PSEWeb Redesign
Findings Assessment

Version 1.1

Assured
Performance

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Findings Assessment

1.   Introduction

The Findings Assessment is a compilation of information gathered as part of the Puget Sound Energy (PSE) Web Redesign project. It represents the information discovered through on3e-on-one and group meetings as well as the information gathered through EMC's Usability Analysis of the existing PSE web sites.

1.1   Purpose

The purpose of this deliverable is to document what EMC has discovered about the existing PSE web sites. EMC has conducted a detailed heuristic evaluation, which is a usability evaluation method for interfaces that helps to identify usability problems in the interface design. It specifically involves evaluators examining the sites and information about the site such as structure, security, location and makeup of the information contained within the site and judging its compliance with recognized usability and industry best practices (the "heuristics").

The audience of this document is the members of PSE that contributed information as part of the analysis and the members of PSE that are the sponsors of the Web Redesign project. This document is not intended to be the design or requirements document. As stated previously, it is the compilation of the analysis completed to-date. Future requirements and design documents will extrapolate this information into specific requirements and design features and functionality for future PSE web sites.

1.2   Scope

The scope of this project is to focus on the information related to PSE's migration from the current web environment, which is a custom homegrown solution, to a SharePoint 2007 solution. The PSEWeb portal has been reviewed to determine what features are being used today, which are not, and which features are missing based on the contextual interviews and informational mining done about the site composition.

Four PSE groups have been the subject of this discovery phase. Those groups are Information Technology (IT), Corporate Communications (Corp Comm), Human Resources (HR), Customer Service. It is believed that these four groups represent the needs of the overall internal PSE user community. The information gathered from these groups will help PSE focus on improving the overall user experience, with particular focus on business analysis, site navigation, functionality, usability and user adoption strategies.

1.3   Definitions, Acronyms and Abbreviations

Abbreviation	Definition
EMC	EMC Microsoft Practice
Extranet	The external facing web site
Governance	The rules and policies used to manage aspects of the web sites.
Intranet	The internal facing web site
IT	Corporate IT
KPI	Key Performance Indicators

MOSS 2007	Microsoft Office SharePoint Server 2007 also known simply as SharePoint within PSE
OTB	"Out of the Box"
Permissions based access	The security approach that allows administration of security privileges at a group perspective for better control and easy of management
POC	Proof of Concept

1.4   Overview

The document is organized into the following sections:

▪   Section 2, The Executive Summary, provides a high-level discussion of key findings.
▪   Section 3, Background, provides brief details on PSE as a company and the PSEWeb portal.
▪   Section 4, Findings Summary, provides the organized view of the common themes discovered as part of this analysis.
▪   Section 5, Approach and Detailed Findings, elaborates on how discovery and analysis methods were used and offers concrete examples of the heuristic evaluation of PSEWeb.
▪   Section 6, Appendices, contains the source inventory notes that were the results of contextual and field interviews.

2. Executive Summary

Puget Sound Energy's internal corporate portal, known as PSEWeb, was built over 9 years ago using ASP.NET technology. However, without the benefit of centralized standards and processes to guide its growth, its 3000+ pages and tools have become both difficult to use and difficult to maintain.

PSE intends to migrate PSEWeb to Microsoft Office SharePoint Server 2007 technologies, but recognizes that technology alone will not address the issues that face the existing corporate intranet. As part of the initiative, PSE commissioned the EMC Microsoft Practice to conduct an assessment and re-design of the portal environment.

The assessment and re-design work is to be executed in two major phases: *discovery* and *definition*. The goals of the assessment are to:

- determine the requirements and features that are most important to migrate
- identify and prepare for new functionality that can be leveraged by embracing the SharePoint platform
- provide recommendations on how to incorporate best practices for portals
- document specific improvements employees need in order to use the portal more efficiently and effectively

This *Findings Assessment* is the initial deliverable in the discovery phase.

Assessment Methodology

EMC began with an enterprise-focused heuristic evaluation of PSEWeb.

In parallel, the team conducted individual interviews with users representing multiple departments and roles within PSE. Collectively the team met with the 22 people from the Corporate Communications, Human Resources, Customer Service, and Information Technology departments. Interviews were conducted employing both contextual inquiry and field observation techniques.

Interviews established a rich set of first-hand accounts of common tasks, business practices, and perceptions of PSEWeb. Heuristic evaluation yielded positive and negative examples of navigation features and search capabilities. The team documented site maps of PSEWeb and examples of inconsistent templating of sites.

The results of both the interviews and heuristic assessments were combined to generate a 360-degree view of PSEWeb, including the user communities' patterns of use and their expectations for intranet features and content.

Conclusions

Major findings have been anchored around 7 central themes:

- **Workforce turnover will cause major shifts in corporate culture.** The near-term retirement of a substantial portion of PSE's employee base, and its replacement by more technology-oriented staff, will bring a new set of expectations for internal technologies and pose challenges during the transition. There is a potential for knowledge loss if not managed correctly.
- **Users desire secure access anywhere, anytime.** There is a growing vision of seamless access to both consumer and employee based PSE assets, spurred by experiences with mobile initiatives and goals for the remote workforce. Implementing seamless access across multiple systems presents clear security concerns and design hurdles.
- **General perception and lack of trust in data accuracy on PSEWeb.** A number of factors, including data inconsistency in PSEWeb's most commonly used feature and employees' inability to validate the currency of material, is causing users to distrust the data sourced from PSEWeb. Users have developed alternative means of accessing and storing information.
- **Lack of governance & standards.** PSEWeb has grown without the benefit of prescriptive guidance, spawning questions of ownership and inconsistent navigation and templating schemes. Establishing a representative governing body would help shape the intranet into a valued source of information and help deliver corporate messages.
- **Strong desire for Web 2.0 features.** Some users, generally those that are newer or simply have more exposure to modern web technologies, are ready to incorporate new collaborative forums into PSE's online experience. Acceptance of these features would require a major shift in corporate culture and poses trade-offs between the need for control vs. the potential for new methods of communication and knowledge transfer.

- **PSEWeb has limited perceived value/usefulness.** Patterns of use and word-of-mouth seem to indicate that PSEWeb is not seen as authoritative, reliable or useful source of information.
- **Users don't know what they are missing.** Some users, generally those with tenure, have long established methods of doing their jobs and are not exposed to (thus don't see the merit in) new technologies.

Underpinning these themes were the specific feature requests of assessment participants. Notably, Human Resources focused on online self-service to help reduce support overhead, Customer Service anticipated a vastly improved QRM experience; IT emphasized the need for prudent governance and architectural design, and Corporate Communications championed new ways of delivering corporate messaging.

The team also documented topics that seemed underrepresented in interviews but which often surface during similar assessments. Highlights were robust messaging and business intelligence features, along with critical strategies for content migration and maintenance.

The PSEWeb redesign initiative faces a number of challenges and risks. Issues include organizational readiness and alignment, as well as the need for new content management strategies, taxonomy structure, and means of governance.

Conversely, the initiative offers it share of opportunities and "feasible wins". These include enhanced internal communication through messaging, a CSR knowledge base, and leverage of collaborative technologies.

3. Background

Puget Sound Energy (PSE) is interested in redesigning their current intranet web site PSEWeb using the Microsoft Office SharePoint Server 2007 (MOSS 2007) technology. As a first step PSE would like to conduct an analysis of the PSEWeb to determine the requirements and features that are most important to migrate to this new technology.

3.1 Company info

Puget Sound Energy (PSE) is Washington state's largest and oldest energy utility, serving more than 1 million customers primarily in the Puget Sound region. A subsidiary of Puget Energy, started in the 18th century, the company has grown to through mergers and acquisitions of dozens of small utility companies, gradually evolving into today's Puget Sound Energy (PSE).

3.2 Historical perspective

PSEWeb is the PSE intranet site used by the complete enterprise work force on a daily basis. PSEWeb has been in service for over nine years growing and evolving steadily ever since. Now PSEWeb has reached a point of evolution that has made it vital to the daily operation of PSE business. Just about every employee of the company has come to rely on PSEWeb to receive both corporate and departmental information. Some departments have evolved their dependence on PSEWeb to conduct both internal and external business. Now many PSE departments that are depending on PSEWeb for the success of their operations have realized that they have outgrown the current functionality of PSEWeb.

3.3 Evolution and state of website(s)

- PSE's current internal portal, known as PSEWeb, was built over 9 years ago using ASP.NET technology. The corporate portal or intranet serves PSE employees.
- The site has grown as the company has grown, but business operations and needs have outgrown the site's capabilities.
- The site today does not contain a robust content management process or the ability to search. The overall navigation and content/information architecture of the site did not have any formal process applied as it was growing, and this has caused the information flow on PSEWeb to be confusing at times and complex in many areas.
- PSE is now thinking of redesigning the PSEWeb with the latest technology Microsoft Office SharePoint Server 2007 (MOSS 2007).
- PSE is interested in conducting an analysis of the PSEWeb portal to determine the requirements and features that are most important to migrate to the new version of the PSE portal that it intends to implement using Microsoft Office SharePoint Server 2007 ("SharePoint 2007"), as well as identify and prepare for new functionality that can be leveraged by embracing the SharePoint platform.

4.   Findings Summary

This assessment was performed at the request of PSE to provide an understanding of how employees currently use the PSEWeb and identify key functional and content areas. It was also done to evaluate the site against industry best practices, identify areas of potential risk or opportunity, and provide recommendations and considerations when creating the end solution. This section provides an overall summary of the findings.

4.1   Key Findings

While each of the methods of analysis uncovered independent findings and provided varying view points, the following sections highlight general themes.

4.1.1   *Workforce turnover will cause major shifts in corporate culture*

At best guess, PSE stakeholders estimate that approximately 42% of the current workforce will be retiring in the next 5 years, and in all likelihood will be replaced with a younger generation of workers who have new ways of doing business: telecommuting, remote access, email/IM communication. This turnover will create a major shift in corporate culture and drastically increase general demand for on-demand self-service tools. It is also likely to present challenges for knowledge transfer to the new employee base.

4.1.1.1   Younger workforce will demand newer, more streamlined technology solutions

According to HR, there are 800 retirees today, but approximately 42% of all current employees will have retired by 2012. Potentially, then, there will be nearly 1800 retirees within 5 years. PSE will likely find itself replacing nearly half of its workforce by 2012, essentially exchanging an employee base of WWII retirees and baby boomers with an influx of Gen Y'ers. Generations who learned computers in their later years will be replaced with a *YouTube* and *iPod* savvy generation. The average Gen Y'er has some 18 years of computer experience when reaching workforce age— most having typed their first login before the age of 5. Having grown up in an age where nearly full-streaming realistic video games are abundant, their interface expectations are highly sophisticated. The cultural change over the next 5 years in terms of employee demographics (GenX/GenY) will create more acceptance of and demand for online transactions and information transfer.

4.1.1.2   Utilities industry is moving towards adoption of the latest generation tools, software self-services

In general, utility companies are drastically changing their delivery, support and customer experience mechanisms from traditional (phone and mail) to online self-service, with many companies incorporating online chat and issues resolution. PSE will need to stay or get ahead of competition in terms of internal systems and information access. Consumer expectations of external facing systems will transfer to internal systems, as they must be updated to manage/support the online public facing solutions. Additionally, workforce change and recruitment/retention of top talent will require providing the best tools and best access to information.

