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# Managing customer wishes and expectations with the customers' need process and onion models of digital tools

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## Abstract

Interest in digital tools has grown as people seek tools to support distance and hybrid working and learning. In a situation where the range of tools is growing and services are being sought outside the organisation, there is a risk of fragmentation, reduced security and protection, increased costs, "digital anxiety" and lack of support for users.

The presentation will showcase the onion models of digital tools and the customers' needs management process built in Tampere University. It describes how to manage the set of tools in use, how to manage the demand for new tools and how to communicate them to customers. Through the onion models, users are provided with a description of the digital tools in use and their role in the community. The customers' need process collects the wishes and questions about new software for expert discussion. The aim of these models is to guide community members in using secure and supported services, while addressing more systematically the needs of the multidisciplinary higher education community. This presentation provides an overview of the process and present the benefits and challenges of the new approach.

## 1 Background and starting point

At Tampere University, multidisciplinary research is conducted across the boundaries of fields of science. More specifically, our strengths lie in health, technology and society research. There are more than 2,800 researchers at Tampere University and our research groups carry out multidisciplinary research with national and international partners. Tampere Universities community comprises both Tampere University (TAU) and Tampere University of Applied Sciences (TAMK) who work in close collaboration. More than 30,000 students study in Tampere Universities community.

With Covid-19, increased hybrid and remote work were driving people to look for new digital tools. Growing customer demand for new digital tools threatened to lead to fragmentation of service offerings. As we started to investigate the situation, we quickly found that the fragmentation would also lead to customers experiencing a lack of support and therefore a poor customer experience. It was evident that the increased use of external tools would also lead to numerous separate contracts and licenses and possibly also to breaches of contract and data security. It became necessary to describe and illustrate the digital tools available to the community. A new approach was also needed to identify and address customers' needs.

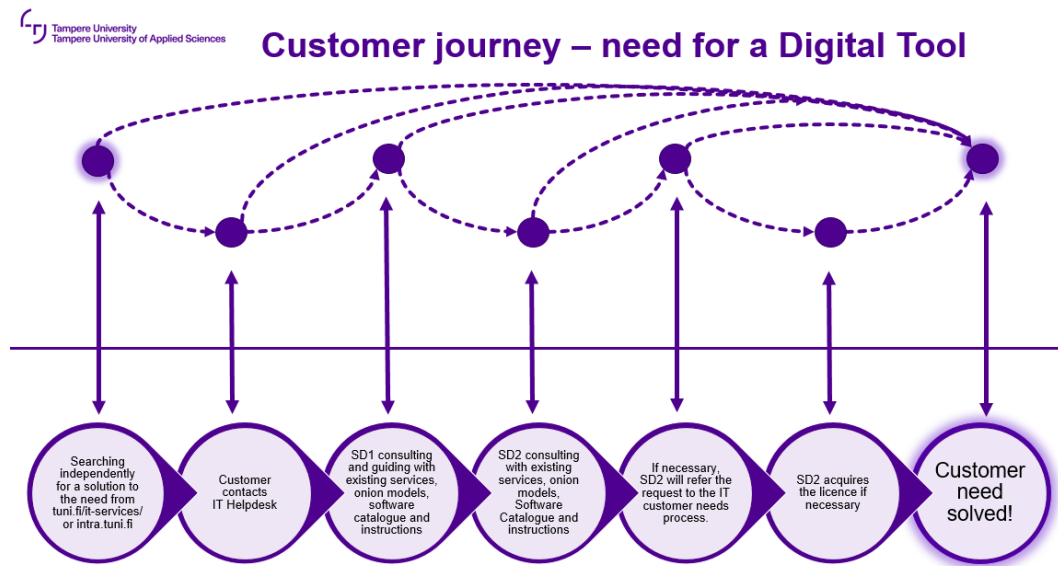
As a result, we started a process reform that would lead us to better manage this situation. In this paper, we present the core elements of the process to address the issues identified above. We describe the process from three perspectives:

- **Customer journey** describes the process from the customers' point of view. Customer journey map highlights the customer touchpoints.
- **The IT customers' need process** was aimed to address customer needs and wishes in a more systematic way. In this chapter the process is explained from the perspective of the IT service and experts (Service factory journey).
- Through **the Onion model of digital tools**, we present the materials and resources that support the customer, that is, the safe and trusted tools already available in the organisation and the connected instructions and resources.

In the following, the core aspects of the customer journey, IT customers' need process and the Onion model of digital tools, are described in more detail.

