Optimizing product and content quality by content lifecycle monitoring from CMS to CDP

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INTRODUCTION AND OBJECTIVES

In order to improve product and process quality in terms of effectiveness and efficiency, Technical Communication as a PLM process should be monitored, evaluated and assessed. Whereas efficiency of editorial processes and tools can be monitored by established methodologies like GRM analyses [1], evaluating effectiveness requires reliable information about user's behavior [2].

Effectiveness of information is much more than only counting the number of page calls. It's about qualitative properties like relevance and findability of information. Turning utilization data into value is thereby much more complex. Based on a significant amount of data, user interactions must be analyzed in context of chronological sequences of interactions – the user's journey from questions to answers. Once typical, recurring interactions patterns are identified and understood in context of product usage, relevance of certain types and areas of information can be assessed as well as findability and expected terminology. With the conclusions drawn, scope, structure and terminology can be optimized. By combination of methodologies for qualitative and quantitative analysis of content creation, content delivery and content perception, the entire content lifecycle can be monitored.

Since Content Delivery Portals (CDP) are required to automatically follow system configuration and status, as well as users' working contexts, they need to be integrated as any other system component to make use of basic infrastructure like session management and system monitoring. Consequently, evaluation of CDP utilization data can also help to get a better understanding of user behavior and draw conclusions regarding quality and usability of the products itself.

Content Lifecycle Monitoring

CONCEPT AND IMPLEMENTATION

In order to collect and process CDP utilization data as a part of the entire system and product usage, CDPs have to be integrated deeply in products.

Depending on the CDPs system architecture and content structure, it has to be ensured, that all relevant user interactions can be tracked in chronological order and allocated to distinct sessions.

For evaluation of the entire content lifecycle, it's absolutely essential to make any relevant information object accessed in CDP traceable to the respective object in CMS, for example by using unique and stable object identifiers in all stages and tools involved.

Workflow for processing and analyzing utilization data:

- Tracking user interactions*
- Logging and provisioning of information access data*
- Normalization and processing
- Identification of usage and behavior patterns
- Quantitative analyses
- Qualitative analyses
- Identify potential for optimization
    - Optimization of editorial processes
    - Sharpening content scope
    - Optimization content structure
    - Identify potential weaknesses in product usability

*) Anonymized data – with explicit customers consent

For getting meaningful and beneficial insights and results, these methodologies must be applied in context of a deep understanding of the products portfolio, integration scenarios and underlying PLM processes.

RESULTS AND BENEFITS

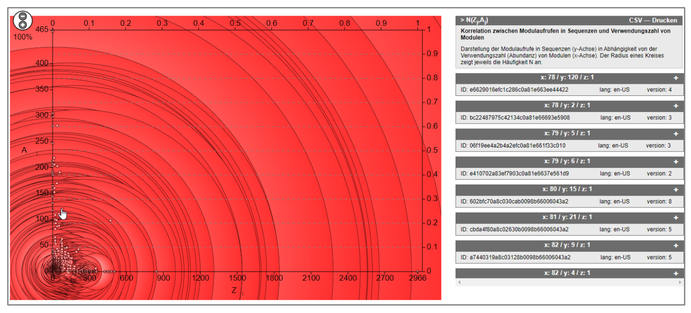
Based on the combination of CDP utilization data and editorial KPIs from the CMS, following quantitative and qualitative insights can be evaluated:

Quantitative insights:

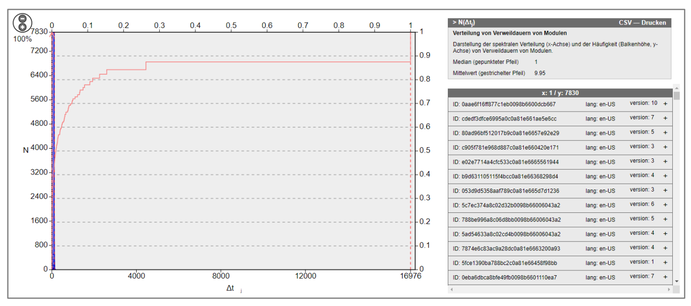
- Most frequently called content with relevant reading time
- Frequently searched terms and expected terminology
- Relevance of specific content languages
- Acceptance of specific content types

Qualitative insights:

- Users strategies in information retrieval
- Content and structure error pattern and gaps
- Gaps in terminology
- Different user profiles
- Typical user questions and information demands
- Key patterns and profiles of highly relevant content objects
- Efforts spent for high and low relevance information



Call-up rates (CDP) by reuse rates (CMS) for content objects



Reading times on content objects

Search Terms	Usage (successful sequences)	Usage (in total)
control point edit	10	12
fusion	9	11
perfusion	8	9
shortcut	8	10
voi isocontour	6	6
lines	6	6
sustraccion	5	5
jpeg	5	5
region growing	5	17
save log	5	9
anonyme	5	5
segmentation	4	5
volumetry	4	5
VNC	4	6
eq filter	4	5
vrt	4	8
...	...	...

Most frequently searched terms and success rates

Benefits:

Results and insights from content lifecycle analysis can be used for…

- Sharpening the scope of product information (effectiveness)
- Optimizing efforts for creating most relevant content (efficiency)
- Improvement of editorial quality (content and information structure)
- Terminology improvement (same language as the customer)
- Definition of content acceptance criteria
- Detection of potential product usability weaknesses

REFERENCES

[1] W. Ziegler, "A Generalized Reuse Metrics (GRM) for Component Content Management Applications" ETLTC2020

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