4.1.1.3   Tribal knowledge practices may cause gaps in information without implementation of collaboration/knowledge sharing tools

Tribal knowledge is any unwritten information that is not commonly known by others within a company. This term is used most when referencing information that may need to be known by others in order to produce quality product or service. The information may be key to quality performance but it may also be totally incorrect. Unlike similar forms of artisan intelligence, tribal knowledge can be converted into company property. It is often a good source of test factors during improvement efforts.[1]

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[1] *http://www.isixsigma.com/dictionary/Tribal_Knowledge-488.htm*

According to nearly all accounts, PSE is a company that thrives on tribal knowledge. The company has for years used word of mouth and the benefit of longevity/tenure as a means of acquiring/maintaining key knowledge and information. This has worked extremely well in the past: tribal knowledge works well when there are clear lines of succession, when changes are small, and when long-timers offer support when bringing a new person into the "tribe". However, major changes in workforce will mean lines of succession will be broken, and may also reduce the number of employees able to transfer knowledge the time available to do it. The will result in lost knowledge. Without a very specific strategy and plan for succession, and the capture of this tribal knowledge in a more formal, electronic and sustainable manner, PSE risks losing key intellectual property and corporate information.

4.1.2   Users desire secure access anywhere, anytime

PSE's long term goal is to provide access to all PSE content and transactional systems via PSEWeb in a secure, easy-to-use and easy-to-access manner. This would include access remotely via either VPN/Corporate network or through other assets such as PSE.com, preferably leveraging a consistent login mechanism. Ideally, whether at work or at home, logging in to PSEWeb and/or www.pse.com you would be recognized as a PSE customer and/or a PSE employee; with that recognition, the system would provide you a consistent, secure interface to the tools necessary to perform your work. This vision presents several challenges.

4.1.2.1 Single sign-on

The general concept of single sign-on is simple and appealing. Of course PSE would like to provide a single means of logging in (authentication) to their online systems and then, through technology solutions, provide on-demand access and authentication to the user based on their role, access rights and personal preferences. But a number of technology challenges and identity rights management issues will need to be overcome across multiple systems. Most importantly the synchronization between pse.com (as a consumer), SAP (using employee ID) and PSEWeb (using the Active Directory User Name convention). While these are challenges that have solutions available to them, providing a consistent online experience to PSE's employees cannot be fully realized without first synchronizing various systems using a single user profile/identity.

4.1.2.2 Access via web without VPN

A consistent thread during interviews was that web access outside of the network would be required for a more remote and mobile workforce. PSE has recognized this potential need with the Mobile Workforce project-- the need to connect mobile users, and the potential need to connect without VPN. Obviously security concerns abound when looking at this issue, but technologically, external access to PSEWeb is possible and can be done securely through any number of dual authentication mechanisms. Possible solutions include opening up PSEWeb for non-VPN access or providing simpler means of VPN'ing through 3rd party software, key FOBs and/or access cards.

4.1.2.3 Transparent access between PSE.com and PSEWeb

During interviews, several mentions were made regarding the potential conflict or confusion related to PSE employees as both employees and consumers of PSE services. The idea that a PSE employee would have two profiles— one public/consumer and one internal/employee— brought about discussions related to combining or automatically recognizing them as either employee/consumer based on where they are (e.g. on or off the network). Further discussion should be done to clearly identify requirements around this need.

4.1.2.4 Security is a key concern moving forward

Given the nature of PSE's work and its importance and vital services related to national security, access, authentication and security of all PSE systems is critical. Securing corporate assets, disaster action plans, and vital operational procedures is critical. According to Security and Corporate Records, a very specific security principle will need to be enforced. That is- granting access based on role and job description on a "need to know" basis, providing only what someone needs to knows to get their job done and no more. It should also include enforcing rules surrounding retention of records: length of time and form (electronic, paper) as determined by legal, regulatory

directives and business needs. To do this, PSE will likely need to enforce mandatory security training for everyone who has permission to build a site or owns and updates content. Training should be prerequisite before getting access, and employees should agree to the security rules and responsibility of owning a site.

4.1.2.5 Access solution must accommodate 3rd party consultants/contractors

Whatever solution(s) are selected to support secure access to systems, the paradigm must allow for non-PSE users to access internal systems—subject to the principles of role or job based justification and on a "need to know" basis.

4.1.3   General perception and lack of trust in data accuracy on PSEWeb

PSEWeb suffers from the perception that data on the site may not be accurate or up to date. This has manifested itself in several forms, none more apparent than the PSEPhone data. A user can consistently access information via PSEPhone that doesn't match SAP, Outlook and/or isn't accurate. This creates a lack of trust in the user. This lack of trust appears to have generalized to other sources of online information. To make the next generation of PSEWeb a success, users must believe and continue to perceive that it contains the latest, most accurate information available. Trust must be regained and continually maintained.

4.1.3.1 Data consistency issues

Apparent to all interviewees were data consistency issues related to phone/employee profile information. PSEPhone, Outlook and SAP are perceived to be "not in synch". Key data elements such as reporting structure seem to not be updated frequently or consistently. More importantly, the general user (appropriately or not) has a perception that data is "use at your own risk"; while most of the time may be correct, users just can't be sure. This is just one example, but obviously due to the feature's usage (considered the most used tool on PSEWeb) it creates both frustration and is quickly demonstrated as the example for why "everything on PSEWeb is inaccurate or potentially wrong".
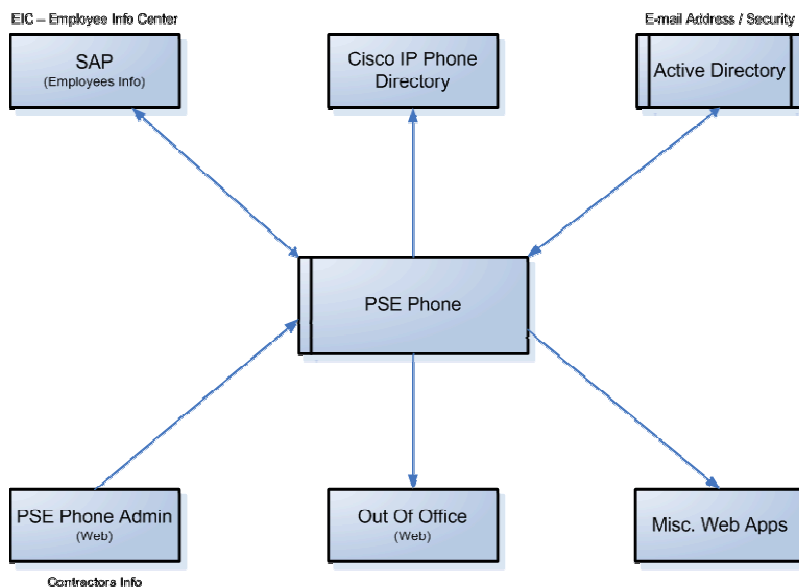
Figure 1. PSE Phone in relation to other sources of information

4.1.3.2 Content's update status not accurate

Even when data seems to be accurate- as implied by a recently updated status- it isn't necessarily so. Apparently, flaws in the current solution show "recently updated" status for documents that have been recently *viewed*. This also

cause confusion with users, and creates a false sense of accuracy. When users come to realize the document isn't recent, their fears of inaccurate content are again validated.

4.1.3.3 Pre-qualification process / avoidance

Because there is a low level of trust in some of the most commonly used data, interviewers indicated that they did not go to PSEWeb for other types of information – a pre-qualification process based on their experience with PSEPhone. This is putting doubt onto data from all areas of PSEWeb-- including those with absolutely accurate information-- and is creating additional workloads everywhere as people are seeing alternative means of acquiring and validating information they need. People will ask their co-workers, call individual departments, go to PSE.com, or simply avoid the need for the content or information. In general, users are willing to be given inaccurate data once or twice; if data seems to be inconsistent regularly (even a small sample) – they will find alternatives.

4.1.3.4 Mission critical data is not being delivered to those who need it

After a storm in 2006, a study of emergency preparedness pointed out that mission critical data was not available to customer service representatives when needed and, in turn, was not made available to the public. This demonstrated both that PSE's traditional process of exchanging certain key information, on paper, was a problem for CSRs and customers, but also that this information (and alerts about it) should have been available through the intranet.

4.1.4   Lack of governance & standards

Governance and standards is a rather broad topic, and as a key theme at PSE, it involves many stakeholders and is a topic of contention. The sentiment of nearly all interviewees, combined with our own independent analysis, confirms that a lack of governance and pre-defined templates/standards has caused navigation sprawl, content owner frustration and user confusion. Appropriate setting of standards, guidelines and governance principles is critical to the success of the PSEWeb initiative and will be a key decision factor. At the root of the issue is one of technology's age-old questions: "Who owns the intranet?" The very succinct and simple answer (whether well received or not) is that *everyone* must own it; only through collective ownership and representative decision making can it be successful.

4.1.4.1 Ownership questions create complexities

During interviews, many subjects acknowledged the intranet decision-making process as a "politically charged" process. Matters of ownership and decision-making were inconsistent and in general most subjects revealed that they weren't always clear who "owned" the intranet's content or process – some sections by this group, some by others. Creating a Governance Board (not unlike the existing Web Steering Committee) to represent various stakeholder interests would allow management of the portal through a company-wide representative body. Generally, a portal consistently governed "by the people" tends to reduce contention over "ownership" and allows the focus to be about standardization/guidelines and a communal, shared investment.

4.1.4.2 Navigation structure/organization

Historically, PSEWeb has developed without prescriptive guidelines. Its growth, in content and structure, was once managed by several individual decision makers as they created/organized content. Ultimately, a number of departments began contributing volumes of information. Without prescriptive guidelines, navigation elements became inconsistent, confusing and now include dead links in various places. As each department or contributing group developed navigation for their content, differences in goals and presentation styles became apparent.. Even some elements that should be common (main navigation menus, for example) may vary from page to page—for example, offering menu items in a different order page to page.

4.1.4.3 Standardization/templating

In addition to navigational inconsistencies, custom "templating" has become apparent throughout the site. It is obvious that an initial attempt was made (and for a long time maintained) to create consistency in look and feel and

presentation. But "branches" and variations have developed.   As a user navigates through sites, he or she may be presented with various UI designs and branding flavors; a single navigation path to key data may take them through 3-4 differently styled interfaces. It was consistently relayed in our interviews that standardization on PSE-branded templating would go a long way to creating consistency and perceived ease of use. A general feeling was that due to lack of templates people had to resort to creating their own and therefore took liberties in doing so. Those same people would (according to discussions) easily and openly accept "fresh, predefined" templates so that they didn't need to spend cycles developing their own.

4.1.4.4 Lack of standards increases IT workload

An additional consequence of the perceived lack of suitable templating is an increased burden on IT support to get pages up and running. As workload increases, new/updated content may take quite some time to get published simply due to bottlenecks in the process. The ability to leverage templates and automated navigation would drastically alleviate the need for IT involvement in publishing departmental content. This would decrease bottlenecks and the IT workload and would likely increase the likelihood of up-to-date information publishing.

4.1.4.5 Consistency will help deliver global messages

It is also believed that standardization and templates will help deliver global/company-wide messages in the right locations. A consistent presentation mechanism will help establish site hierarchy and drive consistent news and information delivery mechanisms. Things like company-wide messages (corporate communications) and emergency alerts would more predictably be delivered to everyone in the organization.

