Engineering Management
Field Project

Best Practice Recommendations for a Corporate Wiki in the Research & Development Department of Software Company

By

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Executive Summary

Alexandria is the departmental wiki knowledge management system of the Software Company's Research and Development department. According to a survey crafted for this project and completed by 84% of the department, Alexandria could be made more effective in three primary ways: increased contribution by all users, increased updating of existing topics, and increased education of its user base. The survey also revealed two groups of users, a smaller group of "Power Users" and a larger group of "Learners," who have different interactions with the wiki and different levels of comfort with it. Recommended improvements for addressing these three issues include beginning a program of quarterly Lunch and Learn seminars, encouraging new employees to customize their wiki user pages, and creating and using a mechanism for capturing user feedback on wiki topics.

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Chapter 1: Introduction

Wikis, where a wiki may be defined as a "collaboratively created and iteratively improved set of web pages, together with the software that manages the web pages" (Clerc, de Vries and Lago 2010) have been in existence for over a decade, though they have become increasingly recognized as being of use as a knowledge management system in a corporate environment within the last five years (Ras 2009, 48). In increasingly complicated workplace environments, knowledge sharing is indispensible. This is still truer in a workplace that is rapidly growing. In a small departmental group, for instance, subject matter experts are well known, and it is still possible for a single person (or even several people), to maintain a high-level view of all information individually. This is unsustainable as the department grows. Each person becomes more focused in a single area and less able to see the big picture, the sheer amount of information overwhelms any single person, and experts on a topic may be unknown outside their own team. Using a wiki as a tool for information sharing can alleviate these issues, and there are many different wikis available (Farenhorst and van Vliet 2008).

A commercially available wiki, which will be called "Alexandria" for this report, was implemented in the Software Company's Research & Development (R&D) department in late January of 2009. During the two year period from then until January 2011, the R&D department grew from 108 people to nearly 150 people, necessitating an active, vibrant knowledge management tool.

Over time, however, it became evident that the wiki was not meeting this need. A user not knowing the exact name of an article might lead to his not being able to find it at all, even if that user knew both the topic and that the article existed. Several articles might exist with similar names. These similarly named articles might share overlapping information, or worse, might have no information in common at all. The leading promoter of the wiki had since left the

company, leaving it without advocacy and active administration. Casual discussions within the department revealed that these frustrations and others were shared by other users of the departmental wiki. This project was initiated out of the desire to remedy those frustrations, and get back to the active, vibrant, and helpful knowledge management tool that had been intended.

Objectives of the work include:

- Research literature on the ways to improve an implementation of a knowledge management wiki.

- Survey users to identify the issues with the current implementation of Alexandria, the knowledge management wiki.

- Make suggestions for implementing three to five of the most important changes to Alexandria, as suggested by the research and desired by users.

The following items are outside the scope of the project:

- Attempting to improve or fix all issues identified in the user surveys.

- Implementing all suggestions related to improving corporate wikis uncovered in research.

- Creating additional, technical content for the wiki.

- Taking on the role of ongoing Alexandria administrator at the Software Company.

Chapter 2: Literature Review

Knowledge Management Systems

A discussion of the literature relevant to this project must begin with a brief introduction to knowledge management systems, or KMSs. A KMS is a "technology set in place to capture, disseminate, and retrieve knowledge" (Feliciano 2007, 8). It "is designed to aid in the overall 'application' of organizational knowledge (Feliciano 2007, 8). A KMS consists of three coequal aspects: technology, processes, and people (Hester 2010b, 158). Knowledge management systems are nothing new, and business researchers have been discussing their importance for well over a decade and a half (Feliciano 2007, 32). However, the importance of a highly functional KMS to businesses in an age of expanding, globalized business; frequently high employee turnover; retirement of the Baby Boomers; and generally dynamic business environments cannot be overstated (Hester 2010a, 1). In general, "the importance of intellectual capital has motivated the field of knowledge management, which has in turn facilitated a wide variety of knowledge management systems" (Hester 2010a, 1).

In addition to being important for business in general, KMSs are of increasing interest among software engineering researchers and practitioners in particular (Farenhorst and van Vliet 2008, 1). Increasing globalization of software development is one factor that is driving this interest (Clerc, de Vries and Lago 2010, 37). In global software development, or GSD, "the management of architectural knowledge becomes even more important due to challenges that arise as a result of the geographical, temporal, and socio-cultural distances involved" (Clerc, de Vries and Lago 2010, 37). Other challenges in software development that may be mitigated by a KMS include a "lack of informal contact, language differences, and coordination complexity" as

well as the fact that the "decision-making-process in GSD typically is undocumented and hence runs implicit" (Clerc, de Vries and Lago 2010, 37).

Wikis as Knowledge Management Systems

There are many ways to implement a knowledge management system, and a great many tools to support a KMS once it is in place (Farenhorst and van Vliet 2008, 5). These options range from highly formal, top-down data repositories to highly informal, bottom-up solutions like wikis. Recall that a wiki is a "collaboratively created and iteratively improved set of web pages, together with the software that manages the web pages" (Clerc, de Vries and Lago 2010); an alternative definition is "the system and concept of collaborative websites maintained by users who are allowed access" (Hester 2010b, 158). The informal, collective, and collaborative nature of a wiki is often emphasized in definitions and discussions of wikis: "Using a wiki is like working in an 'open source' knowledge repository, where content can be edited collectively using a web browser" (Ras 2009, 47).

While wikis have proven popular as knowledge management systems in many types of workplaces, they began as "a platform for exchanging knowledge between software developers" (Aguiar 2009, 480) and remain a popular and practical way to implement a KMS for software engineering. One explanation for this popularity is that "software architects are typical knowledge workers" (Farenhorst and van Vliet 2008, 1), making them good candidates for a collaborative knowledge management system. One group of researchers studying the use of wikis in software engineering writes, "We have gained confidence that wikis are a useful means to manage [software] architectural knowledge" (Clerc, de Vries and Lago 2010, 37). Similarly, another notes that "wiki technology may enable higher levels of collaboration, facilitating more effective knowledge processes" (Hester 2010b, 158).

A KMS implemented with a Wiki has many advantages, including its ability to "improve upon previous methods of conversational technologies by providing many-to-many communication with current knowledge and history" (Hester 2010b, 159). Hester writes that "wiki technology is an example of an emerging trend providing an effective knowledge management system with benefits of improved communication and collaboration, work processes, and knowledge sharing" (Hester 2010a, 2), demonstrating another advantage of using wiki technology as a KMS. Writing for the Wikis for Software Engineering Special Interest Group, Aguiar and others note that "the power of wikis appealed to software development organizations seeking a cost-effective way to maintain up-to-date documentation (2009, 480). In software engineering particularly, "knowledge flows…are diverse and frequent, which calls for proper support to enable efficient communication and collaboration between team members" (Farenhorst 2008, 1), a job very well suited to the collaborative wiki.

While the technology is promising, it is not a panacea, and a KMS implemented with a wiki may face drawbacks in addition to advantages. Some drawbacks are unique to the wiki technology, while others are the drawbacks that belong to any KMS, regardless of its implementation. One paper from the Annual Wikis for Software Engineering conference notes, "as organizations began applying general-purpose…wikis, they soon encountered problems. Certain unique characteristics of software development…documentation in particular did not make a smooth transition to wikis" (Aguiar 2009, 480). Hester expands upon the challenges faced by a team implementing a KMS: "Despite development of systems … to support organizational knowledge, adoption of KMS remains enigmatic [2]. Even when KMS are in place, studies show that the majority of knowledge relevant to an organization is not represented in system" (Hester 2010b, 1). Specifically calling out wikis, she adds that "regardless of technological platform, the introduction of a new system can produce wavering results

depending on the overall approach of the implementation" (Hester 2010b, 2) and "applications of wiki technology may be limited to those involving ad-hoc, dynamic and informal knowledge" (Hester 2010a, 159). These conclusions indicate that a wiki may not be suitable for knowledge that is necessarily structured or formal, and that even appropriately informal knowledge may not be captured well.

While the challenges involved in implementing a knowledge management system are manifold, they ultimately can be categorized into two broad hurdles: encouraging workers to supply new information to the system, and encouraging them to retrieve information from the system (Chung 2009, 1). While lack of contribution is the more easily perceived challenge facing a KMS, "efforts for motivating contribution…are successful only if the contributed content is actively used by the audience" (Chung 2009, 2). Feliciano highlights both needs. "One of the biggest problems in Knowledge Management is how to collect vital information…. In an ideal world, there would be mechanisms in place…that recorded all of a knowledge worker's experiences, sifted through it, and stored it automatically" (Feliciano 2007, 15), he writes, while later acknowledging that "unless knowledge can be stored in such a way that we can find and retrieve it again when the need arises, it is of no value" (Feliciano 2007, 16), thus emphasizing the dual role that contribution and access play together.

With these needs firmly in mind, the literature reveals several factors that encourage usage, both knowledge capture and retrieval, of a KMS. The remainder of this chapter will discuss factors that pertain generally to knowledge management systems, and, when appropriate, call out factors that are particular to the wiki implementation of a KMS.

Corporate Culture and Management

First, it is important to have a corporate culture in place that encourages usage of the knowledge management system. "The biggest impediment to knowledge transfer is corporate

culture" (Feliciano 2007, 46). A culture that promotes knowledge sharing is clearly of foremost concern, while a culture that promotes individual achievement above assisting others or reusing their work will hinder adoption of a KMS (Grudin and Poole 2009, 5; Feliciano 2007, 45). Another way that corporate culture can hinder knowledge sharing is by promoting expertise and personal reputation above mentoring or assisting others (Gee-Woo et al 2005, 89). All too often, the culture works in precisely this way: "people are reluctant to share their knowledge, especially in the corporate world where often it is considered that knowledge is power, and historically competition has existed because the most knowledgeable people were promoted" (Feliciano 2007, 46). On the other hand, a culture that promotes sharing of knowledge, assisting others, and contributing expertise will simultaneously promote contribution to a KMS.

Another important factor of corporate culture is acceptance and promotion, particularly by management, but also by others willing to act as a champion for the technology as well.

> The term champion can be used in a business setting to refer to someone who is
> innovative, aggressive, politically astute, and competent in the company knowledge
> as well as the market. These champions are often invaluable in new business
> ventures…. By involving these persons beginning with the early stages…wikis may
> have a better chance of succeeding. (Hester 2010b, 160).

It is important to the success of a KMS, in wiki form or otherwise, that there "be some key people who are respected and active contributors" (Wikipatterns.org). A champion "is essential to the success of a space because she or he nurtures growth, builds community, and encourages others to take active roles in the development of context" (Mader 2008, 88). In an experiment involving a wiki at Dutch software company NPK, Farenhorst and van Vliet encouraged adoption by beginning with three software architects, each deliberately handpicked to serve as champions (2008, 3). These champions then demonstrated their use of the wiki and the value

they received from using it. Not only adoption, but also ongoing sustainability depends on these "enthusiasts who exhorted others to contribute" (Grudin and Poole 2010, 4). These core enthusiasts will shepherd a wiki-based KMS through its earliest stages, thus increasing its chances for successful adoption (Grudin et al 2010, 4). In fact, a champion is considered not only beneficial, but "essential to the success of the wiki because she or he can generate interest, give the appropriate amount of training for each person at the right time, monitor growth of the tool, and fix problems that could derail adoption" (Mader 2008, 145).

Anyone who is willing to "make their use of the wiki visible and encourage others to participate" (Hester 2010b, 162) can serve as a champion; however, champions who are also in management roles may be particularly visible and therefore particularly effective. But managers can do more than simply act as champions. They can also dedicate time and monetary resources to the creation and adoption of a wiki (Feliciano 2007, 69). Most importantly, they can set aside "time for knowledge workers to accurately and completely capture their knowledge" (Feliciano 2007, 69). These resources, in turn, promote the successful usage of a KMS. Management should also make it clear that it is considered an important part of a knowledge worker's day to make a contribution to the corporate KMS (Feliciano 2007, 46). Managers, due to their increased visibility, can also assist in demonstrating the relative value of wiki over previous mechanisms for knowledge capture and exchange, and this will be discussed in the next section.

The final way that corporate culture and management can promote the successful adoption and life of a KMS is by promoting overall innovativeness among its employees and the organization as a whole. Wiki technology is new and may be unfamiliar to older employees, and unwelcome to those with lower personal innovativeness (Gonzalez-Reinhart 2006, 2). Those with high innovativeness, on the other hand, tend to become early adopters of both new technologies, such as wikis, or new business processes, such as knowledge management

systems (Hester 2010b, 160). In short, "innovative users are more apt to quickly adopt and

embrace wikis" (Hester 2010b, 161). Those with the greatest innovativeness may even become

champions, whose importance was discussed above (Hester 2010b, 160). Management can

create a culture that promotes the adoption of a KMS by promoting innovation and by

demonstrating positive responses to change.

Ease of Use and Relative Advantage

A second major factor that determines the successful adoption and ongoing use of a

knowledge management system is "higher levels of Ease of Use and Relative Advantage" (Hester

2010b, 161) over previous means of storing and accessing corporate knowledge. There are

several strategies for making a wiki-based knowledge management system easier to use. The

creation of page templates, for example, prevents the user from having to start from a blank

page, which may be time-consuming, redundant, and potentially intimidating (Mader 2008, 52).

A community portal, which tells users what content or contributions would be most

appreciated, can also spur contribution by encouraging specific contributions, reducing

confusion regarding content and purpose (Wikipatterns.org). Another way to make the wiki easy

to use and easy to access is to ensure tight integration with existing systems. This will "increase

the chance that users consider the wiki an integral part of their daily work" (Farenhorst 2008, 6).

One thing management or other wiki champions should not do, however, is attempt to impose

too strict a set of controls. "Do not restrict the wiki to only very specialized architectural

knowledge," Farenhorst warns, but "make sure that users have sufficient freedom to manage

[non-architectural] knowledge in the wiki as well" (2008, 6). "If the structure is built too early, it

won't necessarily match how people really organize information, and it may make people think

the wiki is too rigid to meet their needs" (Mader 2008, 114), thus turning them away from the

technology. Ease of use is critical to early adoption of the technology:

If the first few times they try to interface with the system they walk away with

nothing but fruitless searches, their confidence will quickly fade. If they have

spent time submitting knowledge, but don't seem to get what they need, their

frustration will quickly replace their willingness to expend their resources (time

and effort) into the system. (Feliciano 2007, 67).