## 2 Customer journey

We invested in customer-oriented thinking and described the customer journey. We will showcase in our presentation how our customer would see the total process and how to bring value to the service organisation via describing the service factory journey. We use simplified customer journey map [1] to present how Onion models and the IT customers' need process relate to each other and our existing normal service process based on good practices in accordance with ITIL. The following figure illustrates the customer journey map.



**Figure 1:** Customer journey -need for a Digital tool

The customer's first service session is described on the left side of Figure 1. On the right-hand corner of the same picture, you can see the customer with a fulfilled need. That is where all actions on his or her customer journey are pointed to.

1. **Customer instructions:** At first, the customer has noticed that he/she needs a new digital tool and is independently looking for information from our existing instructions <https://www.tuni.fi/en/it-services>, which are offered via the public site, as well as on our intranet. It is possible for the customer to resolve his or her own needs independently in the first step if he finds a suitable digital tool from our offering. However, if he does not find what he needs, he will then contact IT Helpdesk, where the request will be directed to Service Desk 1 according to our existing process.
2. **Service Desk level 1:** Service Desk 1 -level customer service agent will consult and guide the customer with existing services, using onion models, software catalogue and other instructions. It is possible, that they will find a resolution together after consulting and the customer's need is then fulfilled. If the outcome of the consulting is not successful, Service Desk 1 -level will escalate the request to the next level, Service Desk 2 where the specialist has deeper knowledge about the licenses and agreements available and possibilities digital tools offer.
3. **Service Desk level 2:** The Service desk 2 -level specialist will consult and guide the customer with existing services, using onion models, software catalogue and other instructions. It is possible, that they will find a resolution together after consulting and the customer's need is then fulfilled. If the outcome of the consulting is not successful, Service Desk 2 -level will refer the request to the IT customers' need process.
4. **IT-case:** The IT customers' need process is described in more detail in the next chapter. In the process, the customer receives consultation from an IT Specialist with deeper knowledge of the content related to the need, in this case for the digital tool. If consultation

fails to find an appropriate alternative from the existing offer, the process will decide whether the need can be promoted according to the customer's needs and whether the need can lead, for example, to the acquisition of a new digital tool licence. If it is decided that acquiring a new digital tool is necessary and the customers unit agrees to fund the purchase, the request is returned to the Service Desk 2 –level licence and agreement team. They will acquire the needed licence and the customers need is fulfilled.

### 3 The IT customers’ need process

The IT customers’ need process -model was developed in the IT Services of Tampere University in 2021. It was developed using the double diamond design process model [2] as a base to better handle customers’ requests that cannot be solved in the normal service process and require additional decision-making and furthermore to add more transparency in IT services.

IT customers’ needs are most often requests or development proposals from units and staff at the Universities community that cannot be directly addressed by existing services. The IT Customer Needs Management Process aims to address these needs in a customer-oriented and streamlined manner, based on reviews and considering operational constraints. In the process are decided whether the need can be solved and ways to proceed with a solution. Priority is given to finding a solution from existing IT services.

The process ensures that all customer needs are addressed and that customers receive an answer to their queries. As yet, the process is not intended to resolve the need or implement the requested service, but, after mapping and possible planning, the need is directed to be implemented or cancelled as decided in the board meeting that is held once a week. The aim is to have the matter mapped with customer within three weeks of the client’s need being recorded.

The decision-making process of an IT customers’ needs process considers different perspectives

- The appropriateness and impact of the service
- Ownership of the service (staffing and costs at different stages of the service’s life cycle)
- Enterprise architecture
- Data security and protection
- Agreement and licensing matters
- Data management services