4.1.5   ***Strong desire for Web 2.0 features***

In interviews with PSE stakeholders, many of the "forward-looking" feature requests seemed to be oriented towards Web 2.0/Social networking and web-based sharing. These types of communication haven't been part of PSEWeb and, due to the nature of the culture that it represents, their introduction would require a pretty large shift in current "authoring" policies. Historically, PSEWeb has tried to control authoring/publishing through various means and gateways, generally accompanied by some form of traditional approval processes. These requested features would require that (at least for these areas) – content authoring and ownership be left to the individual and content delivered without traditional approval processes.

4.1.5.1 Development of communities

A number of interviews touched on the concept of controlled communities—   areas where users could freely share content in a controlled- or better said, *defined*- "topic" and/or "section" atmosphere. Blogs, wikis, and presentation libraries could be managed as such. These forums would ideally be self-subscription based and would allow anyone to enter, read, and publish within the community. The intent is to offer peer to peer support and communication for cross-functional groups (i.e., care for parents in the home, single parenting, special needs) and the evolution of these forums would create a new means of virtual "Tribal knowledge" sharing. With the benefit of that knowledge being recorded. Keys to success will be the appropriate freedoms for content authoring in these sections and a means of organizing the topics. The question as to whether this should be a component of PSEWeb or its own "PSECommunity" should also be reviewed.. and review may help in segregating "process/approval based content management systems" from community "freedom of sharing" content.

4.1.5.2 Open forums

Several interviews discussed the desire to have online "forums" where people could share ideas (similar to communities, except that in these requests, some of the forums would be externally based (public/partner communities). Very little in the form of true requirements has been captured, but managing and maintaining public open forums would open a variety of concerns (security, freedom of speech, accessibility related). Further discussion is required for this, if desire is for this to be in scope.

4.1.5.3 Personal publishing (blogs/wikis)

Many companies have taken to providing tools/services for their employees to blog on a personal level internally. Leadership might use these mechanisms to publish strategy/direction messages, while members of departments or teams such as engineers, scientists, and analysts could present new ideas and concepts. For companies who truly embrace this technology, the cultural paradigm is entrenched and the data contained in blogs or wikis can be invaluable. But what is truly unique about this is ownership of the content and, unless done appropriately, it is equally a burden on / risk to the company.

There are currently SharePoint project web sites in which some of the features offered by SharePoint are being used as, or in the spirit of, blogs or wikis. Some users, for example, enjoy the ease of being able to post comments on reports in a wiki-like forum.

While blog data would be stored on PSE systems, it would represent the authors' personal ideas on behalf of or directed at PSE- not necessarily the views of PSE. Due to the inherent immediate, personal and unrestricted nature of blogs, placing constraints on such forums and personal publishing would immediately diminish their appeal and efficacy. Therefore to truly derive value, companies must be comfortable with providing these forums with only moderate censorship/controls. Obviously there could be guidelines as to appropriate content, but requiring approvals prior to publishing defeats the very root concept of the technology.

4.1.5.4 "Reasonable" collaboration

Leveraging SharePoint for team-based, project-based collaboration seems an obvious and appropriate opportunity. Some teams /pockets of the user base are already using SharePoint's collaboration tools. However, this leads away from controlled publishing of content. Further analysis should be made, as it is imperative that the result of providing such services isn't that ALL departmental content moves to the "collaboration areas" because it is easier to use/publish there.

4.1.6   PSEWeb has limited perceived value/usefulness

While page load usage would indicate that the site is averaging nearly 1million "hits" per month, closer analysis of this data suggests that the number of hits should not presuppose the site's actual popularity or usefulness. In interviews, certain themes of PSEWeb's perceived *data inaccuracy* – especially stemming from PSEPhone discrepencies-- is likely causing a general perception that PSEWeb provides *limited value*.

For example, metrics would indicate that of those nearly 1 million hits, over 42% are of the home page; approximately 12% are of PSEPhone usage. Now, the exact percentage of home page hits being caused- not by a user intentionally navigating there, but because the page has been set as the browser's default- are undetermined. But it is plausible that more than half of all page hits to the PSEWeb Site are likely related to people starting their browser and looking up a phone number from a data source which is perceived to be inaccurate most of the time. This pattern of exposure creates a perception that PSEWeb itself provides limited value/usefulness. But is this accurate? Have various historical perceptions and reputation (word of mouth) issues preceded the actual determination of the value? Are users simply buying into "gossip" and taking value judgment based on historically perceptions? Or are there legitimate reasons for this perceived lack of value that can be improved/mitigated?

4.1.6.1 Search is ineffective

Interestingly, while PSEWeb provides a search mechanism, and provides working results, it is also considered by many to be a function that "doesn't really work". Results are inaccurate and often presenting oldest data first. This fuels the perception that PSEWeb provides little value in finding documents via a search and, in turn, users are finding alternative means of acquiring information.

4.1.6.2 #1 used function (PSEPhone) is perceived to be inaccurate.

PSEPhone's perceived and actual inaccuracies are a validating point in value determination. If the known most used feature and function can't be made accurate or consistent, the user can understandably project this perception to anything else within the environment. Accurate or not, this weighs heavily in the minds of users and it is imperative that key features are made most effective and useful and that value is perceived of several key components of the solution. Improving PSEPhone and search alone may drastically change the perceived value of PSEWeb with little to no other change.

4.1.6.3 Inconsistent navigation/way-finding

Also relayed and validated within our independent analysis is that a lack of persistent navigation and inconsistencies are causing users to abandon drill downs for data/information. Users either know where things are and follow pre-conceived paths to the information or look to other places. Visual cue changes and interface changes also add to this confusion. The result is again a lack of perceived value. That is, if the solution is inconsistent, so must be its contents.

4.1.6.4 Dead links

Nothing destroys a user's estimate of the value of a tool then reaching dead ends. Any tool that is of value to a user must always allow them to continue to move forward and offer options for getting to the information they seek and need. And while it is frustrating to arrive at a page that's not desired, it is far more frustrating and disconcerting to end up with a 404 'Page not found' error.

4.1.6.5 Competing Solutions

While it may not seem like it, the very policy of using the X: drive as backups for all information creates a competing alternative means of getting to information. As do the multiple and sometimes overlapping departmental drives (H:, J:, K: etc) that are backed up to X:. To truly create value in a solution, all other solutions must be removed; this allows users to see and take ownership in making PSWWeb work for them. If there is an alternative means of meeting information gathering needs, it may become a pattern of use; users need not seek the preferred de-facto "official source". Further, abandonment of the official source is easier than policy/solution changes regarding it, and the ultimate result is complete lack of value in the system. This isn't to say that a bad tool that is the only tool is fully valued. But by lack of competing alternatives, it becomes the only means of getting to the data – and abandonment is no longer an option.

4.1.7 *Users don't know what they are missing*

Users, by nature of the work they've done and/or their tenure and ingrained practices, have had very limited exposure to features outside of their day-to-day work. Most of the new feature/function requests cited in other findings came from people who had recently joined PSE from other organizations and were bringing previously experienced features to the table as a request. Conversely, those users who are comfortable in their roles and tools, and don't extend themselves to exposure outside of those roles in tools perceive very little "lacking" of features. They don't know what they are missing.

4.1.7.1 PSE Employees have considerable tenure

Most employees of PSE have been with the company a considerable amount of time; they know what they need and how to get it. Such users could quickly get lost in a transition to a new solution and this is critical to consider when developing one. It is also important to highlight that without new features/functions and ways of storing information, some new users (those who will not grow into tribal knowledge) will have very little information to access.

4.1.7.2 Users tend to stay within their comfort areas

Our heuristic analysis reveals that PSEWeb has a number of areas where it does not adhere to industry best practices for navigation, consistent templates, standardized navigation, way-finding cues and general information design/architecture.

This has been mitigated because users have built a mental map to the things they need and rarely wander out of that arena. Most users have grown accustomed to their routines and don't understand the scope of additional information they have access to. Furthermore, they don't realize the capacity they have to get self service for items they have previously picked up the phone or walked to someone's desk for.

4.2   Key Features/Function Requests

The following outlines top-level feature and function requests for the next generation of PSEWeb. It highlights observations and requests made during interviews and is only an initial set of departmental based requirements. Further details and descriptions for these will be included within the Software Requirements Specification (SRS).

4.2.1   General Requirements

As a ground rule, any feature or function currently present in the PSEWeb should be considered a requirement unless specifically asked for improvement and/or change. The 2 features/functions most references as needing improvements were:

- PSEPhone – PSEPhone is considered the most used area of PSEWeb. There was consistent acknowledgement that it was quirky; there is not a high level of trust that the information is accurate and up to date. Some would prefer to replace it altogether, while others see value in this tool with consistent data. Additional feature requests included better ability to look at reporting structures, and Who's Who features.

- Search – Needs to be drastically improved, including the ability to make search contextual (e.g. earch within this dept only, search for this topic only, etc). Results currently are very inconsistent, and additional metadata/results prioritization logic would be ideal.

- Departmental requirements have some consistencies. Various groups require their own content to be maintained for their department, and everyone wants their own specific content – SQIs, traffic reports, contact info, resources on managing groups— but several of these requests are consistent across departments.

- Quick Access – Most groups requested quick access to other tools such as Princeton eCom and CheckFree (both to track customer payments). As they are on the phone, a CSR will flip through several views.

4.2.2   HR
- More online self-service
- Less calls to EIC
- Less paper pushing
- Automated, user-friendly hiring process
- SSO
- Easy way to answer questions on the site
- More use of the site

4.2.3   Customer Service
- Easier way to update QRM
- Responsive QRM

- Access to all tools and resources in one place

- Accurate way to indicate new/updated content

- Search that returns what results that are useful, an easy way to choose which result is best

4.2.4   IT

- Standards and guidelines and policies/mechanisms to monitor adherence

- Trustworthy content/data

- More help features

- A tool that does what Out of Office was built for, gives reporting structure and physical location like PSEPhone does

- Resolution of issues between SAP and PSEPhone book

- No web parts/components/features may be used that allow users to edit content directly on PSEWeb or bypass the standard publication process

- Security and user permissions within PSEWeb and the authoring environment will be administered solely by the PSE IT department

- PSEWeb must be isolated from SharePoint sites that host collaborative functionality at the application level (i.e. PSEWeb will live in its own; Web Application and collaboration sites will not be allowed within the PSEWeb hierarchy)

- PSEWeb needs to be treated as an independent application, meaning that there cannot be dependencies between PSEWeb and other planned SharePoint applications that prevent the implementation or operation of those applications before the PSEWeb redesign is complete

- The Architecture needs to allow for the continued operation of separate web applications that have been designed to integrate with the existing PSEWeb site.

