



**Compliance to the code of conduct**

I hereby assure that I solve and submit this exam myself under my own name by only using the allowed tools listed below.

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Signature or full name if no pen input available

## Information and Knowledge Management

**Exam:** IN2105 / Retake

**Date:** Tuesday 6<sup>th</sup> April, 2021

**Examiner:** Prof. Dr. Helmut Krcmar

**Time:** 08:00 – 09:30

### Working instructions

- This exam consists of **16 pages** with a total of **8 problems**.  
Please make sure now that you received a complete copy of the exam.
- The total amount of achievable credits in this exam is 90 credits.
- Detaching pages from the exam is prohibited.
- Allowed resources:
  - one **non-programmable pocket calculator**
  - one **analog dictionary** English ↔ native language
  - the **lecture slides, your notes, the book (Krcmar, 2015) and other recommended literature**
- **Answers are only accepted if the solution approach is documented.** Give a reason for each answer unless explicitly stated otherwise in the respective subproblem.
- **No points will be awarded for merely naming or listing terms or definitions. Always provide reasons and complete reasoning.**
- Do not write with red or green colors nor use pencils.

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## Problem 1 Multiple choice problems with TUMexam (10 credits)

Mark correct answers with a cross

To undo a cross, completely fill out the answer option

To re-mark an option, use a human-readable marking



a) Explicit knowledge is...

- ☐ Subjective
- ☐ Highly personalized
- ☐ Experiential
- ☐ Codified

b) Porter's Five Forces according to Porter (1980) do not include

- ☐ Competitors
- ☐ Customers
- ☐ Suppliers
- ☐ Governments

c) According to Gassmann et al. (2014) a business model innovation must change

- ☐ two elements of the What, Who, How and Why
- ☐ three elements of the What, Who, How and Why
- ☐ one element of the What, Who, How and Why
- ☐ four elements of the What, Who, How and Why

d) Which statement does apply for loose coupling in digital platform ecosystems:

- ☐ Elements are independent
- ☐ Elements are not scalable
- ☐ Elements are mutually dependent
- ☐ Elements are not distinct

e) What is a content objective of IT controlling according to Krcmar (2015)?

- ☐ Strategic fit
- ☐ Effectivity
- ☐ Efficiency
- ☐ Functionality

f) What is not a outsourcing location type according to Krcmar (2015)?

- ☐ Offshore
- ☐ Sideshore
- ☐ Onshore
- ☐ Nearshore





g) What is a basic IT security objective according to Eckert (2009)?

- ☐ Access controll
- ☐ Data authenticity
- ☐ Accountability
- ☐ Availability

h) What is a type of knowledge conversion according to Rehaeuser and Krcmar (1996)?

- ☐ Operationalization
- ☐ Combination
- ☐ Anticipation
- ☐ Colonization

i) What is a strategic process of Knowledge Management according to Probst et al. (2010)?

- ☐ Knowledge Usage
- ☐ Knowledge Development
- ☐ Knowledge Objectives
- ☐ Knowledge Identification

j) What type of innovation is not included in Henderson's and Clark's (1990) types of innovation?

- ☐ Architectural innovation
- ☐ Disruptive innovation
- ☐ Incremental innovation
- ☐ Radical innovation





Your job is simple: Make this app successful and guide Alpine Parking in the digital transformation.

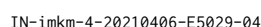
## Problem 2 IT-Outsourcing (10 credits)

a) *Knowledge and understanding: 7 credits*

Discuss three reasons and three risks of outsourcing from Alpine Parking's perspective (1 credit for each reason and risk). Give a recommendation to your CIO that includes a final argumentation if the reasons outweigh the risks or the other way around (1 credit).

b) *Knowledge and understanding: 3 credits*

The CIO decides to outsource the app development and hosting to an IT company in Eastern Europe. One of the app developers approaches you, that he is now scared to lose his job. You want to assure him, that his job is safe. Name three core competencies to retain in the company and explain for each competency why it must retain in the company (1 credit for each explanation).

[illegible]



a) *Application and analysis: 4 credits*

A 5x2 grid of squares. The rows are indexed 0 to 4 from top to bottom on the right side. The grid is used to represent a 2D array.

[illegible]

b) *Knowledge and understanding: 4 credits*

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Patient Information	
First Name	
Last Name	
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Gender	
Address	
City	
State	
Zip	
Phone	
Medical History	
Allergies	
Current Medications	
Past Medical History	
Family History	
Social History	
Physical Examination	
Vital Signs	
Laboratory Tests	
Imaging Studies	
Diagnosis	
Treatment Plan	
Follow-up	





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c) *Application and analysis: 2 credits*

Considering the PAS platform a two-sided market: On the one side there are apps related to parking and car traffic. On the other side there are car owners and drivers using the platform and its apps. Explain what are indirect network effects (1 credit). Why are they important for Alpine Parking as an app developer (1 credit)?





**Problem 4** IT-enabled strategies (10 credits)

a) *Knowledge and understanding: 2 credits*

**In your own words**, describe, what makes an information system (IS) a strategic IS (SIS). Do not copy paste the definition from the slides.

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b) *Application and analysis: 2 credits*

Krcmar (2015) defines four categories of SIS. Explain in which category the Alpine Parking app and the PAS digital platform fit (1 credit each).

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c) *Application and analysis: 2 credits*

Steininger (2019) defines four types of IT-associated business models along three axis. Explain in which type the Alpine Parking app fits. Use all three axes in your explanation. (0,5 credit for correct type, 0,5 credit for each axis used in the explanation)

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d) *Application and analysis: 4 credits*  
Henderson and Clark (1990) define four types of innovation. Explain which type of innovation fits the Alpine Parking app (1 credit). Explain the three other types and why the app does not fit these types (1 credit per type).

Assume that the Alpine Parking app is the first app that allows car owners to search and pay for parking spaces using their smartphones. Without the app car owners have to search parking spaces manually and use vending machines or parking meters to pay for parking spaces.







**Problem 5 Platform Governance (10 credits)**

a) *Knowledge and understanding: 4 credits*

PAS provides several boundary resources for its platform. Explain what are boundary resources in digital platform ecosystems (1 credit). Explain three types of boundary resources presented in the lecture and name one example for each type (1 credit per type).

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b) *Application and analysis: 6 credits*

PAS also implements platform governance mechanisms for its platform ecosystem. Name and explain three dimensions of platform governance according to Tiwana (2014) (1 credit per dimension). In particular, explain two aspects per dimension, describing how this dimension can be implemented. (0,5 credit per aspect)

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## Problem 6 Knowledge Management (16 credits)

As part of their partner programm PAS invites **platform complementors** to workshops, presentations and trainings. For Alpine Parking, you always participate in these events. Since you only stay in **five-star hotels**, your CFO wants to know if your participation in these events is always necessary. You argue, that this helps the knowledge management of Alpine Parking.

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a) *Knowledge and understanding: 8 credits*

Explain the 8 core processes of knowledge management according to Probst et al. (2010). Explain the task of each process (1 credit per process).





b) *Application and analysis: 8 credits*

For each process explain one specific exemplary problem that can occur if Alpine Parking does not implement this process (1 credit per problem; max. 1 credit per process).

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The next day you have lunch with a friend who works in the controlling team. He says the app project is doing fine because it is part of Alpine Parking's digital business strategy. In your next project meeting you explain your team, what your friend told you. Explain the goal of each of the three IT-Controlling functions according to Krcmar (2015) (1 credit per function). Explain what each function does using the example of the Alpine Parking app (1 credit per function).





b) Knowledge and understanding: 6 credits

You are worried that something unexpected infers your good controlling assessment. So you sit down with your team and think how you can avoid a threat to the project success. Explain the four steps of the risk management process according to Krcmar (2015). For each step explain the task (1 credit per step) and give an example of a tool or method that can be used in this step (0,5 credit per example).

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Compare and discuss the market-based view (Porter's Five Forces) and the resource-based view. Name and briefly explain one benefit and one drawback for each of the two theories (1 credit for each benefit or drawback). Which aspect clearly differentiates the two views? (1 credit)

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You are pretty confident about Alpine Parking's resources and capabilities and how they are leveraged. You wonder how other companies react to the success of the Alpine Parking app. So you apply the model Porter's Five Forces to the Alpine Parking case. Take the Alpine Parking as the focal company and the Alpine Parking app as the core product of the company. Name and explain the five forces in this case and how they impact Alpine Parking.

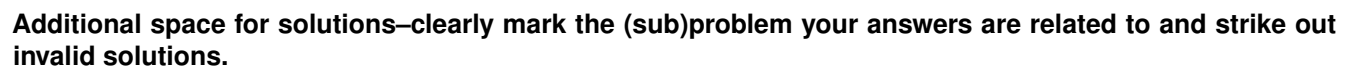


c) *Knowledge and understanding: 2 credits*

One month after the launch of the app, your CEO calls and wants to know how much money Alpine Parking has earned from the app. You look at the numbers and see that the company is still losing money with the app. Explain two reasons, why the IT investment in the app does not provide obvious value in form of profit. (1 credit per reason)

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This image shows a full page of blank graph paper. The grid consists of small, equal-sized squares formed by thin gray lines. There are no margins, text, or other markings on the page.