

# A method for the evaluation of knowledge management systems

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Knowledge management (KM) is an important tool for the preservation of the knowledge and information of organizations, and several information systems can be employed to assist on efforts on this field. On the Nuclear Engineering Institute, three systems are in use for KM: WikiIEN, IEN Progress Report Magazine and CarpeDIEN. These systems have different purposes and function differently from each other. Therefore, a single methodology was proposed to compare the functionality of these three systems and point their strengths and weaknesses regarding their use on KM. Studies that present criteria and information to assist in the evaluation and choice of the most appropriate KM system for a given use were used as reference [1][2][3][4]. Evaluation criteria usually focus on software functionalities grouped in categories. The evaluation of such criteria is subjective, and based on the evaluators' experience and technical knowledge while using such systems. The evaluation of the three systems was structured in two steps: selection criteria and evaluation of systems by experts. In the first step, it is defined a list of 14 criteria, classified into 7 categories. The categories were drawn up to reflect functionality, demonstrating positive aspects (strengths) and negative aspects (weaknesses) of each system. The categories, criteria and descriptions are presented in Table 1.

Table 1 - Classified criteria in categories

Categories	Criteria	Descriptions
1. Usability	1.1 Ease of use	How easily system is operated by user.
2. Categorization and Taxonomy	2.1 Metadata	Data that provides information about other data.
	2.2 Categories	Group content by affinity.
3. Search Features	3.1 Search engine	Tool for searching data on system.
	3.2 Scope of search results	Search includes data and metadata.
	3.3 Presentation of search results	Appropriate presentation of search results.
4. User Customization	4.1 Layout Customization	Ability to change the system interface.
5. Content Management	5.1 Content creation and visualization	Create and view data and metadata in-system.
	5.2 Rules of publication and access	Change of user permissions/restrictions.
	5.3 Changes Management	Ability to revert content changes.
	5.4 Integration	Ability to connect to other systems.
6. Online Collaboration	6.1 Online discussion tools	Tools for users to discuss content.
7. Administration	7.1 Management of communities/groups	Create groups and add/remove users to them.
	7.2 Administrative tools	Tools that enable administrative activities.

In the second step, the three systems are evaluated by five experts in KM systems using the criteria presented on Table 1 to verify whether the systems meet the criteria. The results were obtained from a consensus of opinions among the experts and are presented on Table 2.

Table 2 - Evaluation of knowledge management systems

Categories	Criteria	WikiIEN	IEN PR Magazine	CarpeDIEN
1. Usability	1.1 Ease of use	√		
2. Categorization and Taxonomy	2.1 Metadata	√	√	√
	2.2 Categories	√	√	√
3. Search Features	3.1 Search engine	√	√	√
	3.2 Scope of search results	√		
	3.3 Presentation of search results	√	√	√
4. User Customization	4.1 Layout Customization	√	√	√
5. Content Management	5.1 Content creation and visualization	√		
	5.2 Rules of publication and access	√	√	√
	5.3 Changes Management	√	√	√
	5.4 Integration	√	√	√
6. Online Collaboration	6.1 Online discussion tools	√		
7. Administration	7.1 Management of communities/groups	√	√	√
	7.2 Administrative tools	√	√	√

The results point out that WikiIEN is a solution more indicated for a bigger, general public because of its more user-friendly interface and workflow, auto-sufficient set of features not dependent on external software. IEN Progress Report Magazine and CarpeDIEN are solutions more indicated for smaller, niche public because of a less user-friendly interface, workflow directed at individual or small group of users who uses specialized software. Using this method, problems were identified related to four criteria, pointing to weaknesses in IEN Progress Report Magazine and CarpeDIEN.

## References

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