4.2.5   Corporate Communications

- Standards and best practices

- Usable site

- Company-wide agreement to consistency in navigation

- Blogs and wikis for the officers

- More people to do the work

- Write once, publish often

- Accessibility standards and practice

- SSO – intuitive to who you are anywhere you are

- Standards for creating websites, maintaining, and taking full responsibility

- Home page features to be the common area for announcements and news

4.3   Non-Prioritized Items

The following sections outline topics/requirements that for one reason or another were de-emphasized, low priority, or we didn't hear much about but would have expected to. These are topics/requirements that in most similar projects are usually associated as key findings. For PSE they were not, and so it bears importance to highlight these, and confirm their level of priority or emphasis within PSE user community to either validate and/or surface as a

missing requirement. While not all-inclusive, key items not overly prioritized in discussions/interviews are included:

4.3.1   BI Reporting/KPI's

During our interviews very little discussion was had related to requirements for departmental Business Intelligence and/or Performance KPI's. Several brief descriptions of KPI's (SQI's) were discussed with the Customer Experience group and management's use of employee data visibility was discussed with HR. Often on projects that span multiple departments and associated with this technology, we expect to hear/see requirements related to process/progress reporting, key performance measures, departmental goals/achievements and more.

4.3.2   Offline Capability

No references or requirements were made to any offline capabilities for SharePoint and/or PSEWeb. While discussions for a growing mobile workforce are happening along with requests remote access without VPN, no considerations/requests have been made for offline capabilities. As this will have considerable affects on both the architecture and security/compliance considerations— especially within remote offices— it is critical that we highlight it to validate that this is NOT in scope as a requirement.

4.3.3   RSS Feeds/News Feeds

While many conversations regarding web 2.0 technologies such as social networking, blogs and wikis were had and this seems to be a hot topic/request, very little mention of aggregation of external news feeds/information was had. Possibly this is due to the choice of the 4 departments (no research or new technologies appeard necessary for this departments). Possibly this is not a need at PSE. We usually see requests for RSS Feeds and aggregatiors of external news/information inline with requests for blogs/wikis. Our recommendations will most likely leverage some of this technology internally to the solution (aggregators for internal news) but further discussion is required to understand where/when and if PSE uses external information sources.

4.3.4   Personalization

One of the ways to quickly affect adoption in corporate portals and intranets is to provide means of personalization and role-based targeting. During our assessment, only moderate discussion was had related to this. The desire to have the system understand who someone is and where they are and what they have access to didn't translate to discussions of how that affects what they see, what tools they have, how they are able to do their work or whether it changes their home page/landing page. SharePoint's My Site functionality provides very powerful native features for this, and audience targeting allows the targeting of content AND webparts based on any combination of groups/community affiliation etc. We would highly recommend further detailed discussions in this area.

4.3.5   Content Migration

While much data was captured as to the tasks/information sought after on PSEWeb, very little discussion was had regarding "moving" that data to the new environment. Often times, this takes on a larger than needed discussion related to how/when/what needs to move (as there is often a cost associated with moving this information). The general tone of the interviews was that if content were to be moved, the departments would move this data manually, as needed, and that starting from scratch with new content and organization mechanisms might be better than leveraging existing content. As preservation of content is usually a hot topic – PSE/EMC need to further discuss plans/strategy for this as PSE proceeds down its migration path. This could affect approach for content organization; if starting from scratch and with little accommodation to be made to existing content, then it is possible that the design for the navigation/content structures may be different then if all existing content need be aligned with new taxonomy. Our assessment is that the end result will likely need to take a blended approach – new top down, with some considerations for a specific content set.

4.3.6   Communications Strategy

Critical to these types of initiatives is the overall planning and delivery for communications. Definition and implementation of a solid communications strategy is critical. Usually for such initiatives, best practices and examples from other customers are discussed (especially with Corporate Communications departments). Our assumption (to be validated) is that PSE has programs/plans in place for this, based on previous releases for other tools/technologies. This should be confirmed during further analysis.

4.4   Challenges & Risks

The following describes areas of risk/concern uncovered during the assessment. These areas should be carefully reviewed and mitigations should be put in place prior to moving forward with the migration initiative.

4.4.1   Organizational Alignment

The number one cause of failure to portal initiatives is lack of governance (Gartner, 2006). Instrumental in defining governance is alignment of the organization around the means/process by which this is done. Throughout the interviews, acknowledgement of the political/departmental biases was apparent. It is critical that PSE stakeholders find a common group and appoint a representative governing body to manage these decisions.

4.4.2   Organizational Readiness

In most organizations, technology change is viewed as a necessary evil required to either maintain competitive advantage or streamline processes. Often the culture of the organization is taken into account in order to appropriately position/train/market the new technology solution. Given PSE's current employee population and the expected high turnover over the next 5 years, it may that today, given the current employee base, a fully-integrated self-service online portal presents concepts/functionality and a electronic culture that PSE is not ready for. Part of the consideration for the release of the next generation of PSEWeb (PSEWeb 2.0) is a potential phased approach that is in synch with workforce transition. New hires could be immediately taught/adapted to the new way of business while long-time employees near retirement are softly phased out using existing systems. For this to work appropriately a number of seasoned yet younger "bridger" resources will need to be identified and enabled to "bridge" the old and the new.

4.4.3   Web Steering Committee / Governance Board

Related to 3.4.1 Organizational Alignment the immediate appointment of a governing body will minimize the organizational strains (political, biases, department strengths) and will provide a representative group to assist in developing standards and guidelines. Having the Web Steering Committee (which would normally be a very appropriate starting point for a governance board) be on hiatus is a clear indication of risk – if it had to be put on hold already, additional constraints and historical perceptions will also need to be dealt with. The result of this should be a PSE Governance Board (internal committee)– assigned to own governance and standards. This representative group would remove issues related to "ownership" of the intranet

4.4.4   Existing Content Management Processes

Current content publishing processes leverage separate authoring and web delivery environments. Very specific guidelines seem to be in place to address risk in publishing of content within PSEWeb. Yet at the same time, several users have access to make manual code changes to the production environment. This duality is a risk to the environment, and exceptions to the processes will cause confusion/difficulties as PSE explores SharePoint's Content Management Features and approval workflows. Moving forward, it will be a risk to allow even power users to make code modifications to the SharePoint environment, and requiring overnight promotion from environment to environment will limit the leveraging of all of the advantages that a platform such as SharePoint can provide. Further exploration will be required to mitigate any issues related to these processes.

4.4.5   Integrated eForms Solution

Mention of an upcoming/early stage initiative for eForms came up throughout our discovery. It has been identified that Adobe Acrobat/eForms products are being reviewed and evaluated. Implementing an eForms solution that has limited integration with MOSS, rather than use native tools within SharePoint/Microsoft Office products, will have impact on PSE's ability to fully integrate content/data and transactional information within the same platform. Proof of Concepts and testing are recommended to mitigate this risk.

4.4.6   Information Organization and Taxonomy

Finding information on the portal is currently not intuitive and this is a consistent point made while demonstrating/discussing PSEWeb's perceived "lack of value". Users have difficulty finding either new or infrequently used information. On the other hand, throughout our interview process it became apparent that there are varying viewpoints as to what the future organization of information should be. As part of the next steps of this project, alignment must be achieved between the key stakeholders on this subject to achieve success.

4.4.7   Section 508/Accessibility Compliance

Several discussions around diversity and accessibility in the workforce highlighted a key consideration. With so much of the workforce turning over and retiring over the next 5 years, systems will need to accommodate varying degrees of accessibility/assistive technologies, as well as provide assistance for the more diversified workforce expected in replacement. Careful consideration regarding section 508 compliance must be made in developing the master pages and overall interface presentation layer. Further discussions are required to clearly identify PSEWeb's requirements as it relates to Section 508 compliance.

4.4.8   PSE Employee vs. PSE Employee as a customer

One of the concerns highlighted during our interviews is the potential conflict of solutions for internal/external users and instances where a user operates as both. PSE employees are also likely PSE customers. What should the policies be for such users, does a person who is both a PSE employee and customer really have 2 profiles/identities? Should systems accommodate for the dual role? Will this person be required to have a Employee system login ID/Password and a Consumer Login ID/Password? Should this be a concern for PSE?

4.5   Opportunities

The following sections outline opportunities that PSE has as part of their PSEWeb Redesign project.

4.5.1   Enable change in internal communications through technology

While this would seem a rather ambiguous "business process reengineering" statement, for this initiative, specifically internal communications, the SharePoint technology and Microsoft messaging stack provides an opportunity to drastically change how information is delivered across the organization. The ideas include synchronizing email notices with online support materials, leveraging XML/RSS data feeds to create personalized newsletter solutions (internal and external) and driving alerts, and subscriptions and thoughtful internal news delivery. A new comprehensive strategy should be looked at for leveraging all of the assets PSE already owns. The end result should be delivery of information, through multiple vehicles, synchronized based on need and user-defined requests.

4.5.2   CSR call center knowledge base

As we've experienced with other customers, one of the top uses for SharePoint has been the development of knowledge bases; for PSE, that would be most manifest in an electronic/interactive version of the QRM. Perhaps an online customer service response center, inclusive of up-to-date information, access to customer account information and the ability to conduct transactions could be seen as the 'nirvana' goal– but in the mean time, a useful means of

searching/finding and interacting with information to support the customer experience should be looked at thoroughly.

4.5.3   Web 2.0 functionality

This is both a request and an identified risk. Given the nature/profile of the workforce of PSE today, some of these technologies and processes will seem a bit extreme. On the other hand, a new generation of workforce at PSE will expect it them as baseline tools for everyday work. The transition will be both technological and cultural and it is important to understand just how far that will impact productivity of both current and future employees. One of the greatest means of ensuring success is a top down approach of demonstrating usage by example. Key leadership positions need to demonstrate the level of support for these new tools/ways of doing things by regularly using them themselves – becoming active participants in the web/sharing culture, either with peers or as the leadership voices in the company.

4.5.4   Enable remote/mobile workforce

One of SharePoint's many features is the ability to render the page based on the viewer that is accessing it. In all of the discussions to date, PSE's remote workforce is being optimized to use laptops, yet there's very little mention of mobile devices such as cellphones, hand held PDA, etc. While this has grown considerably on the consumer product side, it has also become a true business tool enabling business process decisions and access to relevant timely information directly through these devices. Further review of the business processes and information maintained in PSEWeb should look for opportunities to leverage mobile technologies to enable the coming younger workforce.

4.5.5   Building patterns of trust/accuracy in enterprise systems

This isn't just an opportunity, it's a necessity. Moving forward, PSEWeb needs to become a place that all employees trust will supply the correct, accurate and most up-to-date information. Content authors/owners and stakeholders are better off having no information then inaccurate data. Critical to the success of this initiative and its truly being viewed as valuable will be the total and accurate synchronization of the PSEphone, SAP and Outlook person/profile information. In addition, the technology should be able to provide users more context as to the relevance or "newness" of the documents published and should also provide consistent alerting for updates/changes to various information stored on PSEWeb.

4.5.6   Shared drive cleanup

As part of this initiative, PSE has the opportunity to clean up its shared drives. While not yet identified as a core requirement of this project, leveraging SharePoint to enable users to find information more easily easier should include the removal of other competing options (such as shared drives) and would allow PSE to effect a "cleaning up" process by a thorough, directed migration of the contents of these drives. This entails removing duplicates, archiving outdated materials/data and identifying risk/retention documents from the pool of material out on shared drives.

5. Approach and Detailed Findings

Three distinct methodologies were selected as best ways to uncover rich information. Existing PSEWeb interfaces were examined using:

▪ Enterprise Information Architecture Heuristic Evaluation

Additionally, user task activity was researched using:

▪ Contextual Inquiry Interviews
▪ Field Observation/Interviews

5.1   EIA Heuristic Evaluation

We began with a heuristic evaluation of the existing PSEWeb intranet. Traditionally, a heuristic evaluation involves examining the interface and judging its compliance with recognized usability principles. However, when approaching a complex intranet that an organization depends on for much of their daily operations, an enterprise-focused heuristic assessment can elicit a more pertinent set of findings; therefore, the heuristic evaluation of PSEWeb focused on (1) common intranet tasks and (2) mission-critical intranet tasks which are very significant for each represented group's SQI (Service Quality Indices).

5.1.1 Home Page: Navigation | Hierarchy | Messaging

There are 2 major goals of a home page – to welcome the user and assure them that they are indeed in the right place, and to start them on their way to a successful experience. An intranet home page has the advantage of having a captive audience, and no web competitor, but should not take that for granted. For home pages, one-stop shopping is the way of the future – everyone is very busy, and can't see business getting slower. PSEWeb could be the one-stop shopping experience for PSE – where you can get your benefits, travel discounts, logowear and tomorrow's meeting agenda.

However, there are challenges in home page navigation that hinder the user's chance of successful experience.

Extensive usability testing of intranet sites supports the theory that user behavior (recognition and recall) on an intranet shows more success with each ensuing visit to the intranet.
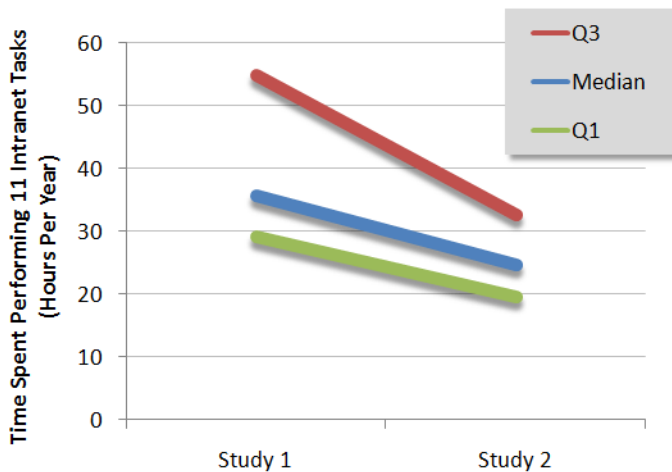
Figure 2. Jakob Nielsen's Alertbox, October 9, 2007

The opposite appears to be the norm at PSE. "Mystery Meat" navigation (hidden navigation in JavaScript "flyouts") does not encourage intuitive behaviors, and the organizational changes within PSE have negatively impacted a navigation that was built to mirror the department structure at the time it was created.

Note: Take advantage of the yellow sticky notes throughout graphics this document – they are positioned in proximity to an issue or observation for ease of reading and grasping the context.

Figure 3. PSEWeb Home Page

As you can see in Figure 3 above, navigation is well placed, as is the search and key navigational elements such as PSEPhone. Best practice recommends that the most important link be at the top, the next most important 2nd, and so on. However, as pointed out in the screen shot, there are characteristics of navigation- size, mouse action, and the selection of links- that cause problems.

As shown in Figure 4, PSEWeb is the first link, and the flyout shows 3 choices: Home Page, My PSEWeb, Help. The distinction between the 3 implies exclusivity - the home page must be different than MyPSEWeb which must be different than Help. Help generates another fly out layer, with 5 choices:
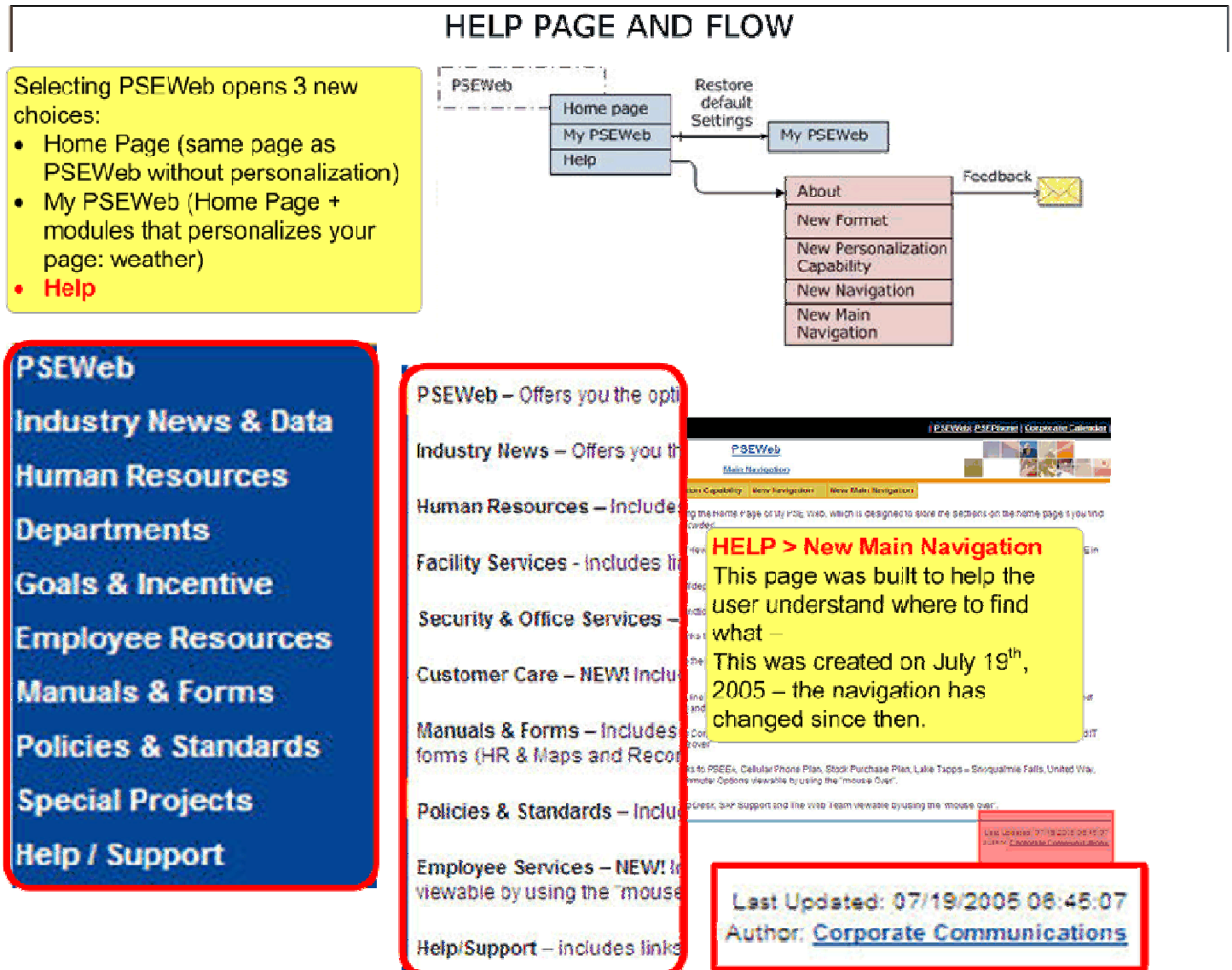
Figure 4. Initial PSEWeb links and Help

The home page should be able to start the user off on their experience throughout the site, offer fresh and useful content, and compel the user to return again. The home page sets level of expectation for rest of the site.
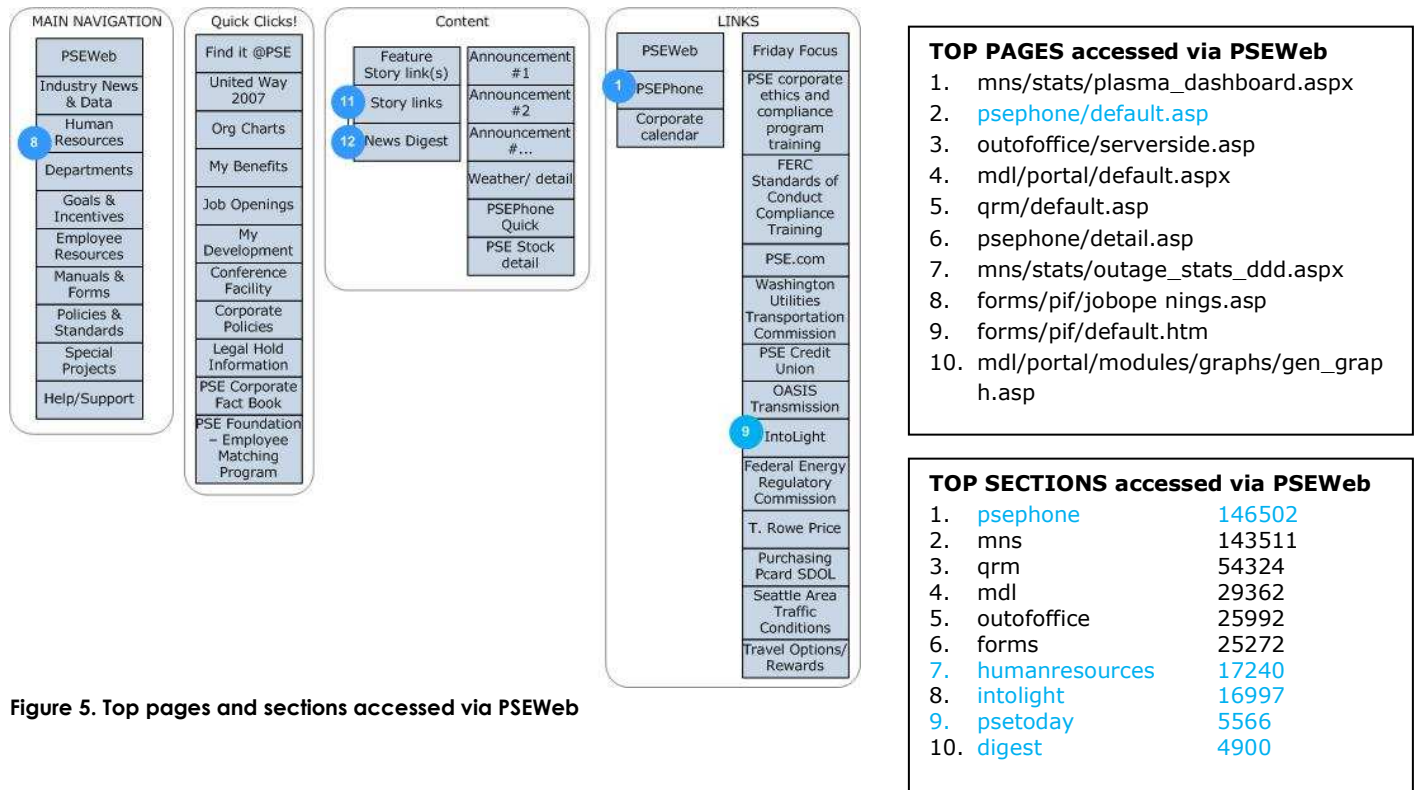
Figure 5. Top pages and sections accessed via PSEWeb

TOP PAGES accessed via PSEWeb
1. mns/stats/plasma_dashboard.aspx
2. psephone/default.asp
3. outofoffice/serverside.asp
4. mdl/portal/default.aspx
5. qrm/default.asp
6. psephone/detail.asp
7. mns/stats/outage_stats_ddd.aspx
8. forms/pif/jobope nings.asp
9. forms/pif/default.htm
10. mdl/portal/modules/graphs/gen_grap h.asp

TOP SECTIONS accessed via PSEWeb
1. psephone   146502
2. mns   143511
3. qrm   54324
4. mdl   29362
5. outofoffice   25992
6. forms   25272
7. humanresources   17240
8. intolight   16997
9. psetoday   5566
10. digest   4900

5.1.2 Search

Search heuristics should consider the following areas:

- Locating search: Where is it? Is it always in the same place?
- Scoping search: What will be searched? What is the user's expectation of how search should work?
- Query entry: How can the user search? Is the input box large enough to see their input? Are "stop words" automatically excluded (i.e., "the", "a")? Are there accommodations for spelling errors? Is it obvious how to kick of the search (i.e., "FIND IT NOW", "SEARCH")? Are contextual help questions available?

