Collaboration Tools

Source: istock/FG Trade

Local monitoring agents using web-conferencing tool to discuss next mission

Relevance of this Tool Type within the Project Cycle

Definition

Collaboration tools (or groupware) are software applications designed to optimize the interactions or "group processes" for people working on a common task. Their objectives are to increase teamwork efficiency, allow multitasking, reduce miscommunication, increase search capabilities, and reduce paperwork, among others.

Levels of Collaboration

Collaboration tools can support one or a combination of the following categories:

- **Communication** and **interaction** (including phone and video calls), instant group or one-on-one messaging and conferencing, voting, brainstorming and digital whiteboarding:
- **File sharing/document management**
- **Collaboration** for complex interdependent work > Fact Sheet Building Information Modeling (BIM)

Tool Types and Features

- **Videoconferencing software** communicate through video and audio and share screens, documents, whiteboards or other collaboration tools
- **Electronic calendars** (or time management software) schedule events and automatically notify and remind group members
- **Project management systems** schedule, track, and chart the steps in a project
- **Online proofing systems** share, review, approve, and reject web proofs, artwork, photos, or videos between designers, customers, and clients either in real-time, where multiple users engage in live, simultaneous and reversible editing, or in version control mode in which users make parallel edits, preserving every saved edit by every user as multiple files (that are variants of the original file)
- **Workflow systems** support task/document management within a knowledge-based business process
- **Knowledge management systems** collect, organize, manage, and share various forms of information
- **Blockchain Technology**: Project Monitoring and Managment including tracking of financial flows by using TruBudget
- **Client portals** interact and share information with clients in a private online environment

Depending on project needs, some of these collaborative platforms can be upgraded with plugins or mobile offline features and therefore become hybrids offering the basic functionalities of an R/MIS, for example > Fact Sheet (Remote) Management Information Systems (R/MIS).

Acquisition Options

KfW is already equipped with several collaboration tools to support decision-making on the best fitting one(s) for project needs. For specific cases in which tools need to be procured, there are three main options to consider:

- Software-as-a-Service (SaaS) is a subscription-based licensing model in which access to the collaboration tool is provided via the internet, as it is located on the service provider's servers. Users typically access the tool through a web browser (of any internet-connected device) using a username and password instead of installing the software. Advantages are access from anywhere to sophisticated apps without deployment, interoperability development and maintenance costs (per device), and pay-per-usage.
- Self-hosting is a more hands-on approach that keeps the application on one's own (virtual) private server (VPS). A large majority of SaaS web applications can't be self-hosted, however, so innovative open-source alternatives have been developed. Advantages are data ownership and security with end-to-end encryption, centralization of all collaboration tools on one server, and competitive features. An open-source collaboration software is available to everyone, in some cases for free; its code can be changed and distributed to anyone, meaning it has limited warranty. The advantage lies in its limitless customization possibilities and low-cost distribution and responsive support thanks to a committed community.
- Proprietary software cannot be owned since its code is kept closed-source by providers and distribution or modification is prohibited. However, its usage can be rented and is limited by an agreement. The advantage lies in the reliability and compatibility of its features, but the user can be dependent on the provider's willingness to upgrade, develop, and maintain the software. Proprietary software is a good fit for projects in need of instant deployment of collaboration tools and typical productivity needs.

Interoperability

Certain collaboration tools do not operate together (for example, video conferencing systems and file sharing apps), meaning that users are forced to migrate to unknown collaboration tools with the same functionality of the ones they are already using. They can make up for it via integration (indirect connection—via a "middleware" third party— so that data from one system can be accessed by the other one). It means that actions in certain applications can trigger functionalities in others.

Device experience interoperability fares better due to a hardware-dominated market, which translates into vendors providing for multidevice connections (adding sometimes multi-feature possibilities) to collaboration tools.

The surge in collaboration tools usage generated by conditions during the COVID-19 pandemic may be the nudge ending the siloed multiplatform reality. Lacking interoperability decreases collaboration efficiency and increases end-user frustration and shadow IT (the use of hardware/software unapproved by the employer's IT unit: for example, using Skype chat when only MS Teams is cleared or bringing one's private USB-drive to share files), which, in turn, may bring security issues (such as outdated technology, tools protection, etc.)

Legal Aspects

Data Security:

- Collaboration tools must have adequate **security to protect the data.** Data leaks and security breaches threaten the viability of using the tool.
- Operators of collaboration tools must ensure confidentiality, integrity, availability, and resilience of processing systems and services.

Video transmissions should be made with end-to-end encryption. To keep unwanted participants out, access restrictions (such as password entry or consent of the moderator when guests participate) must be set up > RMMV Guidebook Section 2.3.2.

Data protection:

- Only personal data strictly relevant for the collaboration should be collected and processed in the tool.
- Controllers of personal data must also apply appropriate technical and organizational measures to satisfy data protection laws. Business processes that handle personal data must be designed and implemented to meet security principles and to provide adequate safeguards to protect personal data > RMMV Guidebook Section 2.3.1.
- In most cases, the **ownership of the data** (including images, audio, video files of virtual meeting participants) remains with the users and is not shared with the provider of the collaboration software/platform. Attention should be paid to the issue of whether the service contract for using the collaboration tool confirms the entity's ownership of their data located on the vendor's servers, as well as the right to retrieve and delete the data at the end of the project. The service contract for using the tool should further rule out any disclosure of the stored information to third parties without prior consent.
- If KfW (or persons acting on behalf of it) are (also) processing personal data, the privacy check in > RMMV Guidebook Section 2.3.1 must be followed.

Project Examples / Use Cases

- In several countries, for example in Tunisia, KfW's Open-Source software TruBudget is used as the main monitoring and management tool for the governments of receiving countries. Blockchain technology is used to track the workflow of projects and therefore minimize the risk of corruption.
- KfW has established special RMMV rooms in its offices that offer additional possibilities for collaboration, that can be used for remote appraisals and progress reviews, virtual site inspections, etc. > RMMV Guidebook Section 2.4.1 (RMMV Rooms).

Links to Further Sources

- A list of collaboration tools accessible to KfW staff is available on the KfW Intranet.
- Reviews and ratings of 2021 collaboration tools by a market-leading company specializing in technology research: https://www.gartner.com/reviews/market/workplace-social-software

Examples of Tools

Communication
Slack, Signal, Skype, Zoom, Webex, GoToMeeting, Miro, etc.
Currently available at KfW: Jabber, Webex

File-Sharing
NextCloud, Dropbox, GoogleDrive, SharePoint, etc.
Currently available at KfW: Sharepoint, One-Note, IBM Filenet

Collaboration
Trello, Jira, Monday, Mural, etc.
Currently available at KfW: Conceptboard, Jira, Confluence, Azure DevOps

Blockchain Technology
TruBudget

Linkages to other tool types

- Cameras
- (Remote) Management Information Systems
- Maintenance Management Systems
- Mobile Data Collection Tools
- Earth Observation via Satellites
- Geospatial Tools
- Building Information Modeling
- eLearning Tools

Further information on how to use this tool type in an RMMV context can be found here: