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InsideKnowledge

JUST THE TONIC

Team collaboration at Pfizer

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Ben Gardner, Nuzrul Haque and Chris Barber explain how OnePoint software revolutionised team collaboration within global research and development at pharmaceutical giant Pfizer

Pfizer, the world's largest research-based pharmaceutical company, spends in excess of $7bn annually on research and development (R&D) across 11 therapeutic areas in research centres across the globe. Within each therapeutic area are a number of separate projects, each working to identify new medicines to treat a specific condition or disease. The people working on each project come from different disciplines (for example, chemistry, biology, clinical, safety), may be members of more than one project and may move between projects depending upon their skills and the requirements of the project. This results in a complex, ever-changing matrix of individuals, who may not even be co-located at one site but who all need to share information to drive decisions.

Attempts to mitigate the inefficiencies associated with a geographically distributed team had previously focused on structured numeric data. However, management of unstructured information, documents, slides, spread sheets and such like had been left to individual disciplines. This led to a proliferation of document management systems (DMS) – including Documentum, LiveLink, SharePoint, fileshares – and working practices within document management systems, resulting in a discipline-orientated focus on information management.

As a consequence, project team members would keep authoritive versions of their documentation within their discipline's document management solutions and would circulate copies *via* e-mail to the project team. These copies would then be filed into a shared project team folder in another DMS, but as these were not

