2. Same problem in multiple seeds (linking is not possible)
3. Library of ideas with text mining
4. Determining relevance (one user sees the link others don´t)
5. Focus or diffuse

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# GRAPEVINE ADVANTAGES

1. Easy-to-use format draws users in
2. Users comment on ideas, resulting in additional ideas, user rate ideas and users for their contribution resulting in a ranking and incetivization of users
3. Crowdsourcing tries to get into some population, such as employees of a company, ideas, suggestions, knowledge from the crowd - (premise: knowledge is dispersed among the crowd)

First PMC only had one man projects, but due to growing reasons also extended to projects with multiple consultants → a collaboration environment was created → leads to s increasing interest in facilitating PMC's continued evolution to include increased collaboration.

Accenture´s Grapevine was developed to facilitate online collaborative brainstorming to foster innovation

# FULLY EDITABLE ICONS

# Risks

1. Knowledge Stealing (
2. Poorly strucutred knowledge repositories
3. risk of poor qualtiy of knowledge
4. Lack of end user buy in or usage (need for incentivization
5. Lack of proper maintenance of knowledge base (Grapevine, some admins)
6. Risk of declining organizational creativity and innovation
7. Poor management of the perception of usefulness of employees

# Risks

1. **Missing/inadequate competencies of organizational members**
2. **Risks related to cybercrime** – connected with the threats of malicious software either destroying or locking computer systems in organizations; a sub-form of risks related to cybercrime is the risk of hacker attacks
3. **Knowledge waste** – not making use of available and potentially useful knowledge in the organization
4. **Risk of using obsolete/unreliable knowledge** – If a company does not keep its knowledge up-to-date or validated, there is a risk that it will apply wrong knowledge in its operations
5. **Risk of improper knowledge application** – improper application of knowledge or its misinterpretation
6. **Communication risks** – the risks that the intended message is not received, partially received, received but not understood or sent differently because of broken communication flow
7. **Knowledge transfer risk** – Focusing on knowledge transfer as a people-to-people process, the successful transfer of knowledge may be hampered by a number of factors which can be assigned to personal factors, organizational factors, and the nature of the knowledge in question

# Consequences

1. **Knowledge attrition** – a process where knowledge is becoming obsolete (e.g., due to new inventions, progress in the state-of-the-art, becoming of historical value only, etc.) or corrupted (e.g., caused by inappropriate use or waiting too long to use the knowledge, etc.)
2. **Knowledge loss** – a situation when an organization loses a part or all of its crucial knowledge as a consequence of for example employee leaving a company, employee poaching or some technical faults (e.g. computer breakdown)
3. **Knowledge leakage** – a situation when sensitive organizational knowledge such as strategies, policies, product knowledge, and sensitive client information ends up in the hands of unauthorized parties
4. **Knowledge spillover** – a situation when valuable knowledge spills out of the organisation to competitors who use this knowledge to gain competitive advantage
5. **Lost reputation** – a situation when a company loses the observers' collective judgments based on assessments of financial, social and environmental impacts attributed to the company over time
6. **Lost sustainability** – a situation when a company loses its ecologically-balanced approach towards the operations and does not follow the rules of sustainable development any more.