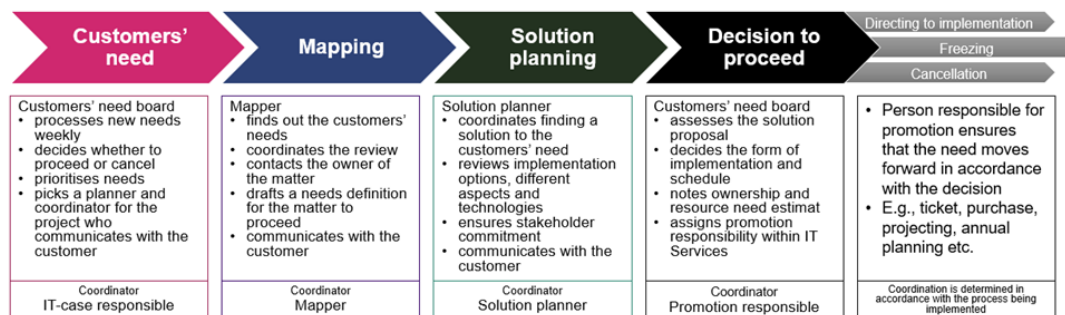


Figure 2: IT customers’ need process

A coordinator will be appointed at each stage of the process. The coordinator is responsible for communicating with the customer and for coordinating the promotion of the need in accordance with the phase. At the first board meeting the IT customers' need (later IT-case) will be appointed a coordinator "IT-case responsible" for supervising the total process. The first meeting also appoints a coordinator "Mapper", who will contact the customer for more detailed information about the customer need. When the "Mapper" has gathered the information, he/she will present the findings to the board. The board will then decide, as in every phase of the process, whether the process is proceeded, or should it be cancelled or freezed at this point. The cancellation is usually done if the customers' need has been resolved by consulting. The freezing is most commonly used, when there are not enough resources to proceed at this point, but the need has been identified as a one that should be promoted or looked into.

If processing the IT-case proceeds after mapping, the board will appoint a "Solution planner" for the need, who coordinates the planning team and creating a suitable solution with the customer. In the last phase of the process, the board decides on how to proceed with the IT-case. The IT-case could be cancelled at this point, or it could be freezed if the time is not right. Cancellation may be due to the customer himself deciding on another option after receiving more information during the process regarding his request. The customer may withdraw because a service better suited to his or her needs can be found or because the customer may not be prepared to commit to the cost of the service. In these cases, the customer may wish to interrupt the process and consider the decision to move forward at another time. This will lead to the IT case being freezed.

From the organisations side, the cancellation of IT-case may occur if the requested service or tool does not meet the requirements of the organisation, e.g. in terms of security or contract. In this case, the requested service cannot be provided to the customer. The customer is always informed about the solution and the reasons leading to the solution. Most commonly though the IT-cases, that are presented at the last phase, are directed to implementation. Implementation can be done as a standard service request, or, for example, project or connect to annual planning for years to come. This depends mostly on the size of the implementation and how resources, e.g. money and human resources, are available. With described process, we can ensure that customer needs are taken into account, that customers are informed of the process's progress and that the decision on implementation is based on facts.

## 4 Onion models of digital tools

With the customers' need process, we describe the underlying process and the work of experts that is not fully visible to customers. The onion model, on the other hand, describes the tools, resources and support available to the customer. The Onion models help to identify secure digital tools whose use is primarily recommended. To showcase the range of digital tools available to Tampere universities community, we have created three onion models: Digital tools for staff, Digital tools for research and Digital tools for teaching and learning. We chose the onion model as the presentation format because the onion model is a diagram that is well suited to classifying things and describing hierarchies. Out of the three onion models, the Digital tools for teaching and learning is presented in this chapter because it is published in University's web pages, while other models only in university's intranet. The image in the web pages is interactive and includes the descriptions and the links to instructions.

The Digital tools for teaching and learning onion model illustrates the range of tools available and their purpose of use and will help community members to select the tool that meets their needs.

Tools are listed by category and placed on the onion model according to their importance. The tools displayed in the onion model are divided into three categories based on their intended use.

- The tools in Presentations, materials, sharing information category are suitable for creating, publishing and sharing video and presentation material (e.g. Panopto, video editing tools)
- The tools in Learning environments and tools category support teamwork and interaction during learning events (e.g. Moodle, Teams, whiteboards)
- The tools in Assessment, feedback and demonstration of learning category lists the main information systems for studying and teaching (Sisu, Peppi) and tools for feedback, exams and peer assessments.

All the tools listed in the onion model meet the data protection and information security requirements. The difference between the two circles is that customers are advised to select tools primarily from the inner circle, because they are core services that are available free of charge, have a long lifespan and their use is not abruptly discontinued. Tools in outer circle are available for a fee or available on separate request or for limited time depending on the terms and conditions of each service and the contract. They don't have the same level of support available as the core tools. Any discipline-specific tools that are not available to the wider community are also included in the outer circle, but due to their large number they are not mentioned in the model.