In PSEWeb, The search capability is well placed (above the global navigation) and consistent throughout the site. (This is taking in to consideration only the pages that conform to the navigation standard currently in place.) Unfortunately, the "Enter" button does not create action to start searching. Users have become accustomed to using a keyboard shortcut.

5.1.3 Search Results

Search result principles include:

- Retrieval results: What is the user viewing? Is it query restated on this page? How many results are there? Are the results useful? Is it obvious where the results came from? Are they grouped in a useful and logical way? Are there multiple results for one document?
- Query refinement: Can the user refine their search? Is there a way to search within these search results? If the user searches again, will it be discernable to the user what new pages have been returned?
- Interaction with other IA components: Can I switch to browsing when search isn't doing the trick? Have I gathered sufficient understanding to use the navigational structure to find what I need?
- Finishing search: What can I do now that I've done searching? Can I go to the page/section to view content? Will I see related links, ways to reach the person who has the information I need?

In PSEWeb, because the search is basic Window Indexing, results are numerous and presented from the oldest forward. It would be possible to have to sift through 100s of results to find the answer needed.
Search was not offered as one of the user's regular uses of PSEWeb. When specifically asked about it, the responses were consistently negative; we did not find anyone who used it. When asked for an

example of why users felt it was not useful, we were shown several examples of queries and "bad" results. Some of these results- both general results and PSEPhone results, are shown in Figure 6 through Figure 10.

Search: Org Chart
# of results: unknown
Organization of results: unclear
Short Description: no context to the document or page; usually contact information. Name of the link begins with the type it is (Visio, Word).
Visited link status: none

Figure 6. Search for "Org Chart" results - Page 1

Figure 7. Search for "Org Chart" results – Page 9

Figure 8. Search for "Org Chart" results – page 18

Search: PSEPhone Data
# of results: unknown
Organization of results: unclear
Short Description: 3rd result: XML code
Visited link status: none

Figure 9. Search for "PSEPhone Data" results

Search: PSEPhone Data
# of results: unknown
Organization of results: unclear
Short Description: 3rd result: XML code
PSEPhone was the lead story for the newsletter, so every story in the newsletter shows up as a result
Pages build in tables show "table"
Visited link status: none

Figure 10. Search for "PSEPhone" results

5.1.4 Site-wide Navigation

"Findability refers to the quality of being locatable or navigable. At the item level, we can evaluate to what degree a particular object is easy to discover or locate. At the system level, we can analyze how well a physical or digital environment supports navigation and retrieval."

Ambient Findability, by Peter Morville[2]

The following site maps document PSEWeb taxonomy and the main pages accessible through menu navigation. This inventory complements findings, will aid in re-design of the site.

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[2] http://www.digital-web.com/articles/ambient_findability/

Figure 11. Site map 1

Figure 12. Site map 2

Figure 13. Site map 3

Figure 14. Site map 4

5.1.5 Contextual, utility, embedded navigation

In addition to global site navigation, we looked at contextual or "local" navigation. Whatever the form, consistency is key. For each of these elements, which live on each of the HR pages, maintaining consistency in both layout and content creates a familiarity for the user.

For example: on HR's home page, there are notations for

☎ = Contact 📋 = Form 📖 = Word/PDF 🖥 = Website

However, there are links with the WORD/PDF icon that are actually links to HTML pages with links to the documents, which creates a disconnect between the user's expectation, and what is actually delivered.

Each of these "quick contacts" have a slightly different layout, and are placed differently on each page. This information very good to have on each page, but it's page placement has the user searching for it each time.

5.1.6 Examples of global inconsistency

To reiterate a theme, consistency is as important as good navigation. Navigation standards help to give the user a consistent point of reference throughout a site – to always be able to help the user understand:

- Where they were

- Where they are

- Where they can go next

Currently, the global navigation consists of the MAIN NAVIGATION and QUICK CLICKS! Set of links on the left. Both allow the user to see the departments plus links directly to specific pages. Corporate Communications recently redesigned their pages to (1) reflect the global navigation, (2) represent page layout proposed standards (navigation – content – "local" links)

Following is a representation of some pages that did not include global navigation structure or look of PSEWeb. While each page may offer the information and functionality that the specific department requires, without persistence of that global navigation, users must deal "exceptional" flows – not being able to get to important areas on PSEWeb, and not even knowing what is available on PSEWeb.
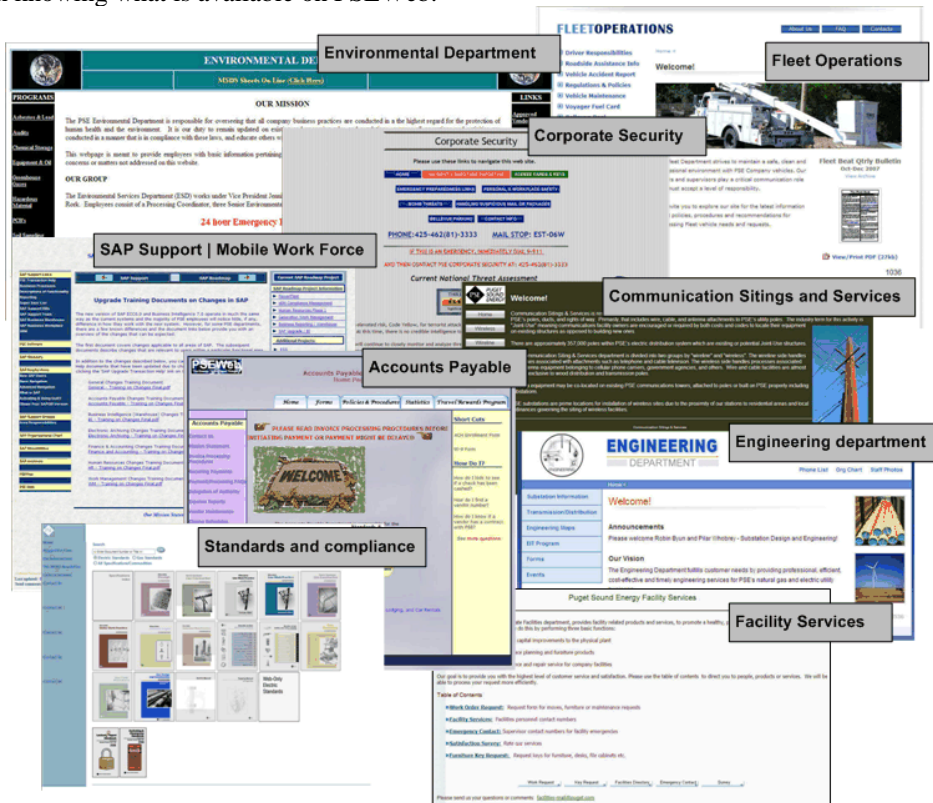
5.2   User Tasks and Research

User activities and tasks were examined through contextual inquiry and field observation. Assessment methods like contextual inquiry and field observation are most successful with focus pre-defined.

5.2.1 Contextual inquiry/interviews

Contextual inquiry is based on two core principles:

- Understanding the context in which a product is used (the work being performed) is essential for optimum user experience
- The user is a partner in establishing best user experiences

5.2.2 Field observation/interviews

Field observations allow us to be immersed in the users' environment, and to note critical details for which there is no other way of discovering.

5.2.3 Summary of Results

"Consider the meticulous steps taken through the renovation of a Victorian home in a historical district: as tools of everyday living of are uncovered (a straight razor and shaving mug, boot button hook wand, a silver rattle), a view of the technologies of that time *and* the residents form."

Methodologies such as contextual inquiry and field observation give us the same insight. Along with learning what tools PSE employees use to do their job, the interviews and observations tells of a much larger context – changing organizational structures, mergers, shifts in business goals, life events, hardware failures. How employees have adapted is critical to note, as this is now the current state of the user experience. In addition to the findings in section 3, conducting this research revealed a rich view of digital artifacts:

- Hidden (or orphaned) HTML pages
- "Multi-ethnic" style-sheets cross-bred and reused for so many designs
- Numerous half-empty shell pages populated with out-of-context content, created as a starting point for new micro-sites
- Multiple sets of overlapping archives accumulated as drives/folders become unwieldy and cumbersome and new ones are created. These archives are now filled with miscellaneous documents in MS Office format or – even worse - obsolete application files; originally stored on servers for temporary download, they now represent a retrospective of drafts of deliverables for long-over projects, and backups from system crashes long-forgotten.

5.2.4 Participants

Four of the total 54 departments were selected to participate in this initial discovery. The co-sponsors recommended individuals within their departments to also participate, to give a well-rounded view.

HR
- Marla Mellies, VP Human Resources
- Lorelee Bauer, Staffing and Diversity Manager

Additional key players:
- Tom Hunt (benefits)
- Liz Sullivan (SAP)
- Brenda Bartell (PM, SAP project)
- Greg Sisson (GPTW)
- Keith Kaufman (web administrator)

IT
- Bob Bisschoff, Customer System Services I/T Consultant
- Chris Deitz, Mgr Data & Application Services

- Matt Grover, Sr Application Analyst

Additional key players:

- Barb Padagas (manager, security and corporate records)
- Jerry Thomas (PMO)
- Joyce Hawkin (telecom)
- Shirley Pressley (SAP site owner)
- Nancy Agler (desktop support manager)
- Jon Pielemeier (SAP manager, support)
- Joel Chrisman (new customer support)
- Ruud Scheenen
- Ornulf Kittelsen

CUSTOMER SERVICE

- Paula Russell, Customer Services Program Manager
- Wendy Micklus, Customer Services Mgr Customer Experience

Additional key players:

- Janet Gaines (Director, Customer Service)
- Turushia Thomas (Manager, Access Center)
- Tina Keating (CSR2)
- Michelle Perrin (CSR2)
- Wanda Miller (Lead, Revenue Management)
- Sharon Wallace, Michele Dodd (receptionists)
- Melissa Gering (Revenue Management – closed accounts)
- Leonora Filley (CSR, Revenue Management – refunds)
- Lindsay Raso (Operations Specialist – Point Desk)

CORPORATE COMMUNICATIONS

- Martha Monfried, Director, Corp Communications
- Philip Malkin, Manager, Creative Services

Additional key players:

- Dorothy Bracken (PR)
- Teri Martin (employee communications)
- Sandy Carson (events)
- Duncan Gibbs (PSE.com, Corp Comm)
- Karen Albright (Forms, Corporate Brand & Logo)

5.2.5 Completed interviews

Round 1 (Contextual inquiry)	Round 2 (Field observation)	
Philip Malkin	Shirley Pressley	Matt Grover
Bob Bisschoff	Duncan Gibbs	Teri Nguyen
Matt Grover	Keith Kaufman	Wanda Miller
Marla Mellies	Brenda Bartell	Char Stumpf
Lorelee Bauer	Marla Mellies	Wendy Micklas
Wendy Micklus	Karen Albright	Paula Russell
Paula Russell	Joel Chrisman	Janet Gaines
Char Stumpf	Jon Pielemeier	Melissa
Chris Deitz	Tom Hunt	Leonora
Barb Padagas		

5.2.6 Postponed interviews

- Philip Malkin
- Keith Kaufman
- Shirley Pressley
- Greg Sisson
- Teri Martin
- Dorothy Bracken
- Sandi Carson
- Liz Sullivan
- Nancy Agler
- Lindsay Raso
- Tina Keating
- Michelle Perrin
- Michelle Dodd
- Sharon Wallace
- Ruud Scheenen
- Ornulf Kittelsen

5.3   Other data

5.3.1 Most visited pages

Since there is no analytics capability tied to PSEWeb to understand user activity, Matt ran a query to list all pages within PSEWeb that showed any sort of activity (at least 1 visit) over a 30 day period.