However, simply making a wiki KMS easy to use is insufficient in itself to ensure its success.

"For an established organization to adopt a wiki, there must be a conviction that change … will

be worthwhile" (Grudin and Poole 2010, 7). This notion of improvement is important during

adoption, but even more important during ongoing usage: "When users have yet to adopt a

system, they are less able to compare that system to the one they are accustomed to using.

However, as users attain more continued use, they are able to see the advantages of using the

new system" (Hester 2010a, 7). Likewise, if a new process is implemented improperly, users will

be quick to note disadvantages. No matter which strategy or strategies the proponent of a new

wiki KMS chooses to employ, the bottom line is that "increased usage of wikis may be facilitated

by ensuring that the wiki is easy to use and provides recognizable advantages over previous

technologies" (Hester 2010b, 162).

Visibility

A third major factor that determines the successful adoption of a knowledge management

wiki is ensuring that both the wiki and its contributors have high visibility within the

organization. Visibility is "the degree to which using the KMS is visible within the organization,"

and can also "refer to the ability to see others' use of the technology" (Hester 2009, 66). Part of

the importance of visibility lies in its role in creating normative pressure from peers to

contribute, which is of particular importance during early stages of adoption, and may serve to

create a feeling of belonging (Hester 2009, 66). High visibility was found not only to have a

positive influence on both adoption rate and usage level, but also to be the only factor that contributes positively throughout the entire lifecycle of the wiki (Hester 2009, 108). Various ways to increase visibility are to "encourage an environment […] for sharing of efficacious experiences with using the technology" (Hester 2009, 131) and to get "users to share their adoption and use of the technology [to] positively influence other's behaviors" (Hester 2009, 132).

However, it is not enough that the wiki itself be highly visible; the contributors to it should also receive some form of recognition for best results. Recognition of individual contributors can aid in creating a corporate culture that values sharing, not hoarding, of information. "People that used to keep everything in their head know they'll still be recognized for the information now that it's out in the open and won't lose their expert status" (Mader 2008, 104). Peer recognition is also a major motivator for many. "A common personal motivation is to be respected and acknowledged by peers. For some Wiki users, this may be a major influence on whether and how much they contribute" (Wikipatterns.org). The role of more tangible rewards will be covered later in this chapter.

Training and the Trial Period

The fourth important factor in motivating new users to adopt and continue usage on a knowledge management wiki is to provide adequate training on the new system as well as providing opportunities to try it out in a non-intimidating way. In part, this relates to the ease of use factor already discussed. When users are sufficiently trained on a system, they may find it easier to use (Hester 2010b, 162). It also correlates with management buy-in, also previously discussed, as providing time and resources for training is a management activity that can promote use of a wiki knowledge management system (Hester 2010b, 162). To complete the connections to previous topics, increased information made available in training may also make

the relative advantages of the new system more obvious (Hester 2009, 131). This effect is ongoing, and does not end with adoption. Quality may improve over time as users are able to achieve full utilization of all the tools and features through continued training on the system (Hester 2009, 131). If employees are poorly trained, they are unable to seamlessly integrate the new resources into their normal workflow, and do not make full utilization of the tool (Feliciano 2007, 62). Users of a KMS recognized the importance of training and gave "Training" an importance factor between 5.1 and 5.4 on a scale from 1-7 according to one survey (Feliciano 2007, 90). Feliciano offers an explanation for the importance of training in itself: "If knowledge workers are not trained properly on how to submit their knowledge, then they will be less likely to do so. If they are unclear on how to categorize their knowledge, they might fail to do it all together in fear of doing it wrong" (Feliciano 2007, 71). Ultimately, as knowledge contribution is the goal, any barriers or obstacles to that contribution should be removed whenever possible.

Once a user is trained, it is natural that he will want to spend some time applying what he has learned in a way that increases his confidence and does not make him appear foolish. What he needs is a KMS with high trialability, or the "degree to which it is possible to try using the KMS" (Hester 2010a, 4). Trialability was found to have an effect on the level of usage, but not on the level of adoption (Hester 2010a, 6). This result can be explained thus: "the more users are able to try using the system, the more experience they gain, resulting in higher levels of usage" (Hester 2010a, 7). However, system administrators and managers should not rush to create a "sandbox," or an area specifically set aside for experiments. It may "seem like a good idea, but it's not always as useful as it seems. For people new to the wiki, having to start in a Sandbox can create the false impression or reinforce misconceptions that the wiki is difficult to use and requires training away from the 'real' content" (Mader 2008, 111). A better option to provide trialability without creating fear of editing the wiki proper is to create a personal space for each

user (Mader 2008, 111). While there still is not as much collaboration as in the general space,

allowing the user to "build something with common elements and purpose enables them to get

comfortable with the mechanics of editing, and produce something they're proud of" (Mader

2008, 111). Personal spaces are "even more important during large-scale adoption because the

value of the social aspect of the wiki increases as the number of people using it increases"

(Mader 2008, 95), which leads to greater adoption and greater usage.

Rewards and Benefits

The final major theme from the literature to increase usage of a KMS, regardless of its

implementation type, is to create a rewards system, whether the rewards are tangible or

intangible. Recall that knowledge hoarding tends to be a natural human tendency (Bock 2005,

88); rewards and other forms of motivation help to overcome this tendency by creating the trust

necessary for knowledge providers to "share their knowledge on the market" (Zhang 2005, 100).

The study carried out by Bock Gee-Woo and team is worth highlighting separately from other

studies. This team identified three major categories as motivators for contribution, two of which

have to do with rewards and benefits: economic and social-psychological motivators (2005, 91).

The research group also found that economic benefits included "monetary incentives, points

toward promotion, or both as extrinsic motivators for knowledge sharing," while social-

psychological motivators included "anticipated reciprocal relationships" and a "sense of self-

worth" in which "employees see themselves as providing value to their organizations" (Bock

2005, 91). However, the study showed that increased extrinsic rewards, such as economic

benefits, actually hindered rather than promoted "the development of favorable attitudes

toward knowledge sharing" (2005, 98); they suggested an explanation found in earlier literature,

that "extrinsic rewards succeed only at securing temporary compliance" (2005, 99). Anticipation

of reciprocal relationships, however, did much to increase both favorable attitudes as well as

knowledge sharing (2005, 99). These relationships can be formed by "emphasizing efforts to nurture the targeted social relationships and interpersonal interactions of employees *before* launching knowledge-sharing initiatives" [emphasis added] (2005, 101). The results of this study, however, should be taken with a grain of salt by American managers, as it was conducted in a highly collectivist society, and results may vary greatly in other cultures (2005, 100).

However, other sources do discuss the importance of rewards and benefits. Additionally, no other source mentions economic benefits as being of use, tacitly supporting the conclusions from Bock. A manager should note, however, that direct feedback from employees may inaccurately signal a desire for economic rewards. A statement by an employee that they are "not paid to share information" may not be a literal demand for monetary compensation, but rather a notification that "corporate incentives are not aligned with the corporate goals for knowledge sharing" (Holtzblatt 2010, 4672) or that insufficient time is allotted to them to carry out knowledge-sharing activities.

Incentives or rewards may be as simple as recognition by one's superior or higher management in the organization. One software organization found that their wiki KMS had "even started some healthy competition between a few architects, who checked the wiki's activity monitor on a daily basis to see who had the honor of being the 'most active contributor'" (Farenhorst 2008, 5). The rewards in this simple example are manifold: the team receives honor, the contributor receives credit for being part of the team, and the contributor also receives recognition from the architect for enabling the "victory." But most importantly, daily traffic is arriving at the wiki. A manager who makes "a deliberate effort to acknowledge and comment on contributions in […] discussion forums" sends a message to staff that their contributions are acknowledged and recognized (Holtzblatt 2010, 4672). "As wikis gain more corporate support in enterprises, wikis need to be valued in the same way" that "writing a

technical paper or […] publishing a document" might be. This recognition might include

"receiving kudos […] or being noted in a performance review" (Holtzblatt 2010, 4672). In

addition to recognition from management, peer recognition counts as well. For instance, other

ways to recognize employee contribution include allowing other users to rate the quality of

contributions, showing statistics on the extent of a user's contribution, or marking user profiles

with roles such as "Moderator" or "Guru" (Wikipatterns.com 2011, "Recognition"). Statistics on

contribution may include the number of topics for which that user is the primary author, the

number of edits they have, or a peer assessment rating (Wikipatterns.com 2011, "Recognition").

While some of these rewards are still unfamiliar in the corporate world, research is beginning to

recognize their value:

> Some researchers have described the use of social incentives within Wikipedia
>
> (e.g., barnstars) that are designed to enhance a person's reputation within a
>
> community based on the type and level of their contributions to Wikipedia. The
>
> use of similar social incentives within enterprise wikis is worth exploring.
>
> (Holtzblatt 2010, 4672)

Another reward and recognition mechanism that functions well within an enterprise

environment is "providing feedback mechanisms […] that allowed contributors to know whether

and how their contributions were being used" (Holtzblatt 2010, 4672). This may be as simple as

adding a comments field to pages or topics in the anticipation that it would "increase the

likelihood that employees felt it was worthwhile to share information and keep it updated"

(Holtzblatt 2010, 4672). "More generally, organizations need to find explicit ways to

acknowledge and demonstrate that they value the level and extent of an individual's

contributions to a corporate wiki" (Holtzblatt 2010, 4672).

Finally, it is important to note that the benefit a user obtains from the wiki and the rewards or incentives he seeks will vary by individual. While one study found three general categories of rewards – "enhanced reputation, work made easier, and helping the organization to improve its processes," (Majchrzak 2006, 99) – it also found that different groups of people within an organization will have widely different motivations for contributing, and thus, a different set of factors that influence how often they do so (Majchrzak 2006, 103). Most respondents stated that wikis made their work easier, while only a minority said it enhanced their reputation, for instance (Majchrzak 2006, 101). This smaller group, dubbed "Synthesizers", found more value in their impact on other people, while a different group, dubbed "Adders," found benefit in making their own jobs or those of their team easier (Majchzak 2006, 103). Thus, rewards and incentives are important, but should be structured carefully to include all different types of employees and contributors.

In conclusion, a review of the literature shows that knowledge management systems are of increasing importance to all types of businesses, and that wikis are an increasingly popular way to implement a KMS within an organization. An organization's greatest challenge lies in encouraging people to utilize the system, both by adding information and by using the KMS to retrieve information. Adoption and usage can be encouraged through managerial acceptance and support of the corporate culture, through making the wiki easy to use and relatively advantageous over previous means of gathering collective knowledge, through making the wiki and its users highly visible, through providing adequate training and opportunities to try out the new technology, and through an appropriately structured system of rewards and benefits.

Chapter 3: Procedure and Methodology

Survey Procedure

The first stage of the project was intended to refine a general feeling that the departmental wiki could be improved by defining the precise nature of the problems its users were experiencing. Ten specific possible problems were defined based on an initial review of the literature, and these were grouped into four underlying issues.

I.   Users are not sufficiently contributing information to the wiki

   1) Not everyone feels comfortable contributing to the wiki.

   2) Subject matter experts are too busy to contribute.

   3) Employees do not know what information belongs in the wiki and what does not.

   4) Employees do not know where to place or how to organize information that they wish
       to share.

II. Users are not sufficiently accessing information in the wiki

   5) Employees do not remember to use the wiki to look for information.

   6) Users have become frustrated by repeated difficulties in using the wiki

III. Information in the wiki is inaccurate

   7) Existing articles are seldom updated; information is out of date.

   8) Existing information is wrong, even when new; faulty information is common.

IV. Information is difficult to find in the wiki

   9) Important information is missing.

   10) Information is too difficult to find, even when looking for something specific.

A survey was crafted to allow users define the most serious problem or problems (if several were closely related) with the existing wiki system. These problems would be defined as

perceived by its users, the employees of the Software Company's Research & Development department.

The survey was created using SurveyMonkey for several reasons. First, SurveyMonkey's reporting capability was expected to prove useful during analysis. Additionally, SurveyMonkey offered options for distributing the survey and controlling access during and after the survey's open period, and also was able to handle the number of anticipated responses. The survey was structured as described below. Recall that Alexandria is the name of the company whose wiki is in use within the Software Company, and the name is generally used to refer to the wiki.

In the first section, questions followed the following structure:

Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

A.   *{Possible cause number one.}*

B.   *(Possible cause number two.}*

C.   *I strongly disagree with both of these statements.*

For instance, this is first question:

Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

A.   *Articles on Alexandria seem to get out-of-date pretty quickly, resulting in information that is incorrect or incomplete.*

B.   *People sometimes get in a hurry and end up adding information to Alexandria that is either incomplete or incorrect.*

C.   *I strongly disagree with both of these statements.*

The purpose of this section was first: to rank the severity of particular problems by comparing them directly, and second: help identify causes of the four underlying issues once those issues

had been identified in other sections. There were four underlying issues that were implicitly considered in the first section.

For each underlying issue, each possible problem shown in the list above was directly compared to each other problem. For example:

1. "If you are not contributing information, why?" Four possible reasons were offered, and each answer was directly compared to every other.
    a. I'm just too busy to spend much time adding information to Alexandria.
    b. I'm reluctant to contribute new information to Alexandria because I don't know where a new page should belong.
    c. I'm reluctant to contribute new information because I'm not sure if what I know belongs in Alexandria or not.
    d. I feel like I haven't been here long enough or I don't know enough to contribute information to Alexandria.

In the second section questions were titled "To what extent do you agree with the following statements?" and addressed each of the ten original problems with two questions, one in the affirmative and one in the negative. Each question included the following four responses, representing a Likert scale.

    a. That describes my experience very well.
    b. That describes my experience pretty well.
    c. That does not describe my experience very well.
    d. That does not describe my experience at all.

No neutral response was offered to maximize the value of opinions expressed by respondents. Two example questions in this section were "When I need information, I almost always go to Alexandria first as a resource" and "I often forget that Alexandria exists when I need to find information." Each question was asked two different ways to provide confirmation of responses. This section was designed to discover the most pressing problems – that is, the problems that people most often strongly identified as problems.

In the third section, users were asked for their opinions regarding certain activities and attributes of the Alexandria wiki system. These questions also presented options on a Likert scale as follows:

a. I agree with that completely.

b. I agree with that to some extent.

c. I somewhat disagree with that.

d. I completely disagree with that.

As before, a neutral option was omitted so as to maximize the utility of responses. Sample questions from this section included " 'I have a good idea of what belongs in Alexandria and what doesn't.' Select the answer that best represents how much you agree or disagree with the sentence above" and " 'I've noticed that a lot of Alexandria articles appear to have out of date or inaccurate information.' Select the answer that best represents how much you agree or disagree with the sentence above." The ten questions in this section each correspond to the ten problems outlined at the beginning, and were intended to collect information about how often each possible problem was perceived as an issue.

In the fourth section, users were presented with a list of activities, with each asking "How often do you do the following activities in Alexandria?" Sample questions in this section

included "How often do you create new topics / pages? Select the answer that best represents how often you perform the activity above" and "How often do you edit or update pages that someone else primarily wrote? Select the answer that best represents how often you perform the activity above." Answers in this section included the following responses:

a. Once a week or more often

b. A few times per sprint [month]

c. A few times per release cycle

d. Almost never

e. I have never done this.

This section was used to gauge an individual's interaction with the wiki. This would not only directly address problems dealing with a lack of contribution, but also indirectly answer questions about why user interaction with the wiki does or does not happen.

The final section directly invited the respondent to rank the four underlying issues that were identified in the first section, and then define the seriousness of each.

1. Information in Alexandria topics tends to be out of date or just wrong.

2. Important information is not being added to Alexandria.

3. It's difficult to find information in Alexandria, whether or not it's actually there.

4. It's hard to remember to look for information using Alexandria.

Each question had the following options:

a. This is a serious obstacle.

b. This is sometimes a nuisance.

c. This is not something I perceive as an issue.

This section was designed to first gauge the individual severity of the four major underlying issues and then rank them directly. The answers from previous sections would confirm this information as well as provide the cause for each problem addressed.

The survey was sent to all 149 employees in the Research & Development department on November 8th and remained open for three work weeks, closing on November 29th. Anticipated results included identifying a pool of actively contributing users (those who contribute at least once a month) of fewer than twenty people, and that the issue of poor or confusing organization would be the most severe, leading to an unwillingness to contribute and extreme difficulty in finding information.

Recommendations procedure

Based on the review of the literature and the results obtained from the survey, a list of recommendations was crafted. Each recommendation provided a solution to one or more of the most severe issues identified in the survey results. The recommendations were intended to solve the problems that were identified by using one or more of the techniques identified in successful implementations according to the literature. This list of three concrete recommendations for action was submitted to the management of Research & Development for approval. Implementation of the suggestions, to be facilitated by the author, if approved, will take place, but is beyond the scope of the project and this report.

Chapter 4: Results

Survey Analysis and Results

Seventy-five respondents began the survey, and 63 completed it for a completion rate of 84%. Recall that ten possible problems, grouped into four larger issues, were initially called out based upon a preliminary review of the literature.

I. Information is difficult to find in the wiki

    1. Important information is missing.

    2. Information is too difficult to find, even when looking for something specific.

II. Information in the wiki is inaccurate

    3. Existing articles are seldom updated; information is out of date.

    4. Existing information is wrong, even when new; faulty information is common.

III. Users are not sufficiently contributing information to the wiki

    5. Not everyone feels comfortable contributing to the wiki.

    6. Subject matter experts are too busy to contribute.

    7. Employees do not know what information belongs in the wiki and what does not.

    8. Employees do not know where to place or how to organize information that they wish to share.

IV. Users are not sufficiently accessing information in the wiki

    9. Employees do not remember to use the wiki to look for information.

    10. Users have become frustrated by repeated difficulties in using the wiki

The remainder of this chapter will analyze each of the four issues represented by the ten

potential problems, discover the underlying causes, and then determine the most important

issues facing the Research & Development team's use of Alexandria.

Information is difficult to find in Alexandria

Each broad issue poses two questions. First, to what extent is this issue serious? Second,

what explanation can be reached for the causes of the problem? Two possible explanations

were offered as to why information might be difficult to find. One, the information might not be

there at all, and two, it could be there, but might be very hard to find due to unclear

organization or searching features.

Responses from the question that asked survey respondents to directly rank the importance

of the four issues yielded conflicting conclusions.

Rank the following potential issues in order of their severity, as you perceive them, where (1) is the most severe and (4) is the least severe.
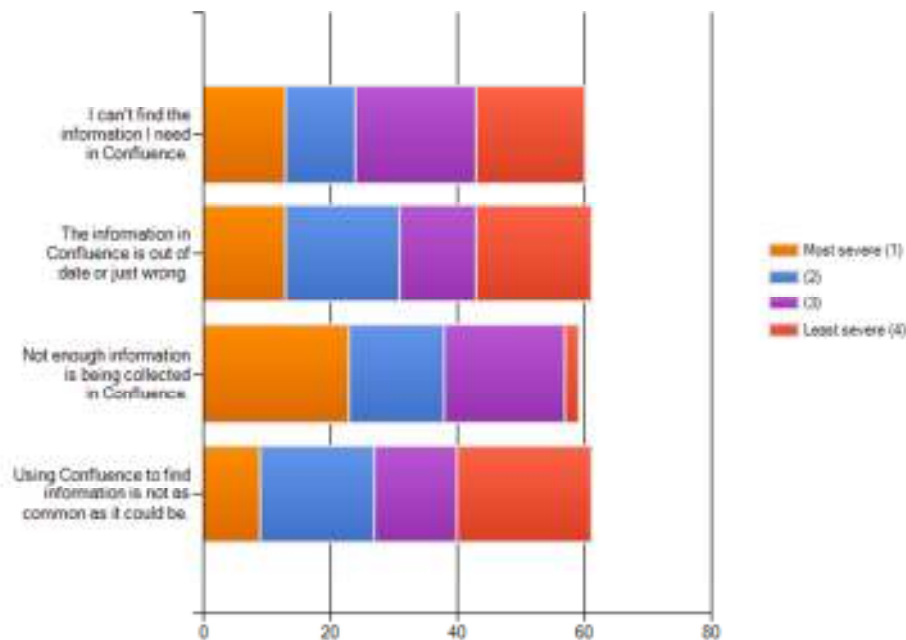
On one hand, more people rated the problem "I can't find the information I need in Alexandria" as the third most severe than gave it any other ranking. However, it is also tied in second place for the most severe issue. Responses to other questions will assist in clarifying this ambiguity.

When asked to directly compare possible causes of the information being hard to find, nearly half of respondents (37 people) said that even if they know it's there, they "often have a hard time finding information on a given topic in Alexandria," while just seventeen people (22.7% of respondents) said that the information was not on Alexandria.

Which of these statements do you agree with most?

Select the statement that best represents your experience with Confluence.

- A lot of the information I need just isn't on Confluence.
- Even if I know it's there, I often have hard time finding information...
- I strongly disagree with both of these statements.
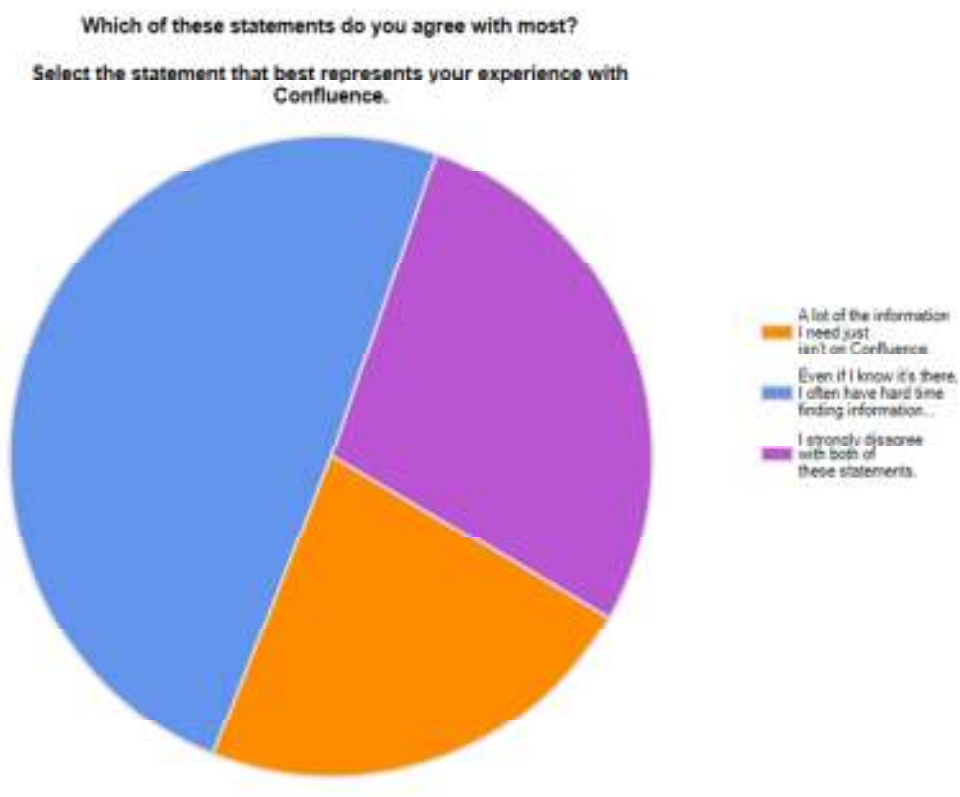
However, later questions again created difficulty interpreting the responses to this seemingly simple question. Roughly half of respondents (49.3%) said that they do have a hard time searching for information, even if they know it's there, while 50.7% disagreed. Similarly, 60.9% of respondents (42 people) agreed that they have a hard time browsing for information

that they know is there. Also, forty people (51.5%) said that they agree with the statement "I

often feel like the information I really need just isn't written anywhere in Alexandria," compared

with twenty-five people who disagreed.

And although being able to find information was most often ranked the third most severe

problem, only two respondents said that it described their experience "very well" to say that

they could almost always find information about the topics they needed, compared to seven

(10.1%) who said that that "does not describe their experience at all."

Part of the difficulty in answering this question lies in the fact that users are finding only the

absence of a thing. A user who does not find what he needs may conclude that it is not there or

may conclude that he simply cannot find it, and be unable to conclusively prove one or the

other. In order to tease apart both the severity of this issue and its underlying cause, a cross-tab

analysis was performed on Question 7 from Page 1:

7. Which of these statements do you agree with most? Select the statement that best represents your experience with Confluence.		Create Chart ⬇ Download	
		Response Percent	Response Count
A lot of the information I need just isn't on Confluence.		22.7%	17
Even if I know it's there, I often have hard time finding information on a given topic in Confluence.		49.3%	37
I strongly disagree with both of these statements.		28.0%	21
		answered question	75
		skipped question	0

The cross-tab analysis of the question created two groups of people: those who stated that

the information they need is not on Alexandria, and those that said they have difficulty finding

information even when they know it's there. This first group, for reasons that will be explained

shortly, will be dubbed Power Users, while the second group will be labeled Learners.

The following chart will describe the differences between Power Users and Learners, with the overall goal of discovering the actual severity of being unable to find information as well as the true underlying cause.

Compared to Learners, Power Users are…	Compared to Power Users, Learners are…
Much more likely to be using Alexandria to find information, having neither given up on it nor forgotten about it.	Much more likely to have given up looking for information on Alexandria.
More familiar with the organization of Alexandria.	More reluctant to contribute information because of unfamiliarity with the organization of Alexandria.
More likely to be using Alexandria to add information, strongly rejecting all four offered explanations as to why someone might not contribute.	Somewhat more likely to say they are too busy to add information to Alexandria.
Less likely to find inaccurate or incorrect information in articles.	Less likely to share newly acquired information on Alexandria.
Somewhat more likely to express uncertainty regarding appropriate content for Alexandria.	Much more likely to have difficulty both searching and browsing for information, even when it is known to exist.
Somewhat more likely to go to Alexandria as a first resource for information.	More likely to forget that Alexandria exists when they need to find information.
Much more likely to be pleased to find	Less likely to feel comfortable contributing

someone has updated an article they created.	information to Alexandria.
Much more likely to search for information once a week or more often.	More likely to have never or almost never updated a topic written by someone else.
More likely to have read Alexandria help topics on a per-sprint or per-release cycle basis.	More likely to have never or almost never read Alexandria help-topics.
More likely to say that out-of-date information is a nuisance.	More likely to say that out-of-date information is a serious obstacle.
More likely to say that information not being added is a serious obstacle.	More likely to say that information not being added is a nuisance.
Much more likely to say that not being able to find information is a nuisance or a non-issue.	Much more likely to say that not being able to find information is a serious obstacle or a nuisance.
Most likely to say that being unable to find information is the least severe issue.	Most likely to say that being unable to find information is the first or third most severe issue.
Most likely to say that the most severe issue is that not enough information is being collected.	More likely to say that the most severe issues are that not enough information is being collected and that the information is difficult to find.

In short, the Power User group both uses Alexandria more often and is more comfortable with its organization and its usage. This group asserts that the information they need is not in Alexandria, because they are confident that if it were, they would have been able to find it.

Since both groups agree that "Not enough information is being collected in Alexandria" is a very severe issue, while only the Learners assert that being unable to find the information is the most serious, this will diminish the overall concluded severity of being unable to find the information. This is not to neglect the Learner group, as they were more than twice as numerous as the Power Users. However, the conclusion is that what would make information easier to find for this group is increased education, training or practice, as opposed to a systemic change.

Information in Alexandria is inaccurate

Two possible explanations were offered for why there might be inaccurate information in the Alexandria wiki. First, the information could be wrong simply because it has become out of date and the page has been neglected; alternatively, the information might have been entered incorrectly, and been wrong since it was created. The overall severity of this issue must be considered, as before.