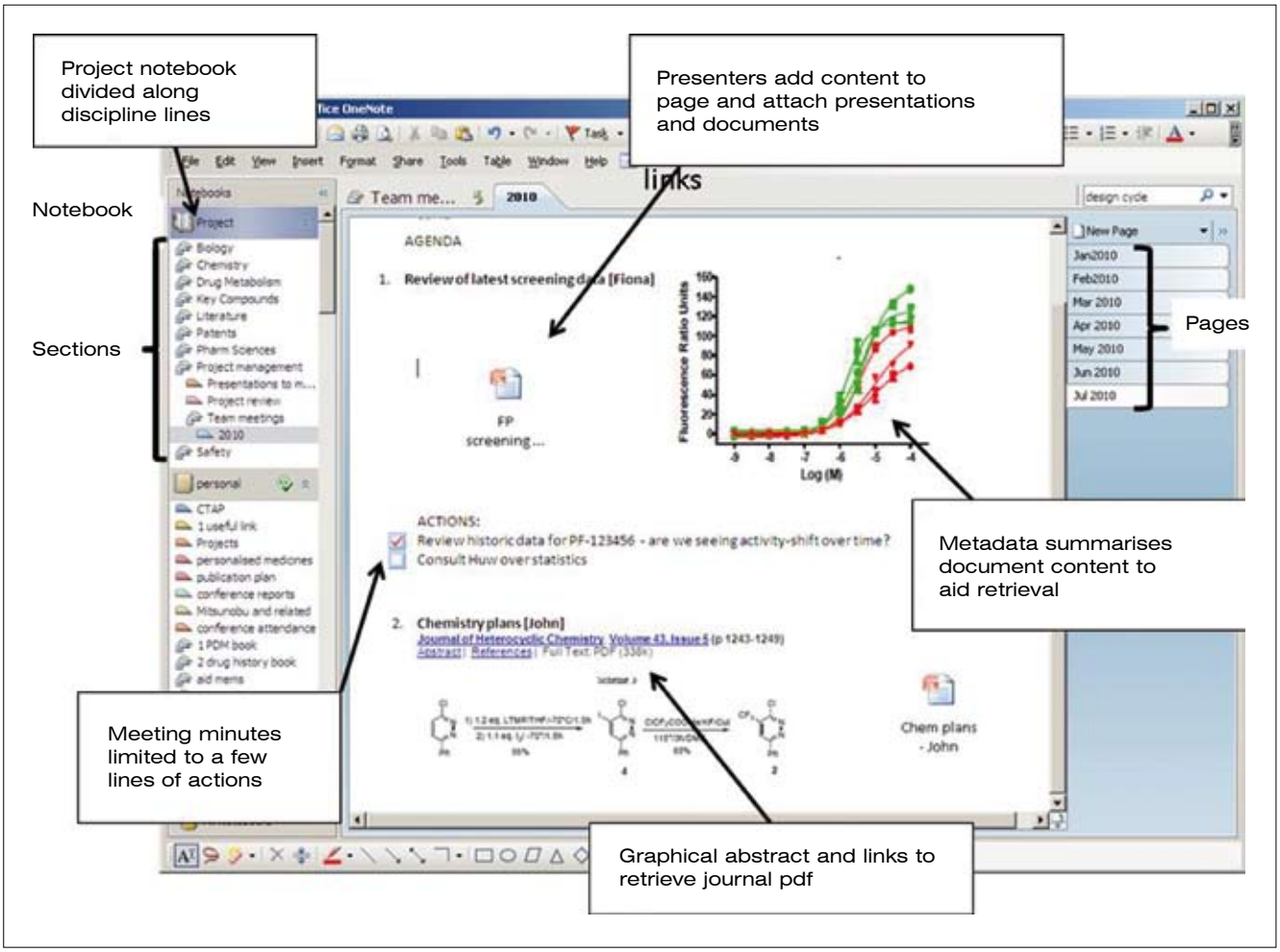

Figure 1: OneNote in action

authoritive versions they could rapidly become out of date. The result of this behaviour was, at best, a delay in decision making, as teams searched for the most recent information to make decisions on. Or, at worst, the wrong decision was made based on an incomplete data set.

In response to these obvious challenges Pfizer Research wanted to simplify and consolidate its content management tools and processes, adopt a project-centric approach to information management and eliminate information silos. In addition it was recognised that this would be an ideal opportunity to enhance the collaboration capabilities of the project team and improve decision making. Traditionally collaboration had essentially been limited to sharing files and documents *via* some form of online folder within a DMS. However, with the opportunities presented by Enterprise 2.0 tools there was the chance that a far richer form of collaboration could be realised. Based on various safe-fail experiments that had been carried out previously, we had identified a set of constraints that we considered critical for success. These are ecapsulated within the concepts of freedom, emergence, clarity of purpose and ease of use (*see* Box 1). Given these principles and that any solution should be focused on the project team, OnePoint, an innovative combination of Microsoft OneNote 2007 and SharePoint 2007 team sites, was selected.

What is OnePoint?

OnePoint is in essence a share electronic notebook that a team uses to share information and collaborate in. The key component of this solution is OneNote, which is an extremely intuitive note-taking application that enables users to aggregate information from virtually any electronic source into an e-notebook – essentially an electronic version of a loose-leafed binder made up of pages separated by section tabs (*see* Figure 1). Users are able to write or draw anywhere on a page, as well as import information from other sources using a combination of drag and drop, screen clipping, Microsoft Office integration and a OneNote print driver. As a result of this functionality, OneNote is a very powerful personal