One assumption that can be extracted is that pseweb/default.htm and pseweb/default.asp are the same page: the PSEWeb home page.

pseweb/default.asp	239523
pseweb/default.htm	168831
Total home page visits	408354

Therefore, the total number of visits in this 30 day period total 408,354.

An unplanned-for finding: 41.4% of the visits are to an obsolete page. An assumption can be made that it is a saved

URL - most likely is the user's home page.[3]

Other findings based on page visits:

Top areas visited | by task/department	total visits	%	tasks detail/comments
METERING	143095	15.2%	meter group or CSRs troubleshooting meter accuracy or explaining why bill is so high
PSEPhone	135623	14.4%	phone look up
QRM	39372	4.2%	All QRM pages, not just QRM home page
METERING (rev mgmt)	29345	3.1%	Revenue management CSRs
JOBS	22453	2.4%	Jobs home page (19222), plus represented (3231)
Out of Office - calendar	21242	2.2%	internal calendar tool mostly used by IT
QRM >city search	16542	1.7%	find business offices, contact info
QRM < Customer Services	13060	1.4%	QRM home page
INTOLIGHT	12788	1.4%	street lights - outages, requests for new ones
PSE Phone	10647	1.1%	results
HR home	7478	0.8%	
Friday Focus	5380	0.5%	email link
pay station list < **QRM** < customer services	4406	0.4%	CSRs answering "where can I pay my bill?"
Find it @PSE < **QRM**	3546	0.4%	find it fast links directly to this QRM page – this # is not included in the QRM total above
home > daily clips	3540	0.3%	aka news, digest
forms < global nav or corp comm	2427	0.2%	
Customer services home	2422	0.2%	many CSRs have this bookmarked as their home page
QRM >Energy Assistance Agencies	1818	0.2%	CSRs helping customers to find ways to pay a bill - electricity turned off or about to be…
search	1649	0.1%	
standards & compliance	1586	0.1%	
nav>officerteam	1582	0.1%	org charts
home>announcements	1539	0.1%	
hr>benefits	1220	0.1%	low total for such busy hits during open enrollment time; or, indicator that people do call more than use the site?

5.3.2 Webdev1 server information

The WebDev1 server contains the majority of all pages that comprise PSEWeb. After a discussion with Matt Grover

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[3] This assumption was discussed with Matt Grover, who confirmed that the .htm pages were obsolete once the site was migrated to a .NET platform, and felt that the default.htm was indeed a bookmarked home page.

and Joel Chrisman, two requests were agreed to:

- Matt Grover will identify where any other pages live (other servers)

- Joel Chrisman will, as time permits, to get us a list of the folders, the files within, and if they are live, "hidden", or obsolete.

Why is this important? Between the pages visited reports that Matt has run and our assessment of PSEWeb, we have a good picture of activity on PSEWeb. This does not answer "How many pages are NOT being seen or used?"
A cross-reference of the report we will receive from Joel will give us a true 360-degree view of the pages that make up PSEWeb.

5.3.3 Great Place to Work survey results

Since 2002, PSE has conducted the annual Great Place to Work Survey. Consistently, the recommendation includes continuing to strengthen two-way communication and continue to keep the lines of communication open.

5.3.4 Lessons learned: emergency preparedness

"The emergency restoration plan and information processes are limited today by their ability to scale up to a storm of this size (Dec' 06)."
It was KEMA's assessment that PSE did not manage the process of providing customer information on restoration times as effectively as necessary to meet the needs of its customers. The magnitude of this storm overwhelmed the information systems capability of the company. Before information can be sent out to customers in these kinds of situations, the information preparedness plays an important role internally; this is tied up to the intranet of the company. Customer Service currently distributes alerts information to all the CSRs with paper copies of the alerts; as content/severity changes, new alerts are printed and copied.
It's not uncommon for an afternoon CSR to come in to a stack on his/her chair, and that CSR will spend valued time sifting through all the papers to get the most current update as to what transpired before they began their shift. They want to have the alerts accessible through PSEWeb.

5.3.5 Employee trends

This is a 4 generation company: WWII generation, Baby Boomers, GenX and GenY. Within the next 5 years, 42% of PSE employees will retire, to be replaced by the GenX and GenY population.
Baby boomers (born between 1943-46 and 1957-64)
Generation X (born between 1958-65 and 1975-81) is recognized as one of the most tech-friendly generations in American history, while Generation Y'ers (born between 1976-82 and 1995-2001) tech-friendly statistics are:

- 97% own a computer
- 94% own a cell phone
- 76% use Instant Messaging.
- 15% of IM users are logged on 24 hours a day/7 days a week
- 34% use websites as their primary source of news
- 28% own a blog and 44% read blogs
- 49% download music using peer-to-peer file sharing
- 75% of students have a Facebook account
- 60% own some type of expensive portable music and/or video device such as an iPod.

To both attract the GenX and Y'ers, as well as retain them as employees, these modes of need to be considered as standard operating procedure – as are computers and blackberries are today.

6.   Appendices

6.1   Interview notes

The following sections contain brief summaries of initial interview notes, focusing on the key processes, tools, issues and goals discussed. These summaries are not presented in chronological order; rather, they are collected under main organizational groups.

6.1.1 Corporate Communications

6.1.1.1 Philip Malkin; Manager, Creative Services (Corporate Communications)

Involvement with this project: Sponsor, Department co-sponsor

Background & Historical Perspective

Philip has been with PSE for 5 years; he currently reports to Martha Monfried, Director of Corp Communications. Philip Started on the web initiatives 2.5 years ago, beginning with the external website, with the intention of immediately following up with the redesign of the intranet. Now that WCMS project is nearing completion (PSE.com), using SharePoint for PSEWeb is a natural next step.

About PSE Organization

PSE is the only energy company who owns wind farms (2) and a natural gas farm (1). They have service territories in 11 counties (map provided). PSE Mission: Puget Sound Energy employees provide great service to our customers that is safe, reliable, reasonably priced and environmentally responsible (draft). Corporate Communication's mission statement: Building relationships with timely, leveraged and consistent communications (TLC).

"Lessons Learned" report on web http://www.pse.com/insidePSE/lessonsLearned.aspx - one of the recommendations is: improved communications.

5 years ago, a new CEO came in, and shifted the mindset from contracting support (we're in the energy business, not the web development business) to having internal resources. 1 year ago – new www.pse.com was launched.

60% (his recollection) of work force will be retiring in the next few years, to be replaced by a younger generation who have new ways of doing business: telecommuting, remote access, email/IM communication.

Tools

Intranet users: counties, CSRs/Call center, CRMs (out in the field), wind farms employees. 600 employees are not online; there is an RFP to get everyone online.

The Satellite offices are on the network. All employees have MS office, PDF reader

Site:

- Maxcarmichael.com

Other PSE sites:

- MyPSE account – transactional site
- PSE.com
- Pugetenergy.com – investor relations
- PSEFoundation.org – corporate giving site, endowed by PSE

Initiatives

- Mobile Work Force – an ongoing initiative to get remote employees on the network – issued robust laptops for 1st responders, out in the field, with wireless access.
- eForms project – Adobe Lifecycle is being considered. The goal is to get all forms (4000+) online.
- There is a web steering committee (WSC), currently on hiatus. (look at org chart for current members)

Issues/Concerns

- Consistent look and feel. All PSE sites do not show a consistent look and feel in terms of branding, color; logos etc.

- Compliance constraints. Sites and communications are subject to FERCm Sorbanes/Oxley; also - 508 compliance/W3 certified.

- Security in general: security for buildings, network security. This is a very critical piece to keep in mind. Ongoing conflict of Push vs Pull technology. When on the network, you are recognized as a PSE employee, and a PSE customer. Ideally, when you are at home/off network, you log in to www.pse.com and you are recognized as a PSE customer and a PSE employee. Role of Active Directory.

- PSE Phone not accurate and in sync with Outlook contacts

- Friday Focus - The newsletter is a pdf on PSEWeb, the email sent out alerts the company that a new one is posted, with a list of contents. About a 1/3 of the company doesn't get it

- Web analytics – only exist for the external site

Goals

- The COO would like a blog in which he can communicate and collaborate ideas with his direct reports.

- The SVP of Corporate Affairs is looking for a platform in which his managers can collaborate – a controlled community access – and likes the idea of a blog (perhaps a wiki/blog combo?)

- Other ideas Philip can see being well received: Forum to share ideas for the lobbyists in Olympia, resource managers (remote, everywhere)

6.1.1.2 Karen Albright: Program Manager, Corporate Identity and Forms

Involvement in this project: SME

Background

19 yrs. with PSE; started in Printing group, Corp Communication (1991), Facilities (1996), Office Services was a part of Facilities, Corp Communication (2004).

Issues/Concerns

- Hard to find her (Corporate Communications) information on PSEWeb today; extensive drill down is necessary.

- She feels that records (corporate records) and forms belong together.

- eForms project. 4000+ forms exist. ~1500 can be converted to eForms. LiveCycle (Adobe) doesn't talk to SAP, SAP has an Adobe product that creates eForms.

6.1.2 Human Resources

6.1.2.1 Marla Mellies, Vice President

Involvement with this project: Department co-sponsor

Background

Marla has 2 years with PSE; she has a utilities background, with time spent at Microsoft. Areas of responsibility include Payroll, Benefits, Diversity, Labor relations, Business partners, Training and development. Her first initiative was to redo the HR website. Overall, her ability to meet financial and budgetary goals are heavily dependent on ROI, not revenue.

In PSE, there are about 2500 employees – 13 officers, 40 directors, 4-500 managers/supervisors (people managers and non-people managers, such as foremen at substations who are project leads, not people managers). There are 30 employees in HR.

Tools and Usage

PSEWeb Usage: 6x/day, fast hits – for PSE phone, forms. Reads Friday Focus, News Clips. Uses intranet to look for forms, policies.

Issues/Concerns

- PSE Phone inconsistent and discrepant with Outlook data.

- She has to go "outside" to get information; must remember where forms and policies live based on department changes, ownership, internal organization logic.