When asked to directly compare the four issues, survey respondents stated that this was the third most severe issue of the four presented, indicating an overall low priority problem.

Rank the following potential issues in order of their severity, as you perceive
them, where (1) is the most severe and (4) is the least severe.
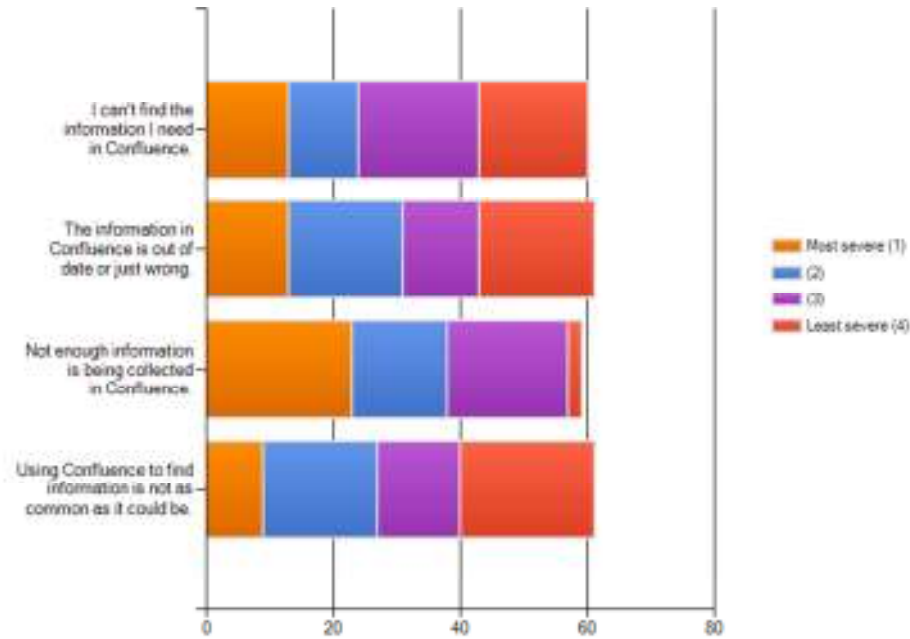
When asked to directly compare information being wrong versus it simply being out of date,

users confirm the theory that this is not very severe by rejecting both alternatives nearly forty

percent of the time.

Which of these statements do you agree with most?

Select the statement that best represents your experience with
Confluence.
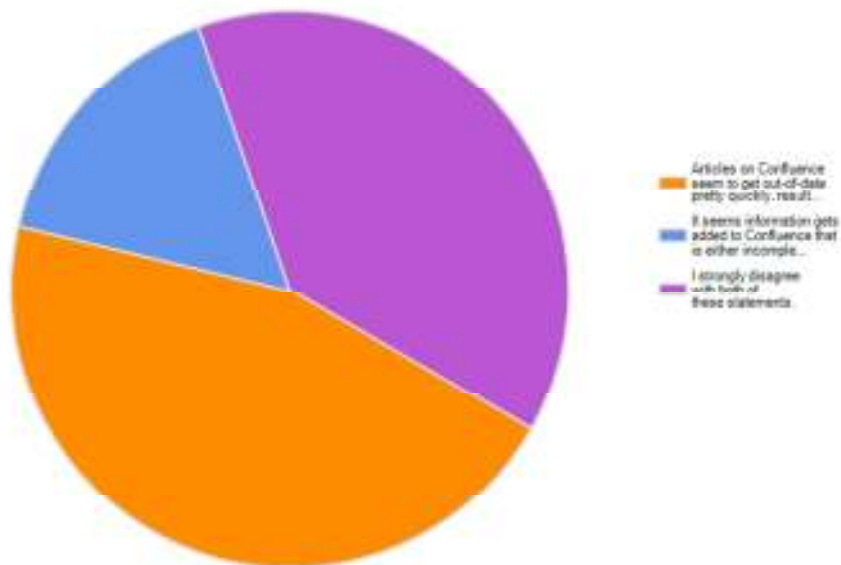
Of the other 60 percent, information being out of date was the preferred explanation for why information might be inaccurate by three to one. In later questions, 66.2% of respondents (43 people) agreed that "a lot of Alexandria articles appear to have out of date or inaccurate information," while 69.2% (45 people) rejected there being "wrong or incomplete information in Alexandria articles, even when they're pretty new." In addition, 58.5% of respondents (38 people) are "usually impressed at how complete and correct new articles are." These answers combined suggest that inaccuracies in new articles are not perceived as an issue among users; in fact, accuracy of new information may be a point of pride for the wiki. Out-of-date articles are a bigger problem, but even they are not considered to be among the most severe issues facing users of the wiki.

Users are not sufficiently contributing to Alexandria

Four possible explanations were offered to determine why users might not contribute their knowledge to the Alexandria wiki. First, an employee might feel intimidated or unwelcome to contribute their knowledge, perhaps because he is less experienced. Second, an employee might feel uncomfortable with the organization of the wiki, and so avoid contributing to avoid making a mistake. Similarly, an employee might not be confident in the purpose of the wiki, and so avoid contributing to avoid adding extraneous information in the wrong place. Finally, an employee might simply believe she lacks the time to contribute her knowledge to the wiki. As usual, the overall severity of this issue must be determined, regardless of its root cause.

As stated in the section discussing the difficulty of finding information in Alexandria, both the Power User and Learner groups considered the overall lack of contribution to be an issue of high severity.

Rank the following potential issues in order of their severity, as you perceive them, where (1) is the most severe and (4) is the least severe.
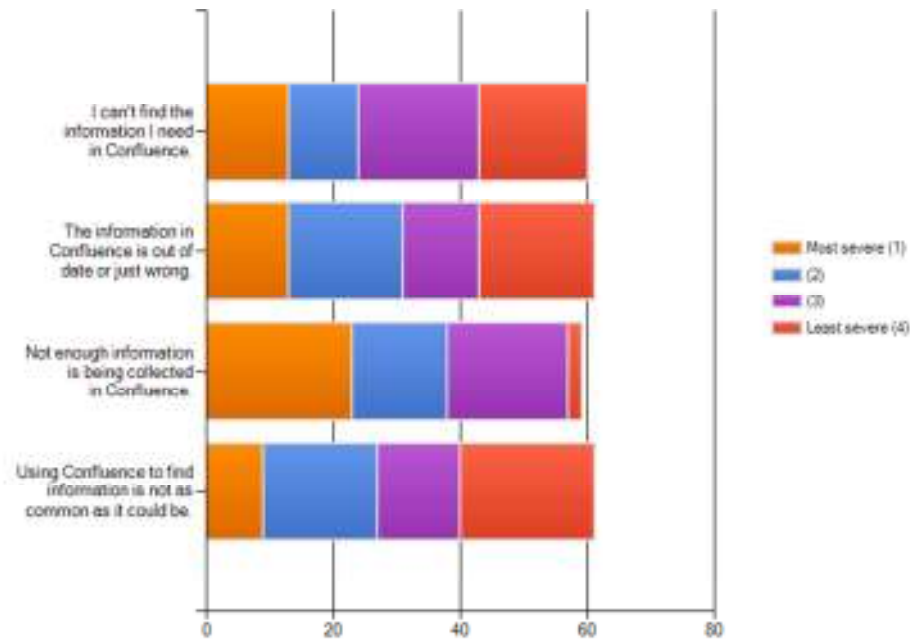
In fact, across the board it was most often rated the most severe issue, and almost never rated the least severe issue. According to the literature review, this is logical, as most studies have focused on the question, "How do we get more people to contribute their knowledge to our knowledge management system?"

Given the importance of the issue, it is of particular importance to determine why users in this particular environment are not sharing the knowledge they have. When each of the four offered explanations is compared against each other, they rank as follows.

1. I'm just too busy to spend much time adding information to Alexandria.

2. I'm reluctant to contribute new information to Alexandria because I don't know where a new page should belong.

3. I'm reluctant to contribute new information because I'm not sure if what I know belongs in Alexandria or not.

4. I feel like I haven't been here long enough or I don't know enough to contribute information to Alexandria.

Unfortunately, none of these explanations adequately captures true causes for not contributing information, as self-reported. The 'none of the above' option, "I strongly disagree with both of these statements," is by far the most popular response in all questions considering the two causes. The most popular explanation, being busy, at best ties or nearly ties with the 'none of the above' option.

A new cross-tab analysis helps uncover underlying causes. First, an analysis filtered out the group that is actively contributing by considering only the people who responded that they have 'never' or 'almost never' created a new page or topic. This group has the following characteristics.

- They are equally unfamiliar with both the organization and the purpose of the wiki, which is likely to make them reluctant to contribute new information.

- They are most likely to attribute any non-contribution to being too busy to add information to the wiki.

A cross-tab analysis of only those users to have never or almost never updated a page they wrote themselves produces similar results, strengthening this conclusion.

Therefore, the best ways to overcome this issue, considered very severe by most users, are (1) to make updating the wiki an important part of one's work and (2) by improving education regarding the organization (first) and the purpose (second) of the wiki. Other possible courses of action may be suggested by the literature, even if they were not specifically addressed within the survey.

Users are not sufficiently retrieving information from Alexandria

Two alternative explanations were offered to explain why employees may not be using Alexandria to retrieve information. First, employees may simply be forgetting that the wiki exists at all. Alternatively, employees may be deliberately avoiding the wiki, perhaps out of frustration with previous experiences. As always, determining the relative severity of this proposed issue is necessary.

Responses to this question indicate that

- First, this is not a very serious problem. Nearly half of the respondents rejected both explanations for why they might not access information from the wiki.

- Second, among those do say they are not using Alexandria often, forgetting to do so is more than twice as common an explanation as deliberately not using the wiki.

Which of these statements do you agree with most?

Select the statement that best represents your experience with Confluence.
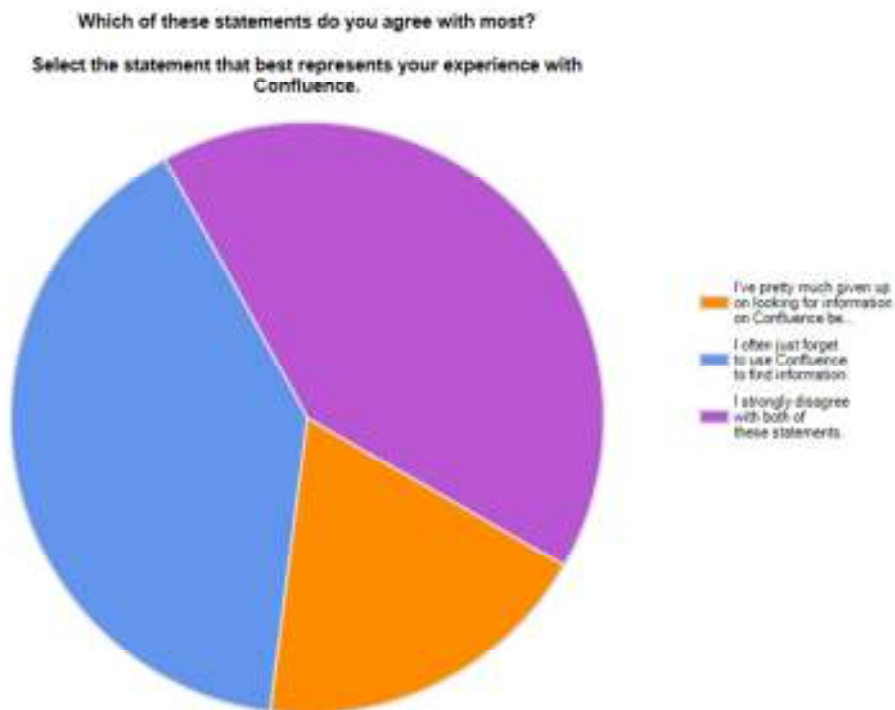
These conclusions suggest that increasing the visibility of the wiki within the department would be of greater value than taking steps to demonstrate the advantages of the system to a

skeptical audience. However, as evidenced by the response to a question asking participants to

directly rank the four issues, neither response should be considered a high priority.

Rank the following potential issues in order of their severity, as you perceive
them, where (1) is the most severe and (4) is the least severe.
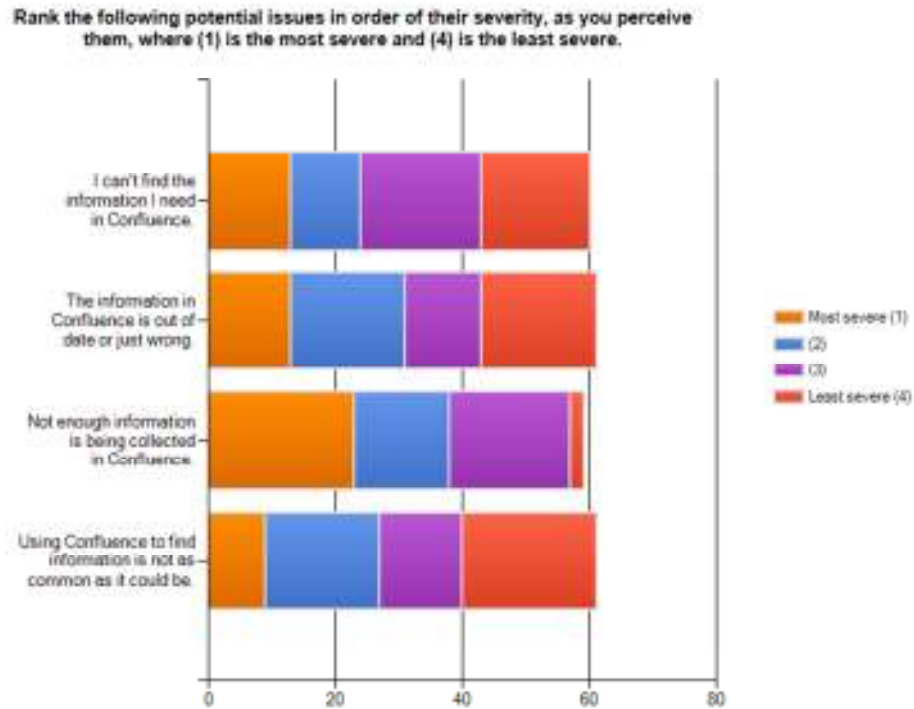
People not using Alexandria to find information was most often considered to be the least

severe problem. When asked directly, user responses confirmed this conclusion.