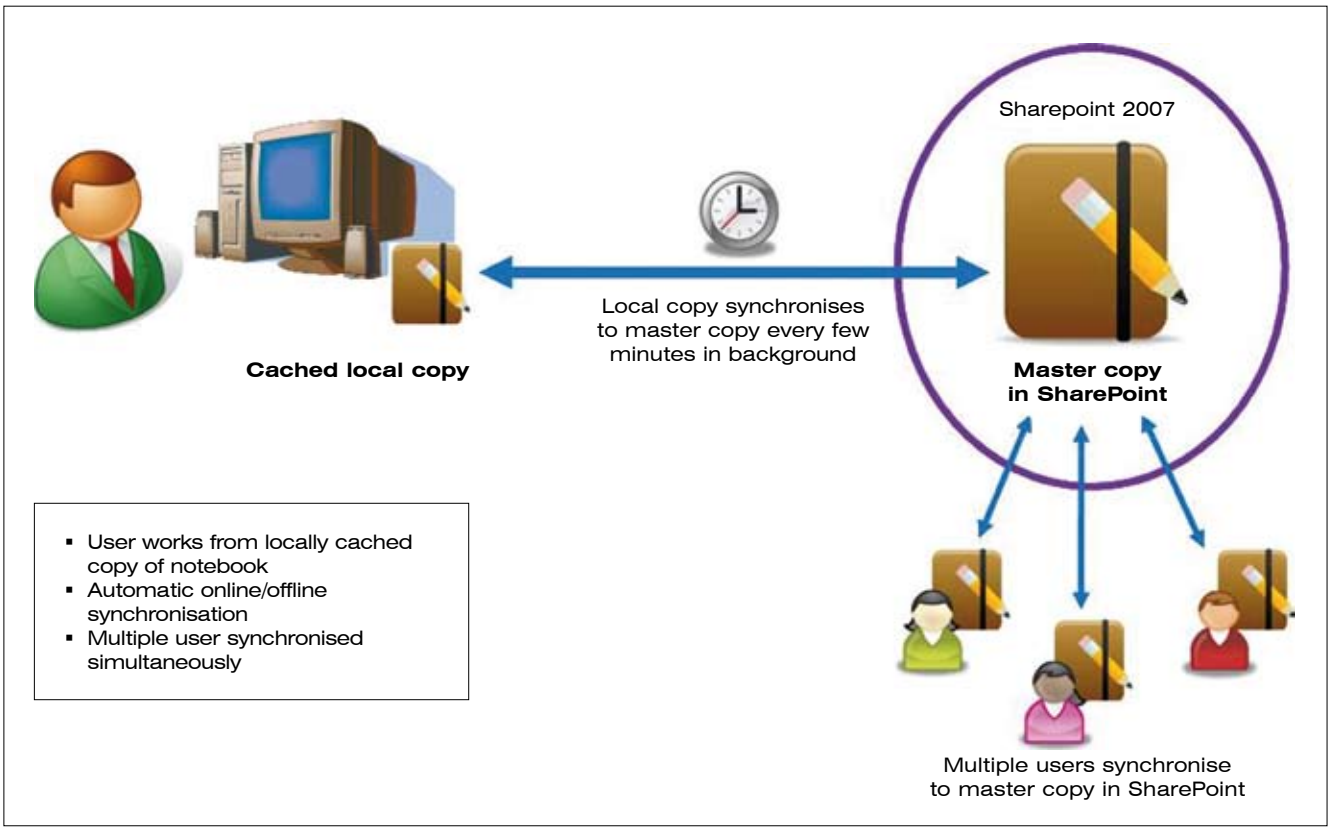

Figure 2: Synchronising notebooks

knowledge management (KM) tool. By default, OneNote stores these notebooks (.ONE files) on the user's hard drive. However, if combined with a SharePoint document library, these notebooks can be shared with multiple users. Technically this is possible because the .ONE file in the SharePoint document library becomes the master copy of the notebook and a cached copy is maintained on the user's desktop. The user works off the cached copy and OneNote automatically synchronises the cached copy with the master copy in SharePoint every few minutes. Because the master copy is held in SharePoint multiple users can be simultaneously synchronised to one notebook creating a team wiki or eNotebook (*see* Figure 2). Now, whenever a user adds or updates content to a notebook these changes are copied up from their notebook to the master copy in SharePoint and then back down to all the other users who are synchronised to the notebook. In essence OneNote is providing an alternative interface onto a SharePoint document library. Finally because OneNote maintains a cached copy of the notebook on the user's hard drive, this means that if they go off line they still have access to all the information contained within the notebook. They are able to work off line on the notebook and then when they re-connect to the network OneNote synchronises the changes made with the master copy of the notebook held in SharePoint.

Business value

Through the use of shared OneNote notebooks, Pfizer is seeing improvements in the efficiency of working, the capture of tacit along with explicit knowledge and enhancement of team cohesion. In addition, by using OneNote in conjunction with SharePoint, all this information is being captured in a fully searchable system that is compliant with Pfizer's content management strategy.