- Employee Self Service. She hopes that employees are not alienated with the product and that it provides value to them. Password change requirement (from SAP, every 60 days) may be a burden.

Goals/Expectations

- Phase out PSEPhone and use Outlook.

- Use of "user's language" – easy to read, for the user to not have to figure out industry-specific terminology (benefits, insurance, HR, etc.)

- Single sign on

- Phase out physical Employee Information Center and reduce phone call load.

    - She estimates that 70% of her team's time is used in supporting the phone calls; she'd like to see it reduced to 10% of their time. She knows that it's a matter of training team and customers. She does encourage team to refer customers to the 3rd party vendor (benefits, insurance, 401k) instead of answering the questions themselves

    - Communicate with retirees electronically. Today, they send out everything by mail (paper-based); there are 800 retirees today, 42% of all employees will have retired by 2012. Potentially, there will be 1800 retirees in 5 years – phone support, paper communication will be cost prohibitive. They don't have access to the intranet, so it would have to be something like an extranet

- Encourage more employee "self service", including electronic pay stubs, enrollments, and personal profile updates.

- Make managers aware of – and capable of using - all the employee data available to them through the HR department.

- Create area where managers can converse, brainstorm, collaborate.

- Phased approach to eliminating the shared drives

- Ability to access PSEWeb without using VPN

- Create a "higher value add" staff

- Support eForms project from Corporate Communications; it would really help the HR team to have forms online.

- Access to all tools needed for Human Resources jobs. Note - there is an external contractor currently building the hiring matrix (to help hiring managers to find the right tools quickly).

6.1.2.2 Tom Hunt, Director, Benefits and Compensation

Involvement with this project: SME

Background

6 years at PSE. Working with the ESS Rollout (October 22) to HR, IT, Legal, Purchasing; if that goes smoothly, the whole company will get it in 2008. ESS will provide ability to see copies of paychecks (only way to see accurate PTO), update bank and direct deposit information, personal information, W-4s, and access Who's Who – contact info lookup.

Issues/Concerns

- Level of calls received even though information is available online and in print (sent to employees home). Tom's group, and EIC get calls from people who do look at the site, but a) don't know where to look b) don't find what they need c) get confused by terminology or d) don't trust that they've understood what they read. This is too important a decision to mess up, so they still want to talk to someone.

- A problem they have is retirees who fill out the new enrollment form, even when choosing to stay with what they have. They don't want to risk a mistake and not receive their benefits.

Goals

- Address customer questions, reduce calls.

- Employees should be able to access ESS from the HR area of PSEWeb, as well as on the home page.

- An area (collaboration area) for managers – schedules, alerts, guidelines for performance reviews – alert for when it's time to conduct them, training sessions to learn new skills.

6.1.2.3 Lorelee Bauer, Manager, Staffing & Diversity

Involvement with this project: Department co-sponsor

Background

Lorelee handles recruitment, new employee orientation. . Much of her job has to do with ensuring that they are in compliance in hiring practices – doing utilization analyses in case they are audited. Her passion is as strong in the area of diversity.

Tools/services include: Interview templates, reference checks, Weighting criteria for job, Confirmation of offer.

Hiring Process

Begins with RAF; electronic signature is acceptable. All open positions are posted to PSEWeb as well as PSE.com and other sites. TALEO is 3rd party tool for helping with recruiting process; other managers may perceive it as not user friendly- particularly reading long scrolling resumes. Lorelee receives candidates' resumes, then hands them to the hiring manager. Her team assists with final hiring steps. At the end of this process, hard copies with signatures are required – can be a bottleneck.

This hard copy goes to the EIC, where the employee data is put in to SAP; all employee information, for updates, new hires, etc, via the PAF form. Info forwarded to the appropriate 3rd parties (i.e., benefits info gets sent to the provider), then scanned and archived in EZSoft.

Other forms/data generated after SAP creates an employee ID:

- IAA (corporate ID, log in, etc. for email); ISR (for computer request, any equipment, software, etc.); Access Form (building access – facility, security card).

- Telecom: phone, fax #, etc.

- When a new employee is hired, HR generates an email list to IT, Telecom, Security, Labor unions (as necessary), Benefits (in HR), etc. When a new employee is terminated, the same email is generated.

Customer Support

While handling calls, she encourages her team to not answer specific questions, but to refer the customer to the source. "Intentional" 3rd party outsourcing; EIC has benefit expertise, but the 3rd party is the expert.

Customers can also access the IVR – another way of getting the customer directly to the source; the prompts take the customer through all sorts of solutions, and reaching the EIC is the last option.

For new employee training, gives binder to employee, walks through it, has reference to things to look at on the PSEWeb.

Issues/Concerns

- Building management retains the "access form", which has SS# on it.

- When an employee changes from contract or temporary to permanent, HR only updates SAP- not other systems. When an employee changes name, or position, HR only updates SAP

- SAP resolves via Employee ID#, AD/Outlook resolves via Employee name

- General Access/permissions flexibility. Her team can see all employee records except those on their own team. Permissions issue: executive who has the high level of permissions, wants his assistant (a support staff/non-manager) to be able to see his/her own things, like emails, benefits, etc. because they do a lot of that work for the officer.

- Tribal knowledge a common means of transferring knowledge, with no ability to validate that information.

- Accommodating a mix of cultures. This is a company of 4 generations: WWII, baby boomers, GenX, GenY. Attitudes, behaviors, communication methods are so different, not to mention language

Goals

- Put NEO on the web, make it a webinar, web training, thus save on printing (and paper) and it'll be easier to do the exercises on PSEWeb.

6.1.2.4 Keith Kaufman, HR Analyst – Substance Abuse, CDLs, Union Represented Performance Reviews

Involvement with this project: SME

Background

25 years at PSE; handles 85-200 performance appraisals monthly. Substance abuse services include arranging drug tests and counseling.

Tools and Usage

Personal Use of PSEWeb

Top use: PSE Phone for phone numbers and mailstops, employee reporting relationships. Note: SAP most often cited for phone number lookups.

Main page and news story, daily. HR page on a limited basis. Main page organizational charts link on occasion. Main page P-Card Link on a monthly basis: Purchasing PCard SDOL. Main page traffic info link on occasion: Seattle Area Traffic Conditions

Web Publishing

Keith maintains the home page and benefits areas of the HR site on PSEWeb, which he equates to approximately 75% of the HR site. Lily Yates does corporate employment, Mike Mikelsen does compensation. Diane Dickenson, Louisa also do some updating.

Updates are performed with Front Page, pushed to staging; Joel Chrisman is emailed, and he pushes content to the live site. Keith, as a SME, must ensure content is appropriate.

Outlook – he has signatures that hold "auto" email messages that are brief, and uses templates for longer emails that he sends out regularly.

Employee Research & Documentation

SAP in constant use; main tool for researching employees while processing disciplinary documents, performance reviews, and grievances. SAP provides address, formal name, employee # and HR advocate. Once generated in hard-copy, these documents are routed to labor relations, the HR advocate, and the "scan box". Document is scanned into employee's SAP records; hard-copy original filed in binder.

Issues/Concerns

- Would prefer web publishing process to be faster, though in general, the HR department accepts daily updates.

- Scans are usually done by temps, who don't' understand the impact of how they name the file or how they scan. If there are several docs (separate types), the scanner may scan all together, then file it in a "general" bucket in SAP. When Keith (or anyone) has to find a doc, they can't count on it being in one of the folders that they should be in – they look through all the possible folders it might be in. And, it might be page 2 of a scanned doc, but have nothing to do with the first doc.

6.1.3 Customer Service

6.1.3.1 Wendy Micklus, Manager, Customer Experience; Paula Russell, Program Manager, Customer Experience; Charlene Stumpf, Training Analyst, Customer Experience

Group interview

Wendy Micklus: *Involvement with this project: Department co-sponsor*

17 years with PSE; Wendy's group (8 employees) supports the Access Center CSRs – they handle the training, maintain the Quick Reference Manual, and support the CSRs in their communications with the customer.

Paula Russell: *Involvement with this project: Department co-sponsor*

18 years with PSE; Paula has worked in every role in Customer service: clerk, CSR1, CSR2, Web Agent, Collections, Remote agent. Trains CSRs on tools that are needed (i.e., Princeton), troubleshoots "secure" areas of site, such as MyPSE, pay by phone functionality (IVR)

Charlene Stumpf: *Involvement with this project: SME*

27 years with PSE, she does all updates and pages for QRM and Customer Service website via FrontPage. She maintains the newsletter.

Background

Wendy provided Customer Service organization overview: Janet is the director, and oversees Wendy's group (who supports the CSRs), Turushia Thomas's group (the Access Center/CSRs - ~150-200 CSRs) and Revenue Management (who have their own CSR group), which is responsible for payment processing, billing and credit. There are ~50 billing CSRs and ~15 credit CSRs, who all use the Quick Reference Manaual (QRM). Business office clerks and cashiers also use the QRM. There are also Customer construction reps (customer construction services) who use the QRM. QRM has been online since 2001

Issues/Concerns

- PSEWeb search not effective for CSR's purposes. Originally intended to search only the QRM, it now search entire PSEWeb; results start from oldest data; result display (based on HTML) is extremely difficult to decipher; results – since not QRM specific—are often non relevant to search criteria/needed results.

- New CSR training is long and intense – hands on training for 6 weeks.

- There is no "help" or reference tool for using the QRM.

Goals

- CIS Results on personal home page: Paula would love to have the CIS results on her home page. Right now, it's a report that is generated monthly, this is where the CSRs input comments by customers – complaints, kudos, opportunities; the doc is archived on a shared drive. It's given to PSE a week after the end of the month. Difficult to search on, and any customer complaints from the beginning of the month is 5 weeks old by the time Paula sees them. This report also has the Call Center stats (i.e., how long it takes to respond/resolve, service level to date)

- SQI results on personal home page. Wendy would like to have CIS/CLX results on her home page, plus the 10 SQIs (Service Quality Indices) for the year and where they stand in comparison to other departments. She wants to know how her group is doing against the others,

- Improved QRM

- Improved navigation/search of QRM

- Alerts to updated content.

- Wendy – they really need a good content management tool – and definitely need the ability for tracking document approval.

6.1.3.2 Paula Russell, Program Manager, Customer Experience

Follow-up interview

Background

Calls are routed via the prompts with the IVR

CSR role descriptions include: Clerks – (apartment clerks) –handle all landlord/apartment owner issues. Blended agents take care of web-related issues; they respond to emails from the website, or phone transfers from the CSRs when told the problem is web-related. Revenue CSRs main job is to take care of back bills. Customer Construction Centers have CSRs (CSR2 level) who give phone support around moving or installing equipment.

Web agents – do CSR2 calls on Mondays, don't handle email responses at all. Tuesday-Friday, they handle the emails and cover the phones during lunch breaks for the CSRs. This impacts their work load, and can affect their reaching their own goals, since being on the phones puts them behind on responding to the emails.

Revenue CSRs handle overflows, as do the web agents, as does the receptionist at Bothell.

Tools/information that CSRs use

- Admin tool

- Princeton eCom (payment lookup tool for when customers pay by phone and want to confirm that it went through – real time – as PSE.com can't show that it was paid for 2 business days)

- Sponsor Care – application to view payments made via CheckFree

- MDL (meter data link)

- Outage mapping

- Newsletter (for CSRs)

Goals

- