# Introduction

## User Experience in Documentation Portals

For companies, it has become convenient to publish technical documentation for several products together with other product related information in one documentation portal to serve several user groups [@Antidot2020, ZieglerBeier2014].  
Documentation portals carry the company's brand. The experience users have in such a portal directly connects back to the brand [@LeeChoi2018]. Moreover, can user experience issues diminish the return on investment of a documentation portal, for example, by not reducing search time for employees, not reducing support tickets or service time as desired.  
  
It is therefore important for brands to ensure that users from several user groups have a positive experience in the company's documentation portal.  
  
Before the use of documentation portals became popular, creators of documentation, like technical writers, signed for a large part of users' experience with technical documentation, as I will explain in the following paragraphs. I will use script theory to describe in this introduction how this relationship has changed and has made research into the relation between UX in documentation portals and content creation necessary.  
  
Further on in this research, I will use expert interviews and findings from literature review to investigate if and how elements that are connected to the creation of technical documentation, like **classification and modularization**, are related to aspects of the user experience in documentation portals, such as findability and context provision. I will use cognitive theories and research about the correlation of operational metrics and user experience in such portals to find out how the user experience in documentation portals relates to classification and modularization of technical documentation.  
  
Example situation for a script  
  
When I unpack my new espresso machine, I expect to find a one-pager with instructions on how I can make my first espresso in less than 5 minutes. Alternatively, a QR code to a short video would be OK for me, too.  
  
What is a script?  
  
This kind of situational expectation is called a script. Creators of technical documentation can use it to design documentation that connects the existing mental modal of the user to new information. A script is therefore a means to ensure a positive user experience [@Stamant2017], an expectation combined with a learned method, so to say.  
  
Change in script on users' side  
  
When the script changes, the design of the documentation has to be re-evaluated to find out if it has to be adjusted.  
  
Compared to what it was a decade ago, when documentation portals started to become popular [@ZieglerBeier2014], the user's script has changed. Currently, users who use digital technical documentation want it searchable the way you search the internet, they want relevant and precise results. Scrolling through an entire manual is not acceptable anymore in many situations, for example, when end users of products search for how to operate the product, or technicians look for a technical datum.  
  
This change can be explained with a different script that user use, for example, a search engine script in contrast to a print manual script. The details of this script will differ depending on the user group.  
From print to web-based documentation, like in online help systems, creators of documentation were able to partly address these changed expectations by preserving the modularized structure that previously only served reuse on creation of technical documentation. Now, content was also modular when already published. Users, in addition to using the navigational chapter structure, could browse through rather granular full-text search results.  
  
Change in script on creators' side  
  
Creators of technical documentation also have learned expectations. Technical documentation is typically created in a component content management system, in reusable modules of differing sizes. To evaluate if a piece of information serves the user's information need, technical writers were able to review the published result of their work. These publications used to have predictable entry points, which were basically created by content creators. Dynamic content delivery as it is supposed to happen in content delivery systems is more complex. It is a challenge for technical writers to predict the situation users encounter before and after searching for information. Therefore, it is more difficult to identify points, where and how an adjustment of the content effects the user experience in the documentation portal.  
  
Change in situation  
  
When the situation changes, but the user's script is still the same, there is a cognitive dissonance on the users' side (cite what?). They will need help to bridge this gap to have a positive user experience.  
Since it has become convenient for companies to publish technical documentation of several products together with other product related information in one documentation portal to serve several user groups [@Antidot2020, ZieglerBeier2014], the situation of publishing and accessing technical documentation has changed.  
  
The situation has changed for users:  
  
Landing in or working with such a portal might be part of the script for some user groups, but not for others. Pre-salespeople, for example, might want to aggregate information. They will look for a known script to apply to the situation. That could be the script they have for the Google search engine or the script they have for the Amazon website, for example. End users might look for one specific piece of information. Ideally, they land on this information just as if they had asked another person. If not, they might type a full-text query into the search field of the application, using a script similar to one of asking another person. For a technician, this situation again might be different.  
  
The situation has changed for documentation creators:  
  
Documentation portals serve several user groups with technical documentation and other materials of several products in a dynamic way, that is, depending on (user-based) variables. This makes the situation in which a user encounters a piece of information hard to predict for documentation creators. If the situation is hard to predict, it is hard to address a gap that might exist between a user's expectation and the encountered situation. Consequently, it makes it hard to design content for a positive user experience.  
  
This raises the questions: Who owns the user experience in documentation portals, and how? What are the variables that influence findability or context provision and thus the user experience. To what extent can creators of technical documentation influence the user experience in documentation portals?

## Hypothesis and Research Question

I will therefore hypothesize that aspects of the user experience (such as findability and context provision) on information seeking in documentation portals depend on classification and modularization on content creation and ask the following research question:

What is the relationship between classification and modularization of content on documentation creation on the one hand and the user experience in a documentation portal on the other hand?

## Objectives and Purpose

To get an idea of the aspects of this presumably multifaceted relationship I will take up several viewpoints on classification:

the viewpoint of documentation portal software producers

the viewpoint when creating technical documentation and delivery processes

the viewpoint of users as cognitive beings

the viewpoint when measuring user experience aspects in a documentation portal

These viewpoints will reveal touchpoints between classification and users in documentation portals that characterize the relationship.  
  
With the relationship clarified, issues that surface in usability tests and user experience research can be addressed in a more targeted way.  
  
The results of this thesis can furthermore inform the creation and selection of items for testing and researching UX aspects such as findability and context provision in documentation portals.

## Scope and Limitations

There are many different kinds of technical documentation portals. I will describe the limits of the concept "documentation portal" for this thesis in the chapter Concepts.  
  
In this thesis, I will investigate where user experience in documentation portals has touchpoints with content creation, specifically with classification and modularization thereof. However, it is out of scope of this thesis to evaluate the user experience in specific documentation portals.  
  
Moreover, only the part of classification and modularization of content that is directly related to serving content to different user groups will be investigated, not the topic in its entirety.  
Technical writers as content creators are assumed to have an influence on the user experience of technical documentation. This by the quality of their writing for the user and the correct use of classification and module size. But it is out of scope to evaluate the role of technical writers in terms of user experience in depth.  
  
There are many ways to create and deliver content in documentation portals. In this research, I will review content classification on three levels of content intelligence, as will be explained in the chapter Literature Review. However, it is out of scope of this research to review methods of content delivery in documentation portals comprehensively.   
  
Also, the review of literature regarding operational use metrics in documentation portals as predictor for user experience aspects is limited to research that appeared to have relevant findings about some navigational elements and possible relationships to classification and modularization and does not include the typical range of web analytics and all possible navigation elements.  
  
The sample size for the expert interviews is 14 people and 7 software products. This purposive sample is limited to mainly German and European experts. Out of 7 software producers, 6 were German and 1 international.  
  
In this paper, I review literature that connect UX to information retrieval to analyze a possible connection to classification and modularization of content, specifically technical documentation. However, as a result of user experience research in technical documentation portals being sparse, I also reviewed information retrieval systems that only share some of the characteristics of documentation portals, such as query search and navigation, but no filter facets, or delivery of information from one source, but not product related information.