"It's hard to remember to look for information using Confluence."

Select the answer that best represents how serious a problem you
believe the statement above to be.
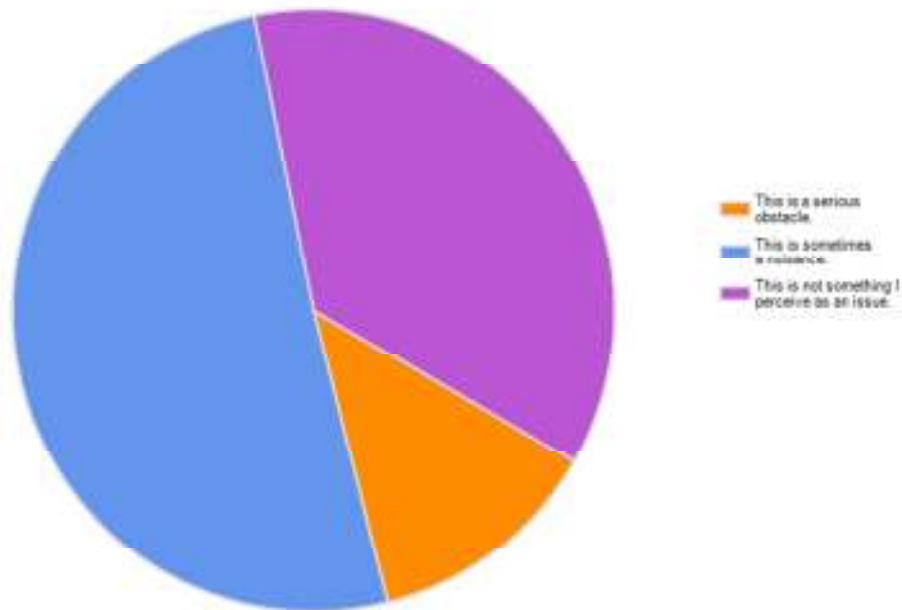
The vast majority of respondents said that not using Alexandria was "a nuisance" or even less severe than that.

Survey Conclusions

Overall, then, the four issues, in descending order of perceived severity are as follows:

1. Employees not contributing their knowledge to the Alexandria wiki.

2. Users being unable to find information, principally due to the information's absence and not to non-intuitive organization.

3. Data being incomplete or inaccurate data, due to articles becoming out of date.

4. Employees not remembering to use Alexandria as a resource.

Because some of these share the same underlying causes, they can be combined to form the following issues, which comprise the three top difficulties facing users of Alexandria within the Software Company's R&D department:

Issue One: Contribution. The most serious issue is users being unable to find information in Alexandria because the information desired is not being added to the wiki.

Issue Two: Updating. The second most serious issue to address is that the information in Alexandria tends to become outdated. This is also dependent on the time that users spend adding information to the wiki.

Issue Three: Education. The third most serious issue is users being unable to find information in Alexandria or unwilling to contribute information to it due to overall unfamiliarity with the organization, purpose, and usage of the wiki.

Change Recommendations

These issues suggest a solution in two parts: first, establish one or several means to encourage contribution to the wiki knowledge management system, both on new topics as well as existing ones, when the topic makes updating relevant; second, establish one or several means to increase employees' familiarity with the organization, purpose, and usage of the knowledge management system.

However, knowing what must be done, that is, the requirements of a project, is still a far cry from knowing the most effective way to design and execute, or implement, the project. It is for the design and implementation of a solution that this project returns to the literature.

The literature highlights the importance of having a corporate culture that is open to innovativeness and knowledge-sharing. Almost by definition, a Research and Development team in a highly technical field must promote innovation, and the one at the Software Company is no exception. Additionally, the team has long had a healthy culture of knowledge sharing. Employees are expected to help one another with questions and difficulties, teaching what they know to others. A solution to promoting the use of the wiki KMS does not need to explicitly

address these features. On the other hand, there is no visible champion of the wiki within the department, managerial or otherwise, and the literature demonstrates that having champions is critical to the success of any KMS. A solution should allow for the creation and increased visibility of active wiki champions within the department.

Another aspect of a successful KMS that is underscored by the literature is that it be easy to use and relatively advantageous. Again, the survey does not directly address the ease of use of the wiki on Alexandria. However, one may safely surmise that in most, a workforce that is sufficiently skilled to build and release a highly complex software product is also sufficiently technically able to learn to navigate a wiki without too much difficulty. A solution need not focus on making the wiki easier to use. The survey does, however, indicate that the relative advantages of using Alexandria may be unclear to users. Note, for example, that less than 25% of respondents said that Alexandria was their first resource for information. A successful solution should therefore incorporate some demonstration of relative advantage over less efficient, less public information exchange mechanisms for the information being captured.

The literature also recommends making both the wiki and its users as visible as possible. The survey suggests that the wiki is already highly visible: forgetting to use Alexandria is rare, and users' not retrieving information was the least serious issue. Visibility of the users, however, is well represented within the wiki, but not beyond it. An ideal solution should make some effort at increasing the visibility of active contributors.

Training and the chance to try out features on a KMS are also recommended within the literature. Each user on Alexandria already has a user space created, so the option to try out new features and a good space to do so already exist. A solution need not incorporate creating increased trialability. On the other hand, training on the system is virtually nonexistent. New employee orientation is centered on the wiki (which helps its visibility), but there is only one

brief paragraph on how to use it. A solution for improving the use of Alexandria should incorporate additional opportunities for users to learn more about how to use the tool.

Finally, the literature highlights the importance of rewards and recognition in promoting the use of a wiki KMS. This is also not specifically addressed in the survey, though there are no current programs recognizing Alexandria contributors. A solution for improving the use of Alexandria should create some mechanism for recognizing and rewarding helpful use of the wiki.

Combining all of these attributes of a successful solution with the actual problems facing the users and use of the Alexandria knowledge management system, this project proposes the following steps be taken.

- **Lunch and Learn**: Once a quarter, invite an active contributor to Alexandria to host a one-hour "lunch and learn" seminar discussing a new or interesting topic related to using the wiki. These may be how-to oriented, they may explain a new or little-used feature, they may illustrate how one team or individual is effectively using the wiki, or they may focus on any other topic related to using the wiki.

  Benefits: A quarterly Lunch and Learn creates known champions in those who are willing to speak on a topic, and, when the speaker is in a management or team lead role, also signals managerial resources and acceptance. It promotes visibility of the tool and of select users, and some sessions (though not necessarily all) may demonstrate the relative advantage of Alexandria over other ways of sharing knowledge. Some sessions (though not necessarily all) will also train new or inexperienced users. A speaker's being recognized as an expert on the subject also creates recognition and intangible rewards among his peers. Incorporating these patterns of success promotes increased use of the wiki, which address issues of Contribution and Updating, the first and second main issues. Increased training also directly addresses the third main issue, Education.

- **New Employee User Spaces**: While going through new employee orientation, invite

    users to introduce themselves to the team by personalizing their user space on

    Alexandria. This is not intended to replace, but rather to enhance the practice of

    walking a new employee around to meet his or her new coworkers.

    Benefits: Incorporating a new step involving Alexandria in new employee orientation,

    which is already a busy time, is a strong signal of managerial buy-in. It indicates that this

    is an important tool, and one which management wants people to use and master right

    away. It increases the visibility of the tool, and immediately gives the new user

    increased presence within Alexandria. Training and trialability are principally enhanced

    by this recommendation, as the user space is a safe place for a new user to try out the

    new tool without publicly making mistakes. It also invites exploration and learning at a

    time when he or she still has time set aside to learn and explore, and sets a pattern for

    future use. Training directly enhances the issue of Education, as discussed with Lunch

    and Learn, and implementing other patterns also contributes to increasing contribution,

    mitigating the issues of Contribution and Updating, as the new employee gets up to

    speed.

- **Article Feedback**: Add an Alexandria macro or similar utility to the most-used page

    templates that allows the readers of a page or topic to rate it in terms of how helpful it

    was to them. As a bonus, managers may look through the pages created in their space

    and choose to recognize the author(s) of a particularly well-written, helpful topic.

    Benefits: If managers, team leads or architects choose to recognize the author(s) of well-

    written topics, it indicates managerial support of the wiki and encourages others to

    participate. It also creates rewards and recognition. Even if some do not, however, the

    author(s) still receive the recognition of their peers and the intangible reward of their

praise, a factor shown in the literature to be highly significant among professionals.

Providing feedback also clearly indicates which articles need attention, promoting

community and creating incentive to revise existing articles, addressing the issue of

Updating, specifically, and Contribution, more generally. This suggestion is not intended

to provide benefits for the issue of Education.

The following diagram summarizes the proposed solutions as well as the issues they address and

the solution criteria that they meet.

		Solution		
		Lunch and Learn	*New Employee User Spaces*	*Article Feedback*
Specific Issues	*Contribution*	Yes	Yes	Yes
	Updating	Yes	No	Yes
	Education	Yes	Yes	No
Solution Criterion	*Corporate Culture / Champions / Managerial Buy-In*	Yes	Yes	Sometimes
	Ease of Use / Relative Advantage	Sometimes	Yes	No
	High Visibility	Yes	Yes	Yes
	Training and Trialability	Yes	Yes	No
	Rewards and Recognition	Yes	No	Yes

Non-Issues and Positives

It is worth noting several items that the survey revealed are going well.

- Users are not intimidated into not contributing simply because they are new to the organization. Nor should they be – the vast majority is not annoyed, but rather pleased by the contributions of others.

- When new articles are written, they are written very well. A large number of people are impressed by the information contained in new articles, and do not find incorrect information in them.

- Not using Alexandria is not a severe problem, and people are not ignoring it. Twenty-seven people agreed that they forget about it, while forty-two disagreed. "Using Alexandria to find information is not common" is most often perceived as the least severe issue, with twenty-three people saying it is a non-issue.

- In general, users have a fair idea of what Alexandria is intended for. Forty-six agreed that they do, while nineteen said that they did not understand its purpose.

Chapter 5: Conclusions and Suggestions for Additional Work

Limitations and Flaws of the Survey

This survey, if it were to be used again, should correct several shortcomings.

First, the survey did not adequately capture why people do not contribute information more often. Over half of respondents rarely or never add new information, yet of the four proffered possible reasons, not one did better than tie with the "strongly disagree" option, a "none of the above"-type alternative. This is troublesome as one of the main problems was of contribution: the problem would be much easier to overcome if it were defined with greater precision.

Second, while a cross-tab analysis aided in inferring the outcome, the survey should be modified to make it much easier to distinguish whether information could not be found because it is not there or because the intrinsic organization makes it hard to find. This may not be a simple modification, however. It is conceivable that the frustrated user cannot distinguish these options either; all he knows is that he cannot find the information he wants, and he does not know whether it lurks just beyond his grasp or is beyond the ken of mortal man.

Conclusions

This project began in the idea that Alexandria, the internal knowledge management wiki of the Software Company's R&D team, was a good start and a useful tool, but would benefit from attention and improvements. The wiki's previous champion had moved to another company, and no visible leader had taken its place. Users expressed various difficulties, and one starting hypothesis of this project was that the wiki itself was disorganized and difficult to use, thereby turning away many potential users.

A survey was sent out to all the employees in the Research and Development team to determine the precise nature of any pain points in the existing system, the absolute severity of those pain points, and their relative severity with respect to each other. It was found that the most pressing issues according to the users were (1) a need for increased user contribution to overall knowledge stored in the wiki, (2) a pressure for articles about ongoing subjects or processes to be periodically updated, and (3) a need for increased training and education on the system, both for new users and for those who were still learning it.

A review of the literature on making effective use of wiki knowledge management systems was undertaken, revealing key attributes of a successful implementation. The most successful and effective KMS solutions had the following attributes:

- High managerial buy-in, a visible network of champions, and a corporate culture promoting innovation and knowledge sharing;

- High ease of use and greater perceived relative advantage over previous knowledge sharing utilities;

- High visibility for both the KMS and its users;

- Available training for users and a high degree of trialability; and

- A system of rewards and recognition for users who make effective use of the KMS.

The problems revealed by the survey, combined with the attributes of a successful system, prompted a three-part solution, presented as recommendations to the managers of Research & Development. These recommendations included beginning a program of quarterly Lunch and Learn seminars, encouraging new employees to customize their user pages, and creating and using a mechanism for capturing user feedback on wiki pages.

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Appendix A: Survey

Section One

Which of these statements do you agree with most?
A. I've pretty much given up on looking for information on Alexandria because I can't ever find what I was after.
B. Most of the time, I just forget to use Alexandria to find information.
C. I strongly disagree with both of these statements.

Which of these statements do you agree with most?
A. I'm reluctant to contribute new information because I'm not sure if what I know belongs in Alexandria or not.
B. I'm reluctant to contribute new information to Alexandria because I don't know where a new page should belong.
C. I strongly disagree with both of these statements.

Which of these statements do you agree with most?
A. Articles on Alexandria seem to get out-of-date pretty quickly, resulting in information that is incorrect or incomplete.
B. People sometimes get in a hurry and end up adding information to Alexandria that is either incomplete or incorrect.
C. I strongly disagree with both of these statements.

Which of these statements do you agree with most?
A. I'm just too busy to spend much time adding information to Alexandria.
B. I'm reluctant to contribute new information to Alexandria because I don't know where a new page should belong.
C. I strongly disagree with both of these statements.

Which of these statements do you agree with most?
A. I'm just too busy to spend much time adding information to Alexandria.
B. I'm reluctant to contribute new information because I'm not sure if what I know belongs in Alexandria or not.
C. I strongly disagree with both of these statements.

Which of these statements do you agree with most?
A. I feel like I haven't been here long enough or I don't know enough to contribute information to Alexandria.
B. I'm reluctant to contribute new information to Alexandria because I don't know where a new page should belong.
C. I strongly disagree with both of these statements.

Which of these statements do you agree with most?

A. A lot of the information I need just isn't on Alexandria.
B. Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.
C. I strongly disagree with both of these statements.