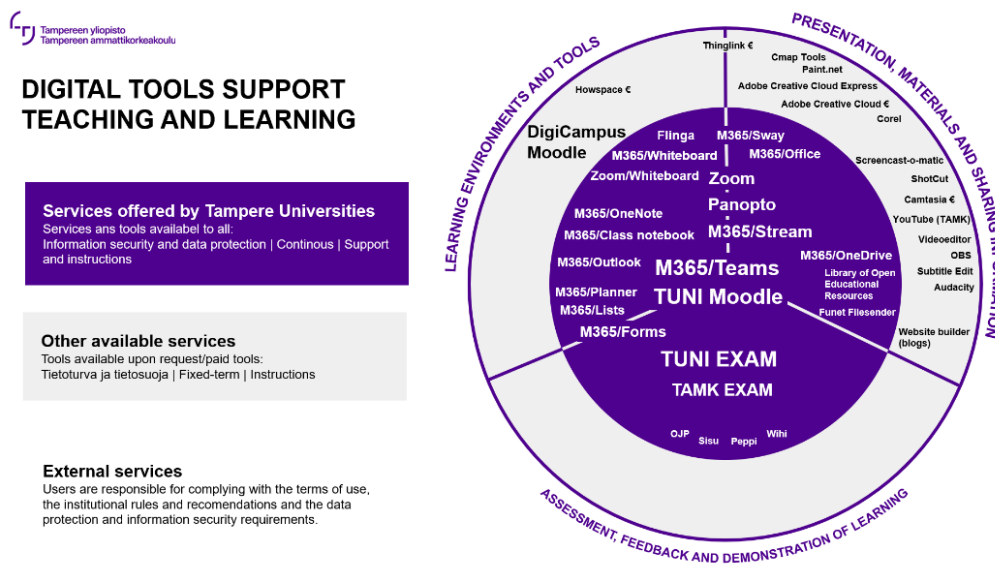


Figure 3: Onion model of tools for teaching and learning

The onion model is not just a picture or a list of tools but brings together the underlying resources and is just one visible part of a wider management model. Resources connected to the onion model:

- **Software catalogue** lists software available in Tampere Universities. Each tool in the onion model has a corresponding card in the software catalogue. Several hundred cards have

already been created and they are listed by purpose, study program, operating system and by user role. The information on the card tells customers who can use the program and under what conditions.

- **The Helpdesk's working instructions** is where personnel of IT service can find commonly asked questions and answer templates related to specific tool.
- **The IT handbook** provides information and instructions for users on how to use the main IT systems and services.
- **The Digital Toolkit** contains more than 200 tips and best practices that provide practical guidance on how to use the tools listed in the onion model.
- **Teaching and Learning Center (TLC)** of the Tampere Universities community is a network that brings together pedagogical expertise and the support services needed by teachers.
- **IT Helpdesk** will help customers with matters concerning the electronic services of Tampere Universities by e-mail, telephone, the self-service channel (helpdesk.tuni.fi) and chat.

The Onion model not only serves users but creates a systematic approach for experts to evaluate these tools. The Onion model is reviewed every six months. The contractual status of the software and the up-to-dateness of the instructions are checked. At the same time, possible new tools and additions to the model will be examined.

## 5 Conclusion

Over 150 cases have already gone through customer need process since autumn 2021. The new process for handling customer needs has been well-received among customers as well as IT-specialists and support staff of IT services. Through the process, the different aspects of the software acquisition, such as security and contractual issues, are examined in a single customer request. The response time is reduced also due to weekly decision meetings.

Staff of IT service feel that the new systematic process supports their work. In the past, the IT-specialists had to make decisions about the cases mostly alone, but with the new process, the matter is introduced and handled by a larger group of experts. With the model, the cases are also distributed more evenly among specialists. The process also accumulates responses in the database. These will help to answer the following corresponding questions.

The Onion models have also helped both customers and IT service staff. The customers' understanding of the available in-house tools and their purposes has increased as the model gathers all the necessary information in one page. Knowledge of the tools in use reduces the need to search for tools outside the organisation. The models also help support persons in counselling work and the number of requests for support in choosing the right tool has been reduced as customers can find the right tool for their needs themselves.

In following years, we will continue to develop the process using service design, based on the experience gained from the models and together with our customers

## 6 References

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## 7 Author biographies



Suvi Junes (M.Ed) works as an IT Specialist at the IT Services of Tampere University. She has over twenty years of experience in supporting the use of ICT in teaching and learning and developing digital learning environments. She also has experience in international projects and is active in national networks in the field. She will use her understanding of the higher education sector in her work, which focuses on the pedagogical use of digital tools, the development of learning environments and monitoring trends in the field.



Anu Turunen (BBA) works as an IT Specialist in the IT Services of Tampere University. She has three decades of experience in customer service and ten years of experience in IT customer service and IT communication for customers. In her current work, she focuses primarily on bringing value to customers and employees through developing IT processes and services and her matter of heart is in improving customer and employee experience.