From the project perspective, efficiency savings have been realised in three main areas; on boarding, decision making and speed of project execution. These improvements can be attributed to the simple fact that shared OneNote notebooks provide all the project's information in one place and in an easily consumed fashion. In the case of one project, an after-action review was performed on the AGILE [adaptive, group effort, iterative, lean, empowered] continuous improvement processes that the team adopted. In their report the adoption of a shared project notebook was cited as one of the key factors that enabled the team to prosecute the project 30 per cent faster than the standard operating process. The project leader estimated that 15 per cent of this time saving could be directly attributed to the use of a share project notebook.

In addition to improving team effectiveness and information exchange, other unexpected consequences were also observed. E-mail traffic within projects was significantly reduced – results were added to the project notebook rather than circulated by e-mail; project meetings were run from the project notebook, avoiding the need to circulate an agenda, presentation material or action-minutes, saving time and making information more widely accessible. One good example that illustrates the impact of shared notebooks is around knowledge capture. Historically, Pfizer has been good at capturing snapshot summaries of a project as it passes through a stage gate. Typically these reports are written from a forward-looking perspective summarising how the project has met the current stage gate guidelines and the plans for reaching the next stage gate. While these are a critical reporting tool they tend not to capture how and why the project reached this point. This information represents the lessons learnt by the project, which classically has been hard to capture. In the case of a project utilising a shared notebook, we observed that teams aggregate not just the data and information they are using, but also including the context, rational and decisions they are making on it. It appears that this is because the notebook is the tool by which the team is communicating. Therefore the capture of this information is achieved as a consequence of project prosecution rather than as an additional task. As an example, let us consider the case of sharing a file. In OneNote this is done by simply dragging the file of interest onto the appropriate page. This is equivalent to putting the file in a folder in a document management system or file share. However, unlike these systems, we are observing that project teams are also adding one or two lines of text alongside the file icon on the OneNote page. This information is a short summary of what the file is and why it is important. This means that the rest of the project team can quickly understand what the file is without having to rely on a typically non-descriptive file name or opening the file. This behaviour was one that developed spontaneously in our early pilots and has been recommended as best practice going forward. As a consequence of this behaviour the project notebook is easy to navigate and 'read' both for the current project team and as a legacy account of what the project did and why.

Finally, for all the reasons above and the simple fact that using OneNote to manage a team's information is so much easier than the alternative systems, we are seeing the elimination of information silos. Team members readily place all team-centric information into the shared notebook and adopt good information management practices through the use of single authorative source. This removes the common issues of project information being fragmented across multiple 'departmental' storage spaces and the spawning of multiple unsynchronised copies spread across the team.

Team cohesion

As decision makers started describing their strategies and rationales within OneNote pages, a more open and collaborative environment began to develop, enabling all project members to contribute to these plans, or use them as a learning resource. The common practice of giving each team member responsibility for and management of a section of the notebook is resulting in the building of trust, the transparency of activity and strengthening the ties within the team. This has resulted in individuals feeling more involved in the project and reading more widely outside of their discipline fields. This improvement in awareness was reflected in the quality of the presentations and reports being generated. Previously, presentations delivered by a biology team member, for example, tended to be restricted to just biological information from their particular discipline. Now team leaders have reported that the same individuals are now drawing together pertinent cross discipline information. They attribute this directly to having the projects information freely available, in one place and in an easily consumed state. Each team member is more informed about the project, aware of who is doing/can do what and the team has a community spirit.

The deployment plan initially utilise an agile or viral approach, starting with a limited roll-out to a handful of projects since the technology was untested in such an environment. Microsoft had not envisaged such a use of their products and had no experience of the potential to scale use from one to ten simultaneous users. However, remarkably few technical issues were observed and resulted in an accelerated deployment across the entire Sandwich research site – primarily driven by demand from those not included in the early trials. The final solution proved so simple to use that training was limited to an hour-long demonstration/lecture to provide new users with some familiarisation of the application, it's utility and a series of hard-won 'best practises' that would ensure smooth operation in a project environment.

A few months after deployment to more than 500 scientists, a survey was undertaken on their use of shared notebooks. Over 75 per cent of all users believed that it had positively affected the way they worked and estimated that it was saving them an average of 45 minutes per week. Further, 60 per cent of decision makers indicated that they had improved access to decision making information.

Challenges

Overall the adoption of shared OneNote notebooks has been very successful, delivering significant efficiency and time savings. However

there were a few key lessons that had to be learnt, so as to realise the full potential of OneNote. The three main ones were:

1. Open OneNote and leave it open – because OneNote only synchronises every few minutes with SharePoint it is possible to enter new content and close OneNote before it has copied the information up to SharePoint. If this happens the information is not shared with the rest of the team. Users needed to learn to open OneNote and leave it open as per their e-mail client rather than closing it. This means that OneNote will continuously synchronise in the background sharing changes across all users;
2. Provide structure – rather than deploy an empty notebook, users found it significantly easier to get started if some high level structure was provided. In many cases this was as simple as providing a section for each discipline within a project team. Just creating this high level structure was enough to give users a indication as to where their content should go and help get them started;
3. Minimise synchronisation issues – because all content added to a shared notebook is copied in to SharePoint, synchronisation issues can be created. OneNote is unable to write to the SharePoint document library containing the master copy. This can happen if file types that are 'illegal' in SharePoint are placed into a notebook or if a file name contains control characters, such as %, /, &, and so on. If this happens then the OneNote cannot synchronise the user notebook which contains these files. To remediate this issue the files need removing and renaming but once this has happened the notebook will synchronise again.

The final challenge with OneNote is its own ease of use. If a team does not maintain discipline when using a shared notebook it runs the risk of it becoming a dumping ground for files, however this has not been a common occurrence.

Box 1: Pre-requisites of collaboration

The following principles aim to spell out clearly the core architecture of collaboration. These principles define a framework, which applies equally to the technology and the culture. It is our experience that adoption of these principles is required if a culture of collaboration and openness is to develop. Through the creation of a culture of collaboration and openness we will be able to realise the value locked within the knowledge we create between us. The four core principles are:

1. **Freedom.** The easiest way to prevent collaboration from occurring is to impose overly burdensome control around how colleagues work. If collaboration is to flourish we need to trust colleagues and not impose rigid *workflows*, inappropriate approval processes (*moderation*), restriction on who can collaborate with whom (*association*) and have an open attitude towards sharing *information*.
2. **Emergence.** No two collaborations are the same, each team/group will have different requirements and will develop different working practices. Given this then we need to allow patterns and structures to emerge as collaborations develop. This is not to say we should not stimulate behaviours we want or share experiences but rather we should accept this and recognise that we need to avoid a one-size-fits-all approach.
3. **Clarity of purpose.** In this case, colleagues are confused as they are presented with multiple tools, all of which seem to do the same task. In the case of Pfizer we have a plethora of different tools that enable various degrees of collaboration; Insight, Documentum, GDMS, SharePoint, eRooms, Pfizerpedia and so on. The lack of consistent advice around how and when to use these tools inevitably leads to adoption of Outlook for information management, fragmented silos of project data and a lack of any real KM processes.
4. **Ease of use.** Collaboration is about enabling conversations between people. It is not about technology. Therefore, it is critical that technology does not get in the way of collaboration. If a collaborative culture is to be enabled then it must be ensured that colleagues find the tools are intuitive and require minimal training.

Re-evaluating existing tools

Shared OneNote notebooks are now used by over a thousand users and growing. They are the primary means of information sharing for over 80 active research project teams at the Sandwich research site alone and have proven to be a high flexible solution, utilised to improve collaboration from bench side to senior leadership across Pfizer. This solution is an example of the success that can be had, at minimal cost, by innovatively re-combining tools that had already been purchased. InsightKnowledge

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