Which of these statements do you agree with most?

A. I feel like I haven't been here long enough or I don't know enough to contribute information to Alexandria.
B. I'm reluctant to contribute new information because I'm not sure if what I know belongs in Alexandria or not.
C. I strongly disagree with both of these statements.

Which of these statements do you agree with most?

A. I feel like I haven't been here long enough or I don't know enough to contribute information to Alexandria.
B. I'm just too busy to spend much time adding information to Alexandria.
C. I strongly disagree with both of these statements.

Section Two

To what extent do you agree with the following statements?

"If I learn something new or spend a lot of time focused on one thing, I'm pretty good about being sure I share what I found out on Alexandria."

1. I agree with that completely.
2. I agree with that to some extent.
3. I somewhat disagree with that.
4. I couldn't disagree more with that.

"I am almost always able to find information in Alexandria about the topics I need."

1. I agree with that completely.
2. I agree with that to some extent.
3. I somewhat disagree with that.
4. I couldn't disagree more with that.

"More often than not, I forget that Alexandria exists when I need to find information on something."

1. I agree with that completely.
2. I agree with that to some extent.
3. I somewhat disagree with that.
4. I couldn't disagree more with that.

"I would say I have a good idea of what belongs in Alexandria and what does not."

1. I agree with that completely.
2. I agree with that to some extent.

3. I somewhat disagree with that.
4. I couldn't disagree more with that.

"A lot of the time, I have a hard time finding information on a particular topic in Alexandria, even if I know it's there."
1. I agree with that completely.
2. I agree with that to some extent.
3. I somewhat disagree with that.
4. I couldn't disagree more with that.

"When I need information, I almost always go to Alexandria first as a resource."
1. I agree with that completely.
2. I agree with that to some extent.
3. I somewhat disagree with that.
4. I couldn't disagree more with that.

"I have more than once refrained from writing up something I know in Alexandria because I wasn't sure where to put the information I had."
1. I agree with that completely.
2. I agree with that to some extent.
3. I somewhat disagree with that.
4. I couldn't disagree more with that.

"I would say I have a good idea of how Alexandria is organized, on the whole."
1. I agree with that completely.
2. I agree with that to some extent.
3. I somewhat disagree with that.
4. I couldn't disagree more with that.

"I have more than once refrained from writing up something I know in Alexandria because I wasn't sure if it belonged there or not."
1. I agree with that completely.
2. I agree with that to some extent.
3. I somewhat disagree with that.
4. I couldn't disagree more with that.

"I am pleased when I find that someone has updated an Alexandria article that I contributed to."
1. I agree with that completely.
2. I agree with that to some extent.
3. I somewhat disagree with that.
4. I couldn't disagree more with that.

"I get annoyed when I find that someone has written over an Alexandria article that I wrote."
1. I agree with that completely.

2. I agree with that to some extent.
3. I somewhat disagree with that.
4. I couldn't disagree more with that.

"A lot of the time, I feel like the information I really need just isn't written anywhere in Alexandria."
1. I agree with that completely.
2. I agree with that to some extent.
3. I somewhat disagree with that.
4. I couldn't disagree more with that.

 "I've noticed that a lot of Alexandria articles appear to have out of date or inaccurate information."
1. I agree with that completely.
2. I agree with that to some extent.
3. I somewhat disagree with that.
4. I couldn't disagree more with that.

"I am usually impressed by how up-to-date the information in Alexandria articles is."
1. I agree with that completely.
2. I agree with that to some extent.
3. I somewhat disagree with that.
4. I couldn't disagree more with that.

"I often find wrong or incomplete information in Alexandria articles, even when they're pretty new."
1. I agree with that completely.
2. I agree with that to some extent.
3. I somewhat disagree with that.
4. I couldn't disagree more with that.

"I am usually impressed at how complete and correct new Alexandria articles are."
1. I agree with that completely.
2. I agree with that to some extent.
3. I somewhat disagree with that.
4. I couldn't disagree more with that.

"I always feel comfortable contributing what I know to Alexandria, whether that's adding a new article or editing an existing one."
1. I agree with that completely.
2. I agree with that to some extent.
3. I somewhat disagree with that.
4. I couldn't disagree more with that.

"I have more than once refrained from contributing my knowledge on Alexandria because I didn't feel comfortable editing someone else's work."

1. I agree with that completely.
2. I agree with that to some extent.
3. I somewhat disagree with that.
4. I couldn't disagree more with that.

Section Three

How often do you do the following activities in Alexandria?

…create new topics / pages?

1. Once a week or more often.
2. A few times per sprint.
3. A few times per release cycle.
4. Almost never.
5. I have never done this.

…search for information on a topic?

1. Once a week or more often.
2. A few times per sprint.
3. A few times per release cycle.
4. Almost never.
5. I have never done this.

… edit or update pages that someone else primarily wrote?

1. Once a week or more often.
2. A few times per sprint.
3. A few times per release cycle.
4. Almost never.
5. I have never done this.

…edit or update page that you primarily wrote?

1. Once a week or more often.
2. A few times per sprint.
3. A few times per release cycle.
4. Almost never.
5. I have never done this.

…tag or categorize pages or files?

1. Once a week or more often.
2. A few times per sprint.
3. A few times per release cycle.
4. Almost never.
5. I have never done this.

…move a page from one parent to another?
1. Once a week or more often.
2. A few times per sprint.
3. A few times per release cycle.
4. Almost never.
5. I have never done this.

…create a new page template?
1. Once a week or more often.
2. A few times per sprint.
3. A few times per release cycle.
4. Almost never.
5. I have never done this.

…read help or how-to topics?
1. Once a week or more often.
2. A few times per sprint.
3. A few times per release cycle.
4. Almost never.
5. I have never done this.

Section Four

How serious a problem is each of the following issues?

Important information is not being added to topics in Alexandria.
1. This is a serious obstacle.
2. This is sometimes a nuisance.
3. This is not an issue I often encounter.

Information in Alexandria topics is out of date or just wrong.
1. This is a serious obstacle.
2. This is sometimes a nuisance.
3. This is not an issue I often encounter.

It's difficult to find information in Alexandria, whether or not it's actually there.
1. This is a serious obstacle.
2. This is sometimes a nuisance.
3. This is not an issue I often encounter.

It's hard to remember to look for information using Alexandria.
1. This is a serious obstacle.
2. This is sometimes a nuisance.
3. This is not an issue I often encounter.

Rank the following problems in order of their severity, where 1 is the MOST severe and 4 is not at all severe:

_____ I can't find the information I need in Alexandria.

_____ The information in Alexandria is out of date or just wrong.

_____ Not enough information is being collected in Alexandria.

_____ No one seems to be using Alexandria to find information.

Appendix B: Survey Results

1. Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

	answered question	**75**
	skipped question	**0**
	Response Percent	**Response Count**
I've pretty much given up on looking for information on Alexandria because I can't ever find what I was after.	18.70%	14
I often just forget to use Alexandria to find information.	40.00%	30
I strongly disagree with both of these statements.	41.30%	31

2. Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

	answered question	**75**
	skipped question	**0**
	Response Percent	**Response Count**
I'm reluctant to contribute new information because I'm not sure if what I know belongs in Alexandria or not.	20.00%	15
I'm reluctant to contribute new information to Alexandria because I don't know where a new page should belong.	25.30%	19
I strongly disagree with both of these statements.	54.70%	41

3. Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

	answered question	**75**
	skipped question	**0**
	Response Percent	**Response Count**
Articles on Alexandria seem to get out-of-date pretty quickly, resulting in information that is incorrect or incomplete.	45.30%	34
It seems information gets added to Alexandria that is either incomplete or incorrect.	16.00%	12

I strongly disagree with both of these statements.   38.70%   29

4. Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

	answered question	**75**
	skipped question	**0**
	Response Percent	**Response Count**

	Response Percent	Response Count
I'm just too busy to spend much time adding information to Alexandria.	41.30%	31
I'm reluctant to contribute new information to Alexandria because I don't know where a new page should belong.	17.30%	13
I strongly disagree with both of these statements.	41.30%	31

5. Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

	answered question	**75**
	skipped question	**0**
	Response Percent	**Response Count**

	Response Percent	Response Count
I'm just too busy to spend much time adding information to Alexandria.	37.30%	28
I'm reluctant to contribute new information because I'm not sure if what I know belongs in Alexandria or not.	21.30%	16
I strongly disagree with both of these statements	41.30%	31

6. Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

	answered question	**75**
	skipped question	**0**
	Response Percent	**Response Count**

	Response Percent	Response Count
I feel like I haven't been here long enough or I don't know enough to contribute information to Alexandria.	17.30%	13
I'm reluctant to contribute new information to Alexandria because I don't know where a new page should belong.	29.30%	22
I strongly disagree with both of these statements.	53.30%	40

7. Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

	answered question	75
	skipped question	0
	Response Percent	Response Count

	Response Percent	Response Count
A lot of the information I need just isn't on Alexandria.	22.70%	17
Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	49.30%	37
I strongly disagree with both of these statements.	28.00%	21

8. Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

	answered question	75
	skipped question	0
	Response Percent	Response Count

	Response Percent	Response Count
I feel like I haven't been here long enough or I don't know enough to contribute information to Alexandria.	14.70%	11
I'm reluctant to contribute new information because I'm not sure if what I know belongs in Alexandria or not.	24.00%	18
I strongly disagree with both of these statements.	61.30%	46

9. Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

	answered question	75
	skipped question	0
	Response Percent	Response Count

	Response Percent	Response Count
I feel like I haven't been here long enough or I don't know enough to contribute information to Alexandria.	18.70%	14
I'm just too busy to spend much time adding information to Alexandria.	40.00%	30
I strongly disagree with both of these statements.	41.30%	31

1. "When I have new information, I usually share it on Alexandria." Select the answer that best represents how much you agree or disagree with the sentence above.

	answered question	69
	skipped question	6
	Response Percent	Response Count
That describes my experience very well.	7.20%	5
That describes my experience pretty well.	23.20%	16
That does not describe my experience very well.	47.80%	33
That does not describe my experience at all.	21.70%	15

2. "I often have a hard time searching for information on a particular topic in Alexandria, even if I know it's there." Select the answer that best represents how much you agree or disagree with the sentence above.

	answered question	69
	skipped question	6
	Response Percent	Response Count
That describes my experience very well.	11.60%	8
That describes my experience pretty well.	37.70%	26
That does not describe my experience very well.	34.80%	24
That does not describe my experience at all.	15.90%	11

3. "I am almost always able to find information in Alexandria about the topics I need." Select the answer that best represents how much you agree or disagree with the sentence above.

	answered question	69
	skipped question	6
	Response Percent	Response Count
That describes my experience very well.	2.90%	2
That describes my experience pretty well.	43.50%	30
That does not describe my experience very well.	43.50%	30
That does not describe my experience at all.	10.10%	7

4. "I often forget that Alexandria exists when I need to find information on something." Select the answer that best represents how much you agree or disagree with the sentence above.

	answered question	69
	skipped question	6

	Response Percent	Response Count
That describes my experience very well.	8.70%	6
That describes my experience pretty well.	30.40%	21
That does not describe my experience very well.	33.30%	23
That does not describe my experience at all.	27.50%	19

5. "I often have a hard time finding information on a particular topic in Alexandria by browsing, even if I know it's there." Select the answer that best represents how much you agree or disagree with the sentence above.

answered question		**69**
skipped question		**6**
	Response Percent	Response Count

	Response Percent	Response Count
That describes my experience very well.	20.30%	14
That describes my experience pretty well.	40.60%	28
That does not describe my experience very well.	31.90%	22
That does not describe my experience at all.	7.20%	5

6. "When I need information, I almost always go to Alexandria first as a resource." Select the answer that best represents how much you agree or disagree with the sentence above.

answered question		**69**
skipped question		**6**
	Response Percent	Response Count

	Response Percent	Response Count
That describes my experience very well.	0.00%	0
That describes my experience pretty well.	24.60%	17
That does not describe my experience very well.	55.10%	38
That does not describe my experience at all.	20.30%	14

7. "Sometimes I don't add information to Alexandria because I don't know where it should go." Select the answer that best represents how much you agree or disagree with the sentence above.

answered question		**69**
skipped question		**6**
	Response Percent	Response Count

	Response Percent	Response Count
That describes my experience very well.	5.80%	4
That describes my experience pretty well.	39.10%	27
	31.90%	22

That does not describe my experience very well.

That does not describe my experience at all.   23.20%   16

8. "Sometimes I don't add information on Alexandria I don't feel comfortable editing someone else's work." Select the answer that best represents how much you agree or disagree with the sentence above.

	answered question	69
	skipped question	6
	Response Percent	Response Count
That describes my experience very well.	11.60%	8
That describes my experience pretty well.	26.10%	18
That does not describe my experience very well.	37.70%	26
That does not describe my experience at all.	24.60%	17

9. "Sometimes I don't add information to Alexandria because I'm not sure whether it belongs there or not." Select the answer that best represents how much you agree or disagree with the sentence above.

	answered question	69
	skipped question	6
	Response Percent	Response Count
That describes my experience very well.	8.70%	6
That describes my experience pretty well.	34.80%	24
That does not describe my experience very well.	31.90%	22
That does not describe my experience at all.	24.60%	17

1. "I have a good idea of what belongs in Alexandria and what does not." Select the answer that best represents how much you agree or disagree with the sentence above.

	answered question	65
	skipped question	10
	Response Percent	Response Count
I agree with that completely.	21.50%	14
I agree with that to some extent.	49.20%	32
I somewhat disagree with that.	20.00%	13
I completely disagree with that.	9.20%	6

2. "I am pleased when I find that someone has updated an Alexandria article that I contributed to." Select the answer that best represents how much you agree or disagree with the sentence above.

	answered question	65
	skipped question	10
	Response Percent	**Response Count**
I agree with that completely.	50.80%	33
I agree with that to some extent.	43.10%	28
I somewhat disagree with that.	4.60%	3
I completely disagree with that.	1.50%	1

3. "I would say I have a good idea of how Alexandria is organized, on the whole." Select the answer that best represents how much you agree or disagree with the sentence above.

	answered question	65
	skipped question	10
	Response Percent	**Response Count**
I agree with that completely.	6.20%	4
I agree with that to some extent.	44.60%	29
I somewhat disagree with that.	33.80%	22
I completely disagree with that.	15.40%	10

4. "I often feel like the information I really need just isn't written anywhere in Alexandria." Select the answer that best represents how much you agree or disagree with the sentence above.

	answered question	65
	skipped question	10
	Response Percent	**Response Count**
I agree with that completely.	13.80%	9
I agree with that to some extent.	47.70%	31
I somewhat disagree with that.	30.80%	20
I completely disagree with that.	7.70%	5

5. "I get annoyed when I find that someone has written over an Alexandria article that I wrote." Select the answer that best represents how much you agree or disagree with the sentence above.

	answered question	65
	skipped question	10
	Response Percent	**Response Count**

	Response Percent	Response Count
I agree with that completely.	0.00%	0
I agree with that to some extent.	16.90%	11
I somewhat disagree with that.	36.90%	24
I completely disagree with that.	46.20%	30

6. "I've noticed that a lot of Alexandria articles appear to have out of date or inaccurate information." Select the answer that best represents how much you agree or disagree with the sentence above.

	answered question	**65**
	skipped question	**10**

	Response Percent	Response Count
I agree with that completely.	20.00%	13
I agree with that to some extent.	46.20%	30
I somewhat disagree with that.	30.80%	20
I completely disagree with that.	3.10%	2

7. "I often find wrong or incomplete information in Alexandria articles, even when they're pretty new." Select the answer that best represents how much you agree or disagree with the sentence above.

	answered question	**65**
	skipped question	**10**

	Response Percent	Response Count
I agree with that completely.	4.60%	3
I agree with that to some extent.	26.20%	17
I somewhat disagree with that.	55.40%	36
I completely disagree with that.	13.80%	9

8. "I am usually impressed by how up-to-date the information in Alexandria articles is." Select the answer that best represents how much you agree or disagree with the sentence above.

	answered question	**65**
	skipped question	**10**

	Response Percent	Response Count
I agree with that completely.	3.10%	2
I agree with that to some extent.	40.00%	26
I somewhat disagree with that.	47.70%	31
I completely disagree with that.	9.20%	6

9. "I am usually impressed at how complete and correct new Alexandria articles are."
Select the answer that best represents how much you agree or disagree with the
sentence above.

	answered question	**65**
	skipped question	**10**
	Response Percent	Response Count

	Response Percent	Response Count
I agree with that completely.	3.10%	2
I agree with that to some extent.	55.40%	36
I somewhat disagree with that.	35.40%	23
I completely disagree with that.	6.20%	4

10. "I always feel comfortable contributing what I know to Alexandria, whether that's
adding a new article or editing an existing one." Select the answer that best represents
how much you agree or disagree with the sentence above.

	answered question	**65**
	skipped question	**10**
	Response Percent	Response Count

	Response Percent	Response Count
I agree with that completely.	20.00%	13
I agree with that to some extent.	33.80%	22
I somewhat disagree with that.	33.80%	22
I completely disagree with that.	12.30%	8

1. How often do you create new topics / pages? Select the answer that best represents
how often you perform the activity above.

	answered question	**63**
	skipped question	**12**
	Response Percent	Response Count

	Response Percent	Response Count
Once a week or more often.	3.20%	2
A few times per sprint.	17.50%	11
A few times per release cycle.	38.10%	24
Almost never.	31.70%	20
I have never done this.	9.50%	6

2. How often do you search for information on a topic? Select the answer that best
represents how often you perform the activity above.

	answered question	**63**

	skipped question	**12**
	Response	**Response**
	Percent	**Count**

	Response Percent	Response Count
Once a week or more often.	30.20%	19
A few times per sprint.	38.10%	24
A few times per release cycle.	22.20%	14
Almost never.	7.90%	5
I have never done this.	1.60%	1

3. How often do you edit or update pages that someone else primarily wrote? Select the answer that best represents how often you perform the activity above.

	answered question	**63**
	skipped question	**12**
	Response	**Response**
	Percent	**Count**

	Response Percent	Response Count
Once a week or more often.	1.60%	1
A few times per sprint.	12.70%	8
A few times per release cycle.	27.00%	17
Almost never.	42.90%	27
I have never done this.	15.90%	10

4. How often do you edit or update pages that you primarily wrote? Select the answer that best represents how often you perform the activity above.

	answered question	**63**
	skipped question	**12**
	Response Percent	**Response Count**

	Response Percent	Response Count
Once a week or more often.	4.80%	3
A few times per sprint.	22.20%	14
A few times per release cycle.	23.80%	15
Almost never.	34.90%	22
I have never done this.	14.30%	9

5. How often do you tag or categorize pages or files? Select the answer that best represents how often you perform the activity above.

	answered question	**63**
	skipped question	**12**
	Response	**Response**
	Percent	**Count**

	Response Percent	Response Count
Once a week or more often.	3.20%	2
A few times per sprint.	7.90%	5
A few times per release cycle.	7.90%	5
Almost never.	28.60%	18
I have never done this.	52.40%	33

6. How often do you move a page from one location to another? Select the answer that best represents how often you perform the activity above.

	answered question	**63**
	skipped question	**12**

	Response Percent	Response Count
Once a week or more often.	1.60%	1
A few times per sprint.	4.80%	3
A few times per release cycle.	11.10%	7
Almost never.	44.40%	28
I have never done this.	38.10%	24

7. How often do you create a new page template? Select the answer that best represents how often you perform the activity above.

	answered question	**63**
	skipped question	**12**

	Response Percent	Response Count
Once a week or more often.	0.00%	0
A few times per sprint.	4.80%	3
A few times per release cycle.	9.50%	6
Almost never.	25.40%	16
I have never done this.	60.30%	38

8. How often do you read Alexandria help or how-to topics? Select the answer that best represents how often you perform the activity above.

	answered question	**63**
	skipped question	**12**

	Response Percent	Response Count
Once a week or more often.	4.80%	3
A few times per sprint.	20.60%	13
A few times per release cycle.	17.50%	11
Almost never.	34.90%	22
I have never done this.	22.20%	14

1. "Information in Alexandria topics tends to be out of date or just wrong." Select the answer that best represents how serious a problem you believe the statement above to be.

	answered question	63
	skipped question	12
	Response Percent	Response Count

This is a serious obstacle.	22.20%	14
This is sometimes a nuisance.	57.10%	36
This is not something I perceive as an issue.	20.60%	13

2. "Important information is not being added to Alexandria." Select the answer that best represents how serious a problem you believe the statement above to be.

	answered question	63
	skipped question	12
	Response Percent	Response Count

This is a serious obstacle.	34.90%	22
This is sometimes a nuisance.	49.20%	31
This is not something I perceive as an issue.	15.90%	10

3. "It's difficult to find information in Alexandria, whether or not it's actually there." Select the answer that best represents how serious a problem you believe the statement above to be.

	answered question	63
	skipped question	12
	Response Percent	Response Count

This is a serious obstacle.	27.00%	17
This is sometimes a nuisance.	44.40%	28
This is not something I perceive as an issue.	28.60%	18

4. "It's hard to remember to look for information using Alexandria." Select the answer that best represents how serious a problem you believe the statement above to be.

	answered question	63
	skipped question	12
	Response Percent	Response Count

This is a serious obstacle.	12.70%	8

This is sometimes a nuisance.   50.80%   32

This is not something I perceive as an issue.   36.50%   23

5. Rank the following potential issues in order of their severity, as you perceive them, where (1) is the most severe and (4) is the least severe.

| | answered question | | | | 63 |
| | skipped question | | | | 12 |

	Most severe (1)	-2	-3	Least severe (4)	Response Count
I can't find the information I need in Alexandria.	21.7% (13)	18.3% (11)	31.7% (19)	28.3% (17)	60
The information in Alexandria is out of date or just wrong.	21.3% (13)	29.5% (18)	19.7% (12)	29.5% (18)	61
Not enough information is being collected in Alexandria.	39.0% (23)	25.4% (15)	32.2% (19)	3.4% (2)	59
Using Alexandria to find information is not as common as it could be.	14.8% (9)	29.5% (18)	21.3% (13)	34.4% (21)	61

Appendix C: Cross-tabbed Survey Results – Power Users and Learners

1. Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	17	37	54
skipped question			0
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response Totals
I've pretty much given up on looking for information on Alexandria because I can't ever find what I was after.	0.00% 0	37.80% 14	25.90% 14
I often just forget to use Alexandria to find information.	41.20% 7	48.60% 18	46.30% 25
I strongly disagree with both of these statements.	58.80% 10	13.50% 5	27.80% 15

2. Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	17	37	54
skipped question			0
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response Totals
I'm reluctant to contribute new information because I'm not sure if what I know belongs in Alexandria or not.	23.50% 4	24.30% 9	24.10% 13
I'm reluctant to contribute new information to Alexandria because I don't know where a new page should belong.	5.90% 1	40.50% 15	29.60% 16
I strongly disagree with both of these statements.	70.60% 12	35.10% 13	46.30% 25

3. Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
answered question	17	37	54
skipped question			0
			Totals
Articles on Alexandria seem to get out of date pretty quickly, resulting in information that is incorrect or incomplete.	58.80%	54.10%	55.60%
	10	20	30
It seems information gets added to Alexandria that is either incomplete or incorrect.	5.90%	24.30%	18.50%
I strongly disagree with both of these statements.	35.30%	21.60%	25.90%
	6	8	14

4. Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
answered question	17	37	54
skipped question			0
			Totals
I'm just too busy to spend much time adding information to Alexandria.	35.30%	48.60%	44.40%
	6	18	24

I'm reluctant to contribute new information to Alexandria because I don't know where a new page should belong.	5.90%	27.00%	20.40%
	1	10	11
I strongly disagree with both of these statements.	58.80%	24.30%	35.20%
	10	9	19

5. Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	17	37	54
skipped question			0
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response Totals
I'm just too busy to spend much time adding information to Alexandria.	29.40%	43.20%	38.90%
	5	16	21
I'm reluctant to contribute new information because I'm not sure if what I know belongs in Alexandria or not.	17.60%	29.70%	25.90%
	3	11	14
I strongly disagree with both of these statements	52.90%	27.00%	35.20%
	9	10	19

6. Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	17	37	54
skipped question			0
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response

			Totals
I feel like I haven't been here long enough or I don't know enough to contribute information to Alexandria.	17.60%	16.20%	16.70%
	3	6	9
I'm reluctant to contribute new information to Alexandria because I don't know where a new page should belong.	17.60%	43.20%	35.20%
	3	16	19
I strongly disagree with both of these statements.	64.70%	40.50%	48.10%
	11	15	26

7. Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	17	37	54
skipped question			0
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
A lot of the information I need just isn't on Alexandria.	100.00%	0.00%	31.50%
	17	0	17
Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	0.00%	100.00%	68.50%
	0	37	37
I strongly disagree with both of these statements.	0.00%	0.00%	0.00%
	0	0	0

8. Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	17	37	54

skipped question			0
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
I feel like I haven't been here long enough or I don't know enough to contribute information to Alexandria.	11.80%	13.50%	13.00%
	2	5	7
I'm reluctant to contribute new information because I'm not sure if what I know belongs in Alexandria or not.	35.30%	29.70%	31.50%
	6	11	17
I strongly disagree with both of these statements.	52.90%	56.80%	55.60%
	9	21	30

9. Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	17	37	54
skipped question			0
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
I feel like I haven't been here long enough or I don't know enough to contribute information to Alexandria.	23.50%	21.60%	22.20%
	4	8	12
I'm just too busy to spend much time adding information to Alexandria.	29.40%	45.90%	40.70%
	5	17	22
I strongly disagree with both of these statements.	47.10%	32.40%	37.00%
	8	12	20

1. "When I have new information, I usually share it on Alexandria." Select the answer that best represents how much you agree or disagree with the sentence above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	34	50
skipped question			4
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
That describes my experience very well.	6.30%	2.90%	4.00%
	1	1	2
That describes my experience pretty well.	25.00%	17.60%	20.00%
	4	6	10
That does not describe my experience very well.	56.30%	52.90%	54.00%
	9	18	27
That does not describe my experience at all.	12.50%	26.50%	22.00%
	2	9	11

2. "I often have a hard time searching for information on a particular topic in Alexandria, even if I know it's there." Select the answer that best represents how much you agree or disagree with the sentence above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	34	50
skipped question			4
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
That describes my experience very well.	0.00%	20.60%	14.00%
	0	7	7
That describes my experience pretty well.	18.80%	64.70%	50.00%
	3	22	25
That does not describe my experience very well.	56.30%	8.80%	24.00%
	9	3	12
That does not describe my experience at all.	25.00%	5.90%	12.00%
	4	2	6

3. "I am almost always able to find information in Alexandria about the topics I need." Select the answer that best represents how much you agree or disagree with the sentence above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	34	50
skipped question			4
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
That describes my experience very well.	6.30% 1	0.00% 0	2.00% 1
That describes my experience pretty well.	31.30% 5	32.40% 11	32.00% 16
That does not describe my experience very well.	50.00% 8	55.90% 19	54.00% 27
That does not describe my experience at all.	12.50% 2	11.80% 4	12.00% 6

4. "I often forget that Alexandria exists when I need to find information on something." Select the answer that best represents how much you agree or disagree with the sentence above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	34	50
skipped question			4
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
That describes my experience very well.	6.30% 1	8.80% 3	8.00% 4
That describes my experience pretty well.	25.00% 4	38.20% 13	34.00% 17
That does not describe my experience very well.	25.00% 4	38.20% 13	34.00% 17
That does not describe my experience at all.	43.80% 7	14.70% 5	24.00% 12

5. "I often have a hard time finding information on a particular topic in Alexandria by browsing, even if I know it's there." Select the answer that best represents how much you agree or disagree with the sentence above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	34	50
skipped question			4
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
That describes my experience very well.	18.80%	23.50%	22.00%
	3	8	11
That describes my experience pretty well.	31.30%	61.80%	52.00%
	5	21	26
That does not describe my experience very well.	37.50%	11.80%	20.00%
	6	4	10
That does not describe my experience at all.	12.50%	2.90%	6.00%
	2	1	3

6. "When I need information, I almost always go to Alexandria first as a resource." Select the answer that best represents how much you agree or disagree with the sentence above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	34	50
skipped question			4
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
That describes my experience very well.	0.00%	0.00%	0.00%
	0	0	0
That describes my experience pretty well.	25.00%	14.70%	18.00%
	4	5	9
That does not describe my experience very well.	56.30%	52.90%	54.00%
	9	18	27
That does not describe my experience at all.	18.80%	32.40%	28.00%
	3	11	14

7. "Sometimes I don't add information to Alexandria because I don't know where it should go." Select the answer that best represents how much you agree or disagree with the sentence above.

Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.

	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response Totals
answered question	16	34	50
skipped question			4
That describes my experience very well.	0.00% 0	8.80% 3	6.00% 3
That describes my experience pretty well.	31.30% 5	52.90% 18	46.00% 23
That does not describe my experience very well.	31.30% 5	32.40% 11	32.00% 16
That does not describe my experience at all.	37.50% 6	5.90% 2	16.00% 8

8. "Sometimes I don't add information on Alexandria I don't feel comfortable editing someone else's work." Select the answer that best represents how much you agree or disagree with the sentence above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	34	50
skipped question			4
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response Totals
That describes my experience very well.	12.50% 2	14.70% 5	14.00% 7
That describes my experience pretty well.	25.00% 4	32.40% 11	30.00% 15
That does not describe my experience very well.	25.00% 4	38.20% 13	34.00% 17
That does not describe my experience at all.	37.50% 6	14.70% 5	22.00% 11

9. "Sometimes I don't add information to Alexandria because I'm not sure whether it belongs there or not." Select the answer that best represents how much you agree or disagree with the sentence above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	34	50
skipped question			4

	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
That describes my experience very well.	6.30%	8.80%	8.00%
	1	3	4
That describes my experience pretty well.	37.50%	41.20%	40.00%
	6	14	20
That does not describe my experience very well.	12.50%	35.30%	28.00%
	2	12	14
That does not describe my experience at all.	43.80%	14.70%	24.00%
	7	5	12

1. "I have a good idea of what belongs in Alexandria and what does not." Select the answer that best represents how much you agree or disagree with the sentence above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	32	48
skipped question			6

	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
I agree with that completely.	12.50%	18.80%	16.70%
	2	6	8
I agree with that to some extent.	56.30%	43.80%	47.90%
	9	14	23
I somewhat disagree with that.	31.30%	21.90%	25.00%
	5	7	12
I completely disagree with that.	0.00%	15.60%	10.40%
	0	5	5

2. "I am pleased when I find that someone has updated an Alexandria article that I contributed to." Select the answer that best represents how much you agree or disagree with the sentence above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	32	48
skipped question			6

	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
I agree with that completely.	75.00%	37.50%	50.00%
	12	12	24
I agree with that to some extent.	18.80%	56.30%	43.80%
	3	18	21
I somewhat disagree with that.	0.00%	6.30%	4.20%
	0	2	2
I completely disagree with that.	6.30%	0.00%	2.10%
	1	0	1

3. "I would say I have a good idea of how Alexandria is organized, on the whole." Select the answer that best represents how much you agree or disagree with the sentence above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	32	48
skipped question			6
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
I agree with that completely.	6.30%	0.00%	2.10%
	1	0	1
I agree with that to some extent.	56.30%	34.40%	41.70%
	9	11	20
I somewhat disagree with that.	31.30%	40.60%	37.50%
	5	13	18
I completely disagree with that.	6.30%	25.00%	18.80%
	1	8	9

4. "I often feel like the information I really need just isn't written anywhere in Alexandria." Select the answer that best represents how much you agree or disagree with the sentence above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	32	48
skipped question			6

	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response Totals
I agree with that completely.	18.80%	15.60%	16.70%
	3	5	8
I agree with that to some extent.	62.50%	56.30%	58.30%
	10	18	28
I somewhat disagree with that.	18.80%	25.00%	22.90%
	3	8	11
I completely disagree with that.	0.00%	3.10%	2.10%
	0	1	1

5. "I get annoyed when I find that someone has written over an Alexandria article that I wrote." Select the answer that best represents how much you agree or disagree with the sentence above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	32	48
skipped question			6

	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response Totals
I agree with that completely.	0.00%	0.00%	0.00%
	0	0	0
I agree with that to some extent.	12.50%	21.90%	18.80%
	2	7	9
I somewhat disagree with that.	18.80%	40.60%	33.30%
	3	13	16
I completely disagree with that.	68.80%	37.50%	47.90%
	11	12	23

6. "I've noticed that a lot of Alexandria articles appear to have out of date or inaccurate information." Select the answer that best represents how much you agree or disagree with the sentence above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	32	48
skipped question			6

	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
I agree with that completely.	25.00%	25.00%	25.00%
	4	8	12
I agree with that to some extent.	50.00%	43.80%	45.80%
	8	14	22
I somewhat disagree with that.	25.00%	31.30%	29.20%
	4	10	14
I completely disagree with that.	0.00%	0.00%	0.00%
	0	0	0

7. "I often find wrong or incomplete information in Alexandria articles, even when they're pretty new." Select the answer that best represents how much you agree or disagree with the sentence above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	32	48
skipped question			6

	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
I agree with that completely.	0.00%	9.40%	6.30%
	0	3	3
I agree with that to some extent.	25.00%	34.40%	31.30%
	4	11	15
I somewhat disagree with that.	56.30%	50.00%	52.10%
	9	16	25
I completely disagree with that.	18.80%	6.30%	10.40%
	3	2	5

8. "I am usually impressed by how up to date the information in Alexandria articles is." Select the answer that best represents how much you agree or disagree with the sentence above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	32	48
skipped question			6

	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
I agree with that completely.	0.00%	0.00%	0.00%
	0	0	0
I agree with that to some extent.	31.30%	28.10%	29.20%
	5	9	14
I somewhat disagree with that.	62.50%	56.30%	58.30%
	10	18	28
I completely disagree with that.	6.30%	15.60%	12.50%
	1	5	6

9. "I am usually impressed at how complete and correct new Alexandria articles are." Select the answer that best represents how much you agree or disagree with the sentence above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	32	48
skipped question			6
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
I agree with that completely.	0.00%	0.00%	0.00%
	0	0	0
I agree with that to some extent.	56.30%	50.00%	52.10%
	9	16	25
I somewhat disagree with that.	43.80%	37.50%	39.60%
	7	12	19
I completely disagree with that.	0.00%	12.50%	8.30%
	0	4	4

10. "I always feel comfortable contributing what I know to Alexandria, whether that's adding a new article or editing an existing one." Select the answer that best represents how much you agree or disagree with the sentence above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	32	48
skipped question			6

	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
I agree with that completely.	25.00%	6.30%	12.50%
	4	2	6
I agree with that to some extent.	37.50%	34.40%	35.40%
	6	11	17
I somewhat disagree with that.	31.30%	40.60%	37.50%
	5	13	18
I completely disagree with that.	6.30%	18.80%	14.60%
	1	6	7

1. How often do you create new topics / pages? Select the answer that best represents how often you perform the activity above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	30	46
skipped question			8

	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
Once a week or more often.	0.00%	0.00%	0.00%
	0	0	0
A few times per sprint.	12.50%	20.00%	17.40%
	2	6	8
A few times per release cycle.	43.80%	36.70%	39.10%
	7	11	18
Almost never.	37.50%	30.00%	32.60%
	6	9	15
I have never done this.	6.30%	13.30%	10.90%
	1	4	5

2. How often do you search for information on a topic? Select the answer that best represents how often you perform the activity above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	30	46
skipped question			8

	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response Totals
Once a week or more often.	37.50%	10.00%	19.60%
	6	3	9
A few times per sprint.	25.00%	50.00%	41.30%
	4	15	19
A few times per release cycle.	31.30%	26.70%	28.30%
	5	8	13
Almost never.	6.30%	10.00%	8.70%
	1	3	4
I have never done this.	0.00%	3.30%	2.20%
	0	1	1

3. How often do you edit or update pages that someone else primarily wrote? Select the answer that best represents how often you perform the activity above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	30	46
skipped question			8

	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response Totals
Once a week or more often.	6.30%	0.00%	2.20%
	1	0	1
A few times per sprint.	0.00%	10.00%	6.50%
	0	3	3
A few times per release cycle.	50.00%	20.00%	30.40%
	8	6	14
Almost never.	37.50%	50.00%	45.70%
	6	15	21
I have never done this.	6.30%	20.00%	15.20%
	1	6	7

4. How often do you edit or update pages that you primarily wrote? Select the answer that best represents how often you perform the activity above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	30	46
skipped question			8

	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
Once a week or more often.	12.50%	0.00%	4.30%
	2	0	2
A few times per sprint.	6.30%	16.70%	13.00%
	1	5	6
A few times per release cycle.	18.80%	33.30%	28.30%
	3	10	13
Almost never.	56.30%	26.70%	37.00%
	9	8	17
I have never done this.	6.30%	23.30%	17.40%
	1	7	8

5. How often do you tag or categorize pages or files? Select the answer that best represents how often you perform the activity above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	30	46
skipped question			8
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
Once a week or more often.	0.00%	0.00%	0.00%
	0	0	0
A few times per sprint.	6.30%	3.30%	4.30%
	1	1	2
A few times per release cycle.	6.30%	10.00%	8.70%
	1	3	4
Almost never.	31.30%	30.00%	30.40%
	5	9	14
I have never done this.	56.30%	56.70%	56.50%
	9	17	26

6. How often do you move a page from one location to another? Select the answer that best represents how often you perform the activity above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	30	46

skipped question			8
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
Once a week or more often.	0.00%	0.00%	0.00%
	0	0	0
A few times per sprint.	0.00%	6.70%	4.30%
	0	2	2
A few times per release cycle.	18.80%	10.00%	13.00%
	3	3	6
Almost never.	43.80%	46.70%	45.70%
	7	14	21
I have never done this.	37.50%	36.70%	37.00%
	6	11	17

7. How often do you create a new page template? Select the answer that best represents how often you perform the activity above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	30	46
skipped question			8
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
Once a week or more often.	0.00%	0.00%	0.00%
	0	0	0
A few times per sprint.	0.00%	6.70%	4.30%
	0	2	2
A few times per release cycle.	6.30%	3.30%	4.30%
	1	1	2
Almost never.	25.00%	30.00%	28.30%
	4	9	13
I have never done this.	68.80%	60.00%	63.00%
	11	18	29

8. How often do you read Alexandria help or how-to topics? Select the answer that best represents how often you perform the activity above.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	30	46

skipped question			8
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
Once a week or more often.	0.00%	3.30%	2.20%
	0	1	1
A few times per sprint.	18.80%	10.00%	13.00%
	3	3	6
A few times per release cycle.	31.30%	16.70%	21.70%
	5	5	10
Almost never.	31.30%	40.00%	37.00%
	5	12	17
I have never done this.	18.80%	30.00%	26.10%
	3	9	12

1. "Information in Alexandria topics tends to be out of date or just wrong." Select the answer that best represents how serious a problem you believe the statement above to be.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	30	46
skipped question			8
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response
			Totals
This is a serious obstacle.	18.80%	33.30%	28.30%
	3	10	13
This is sometimes a nuisance.	68.80%	50.00%	56.50%
	11	15	26
This is not something I perceive as an issue.	12.50%	16.70%	15.20%
	2	5	7

2. "Important information is not being added to Alexandria." Select the answer that best represents how serious a problem you believe the statement above to be.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	30	46
skipped question			8

	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response Totals
This is a serious obstacle.	43.80%	36.70%	39.10%
	7	11	18
This is sometimes a nuisance.	43.80%	50.00%	47.80%
	7	15	22
This is not something I perceive as an issue.	12.50%	13.30%	13.00%
	2	4	6

3. "It's difficult to find information in Alexandria, whether or not it's actually there." Select the answer that best represents how serious a problem you believe the statement above to be.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	30	46
skipped question			8
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response Totals
This is a serious obstacle.	18.80%	43.30%	34.80%
	3	13	16
This is sometimes a nuisance.	43.80%	46.70%	45.70%
	7	14	21
This is not something I perceive as an issue.	37.50%	10.00%	19.60%
	6	3	9

4. "It's hard to remember to look for information using Alexandria." Select the answer that best represents how serious a problem you believe the statement above to be.

	Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question	16	30	46
skipped question			8
	A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response Totals
This is a serious obstacle.	18.80%	13.30%	15.20%
	3	4	7

This is sometimes a nuisance.	43.80% 7	60.00% 18	54.30% 25
This is not something I perceive as an issue.	37.50% 6	26.70% 8	30.40% 14

5. Rank the following potential issues in order of their severity, as you perceive them, where (1) is the most severe and (4) is the least severe.

		Which of these statements do you agree with most? Select the statement that best represents your experience with Alexandria.		
answered question skipped question		16	30	46 8
		A lot of the information I need just isn't on Alexandria.	Even if I know it's there, I often have hard time finding information on a given topic in Alexandria.	Response Totals
I can't find the information I need in Alexandria.	Most severe (1)	20.00% 3	31.00% 9	
	2	13.30% 2	20.70% 6	
	3	26.70% 4	34.50% 10	
	Least severe (4)	40.00% 6	13.80% 4	
		15	29	44
The information in Alexandria is out of date or just wrong.	Most severe (1)	12.50% 2	17.20% 5	
	2	37.50% 6	31.00% 9	
	3	31.30% 5	17.20% 5	
	Least severe (4)	18.80% 3	34.50% 10	
		16	29	45
Not enough information is being collected in Alexandria.	Most severe (1)	56.30% 9	33.30% 9	
	2	18.80% 3	22.20% 6	
	3	25.00%	37.00%	

	Least severe (4)	4	10	
		0.00%	7.40%	
		0	2	
		16	27	43
Using Alexandria to find information is not as common as it could be.	Most severe (1)	12.50%	16.70%	
		2	5	
	2	31.30%	30.00%	
		5	9	
	3	18.80%	16.70%	
		3	5	
	Least severe (4)	37.50%	36.70%	
		6	11	
		16	30	46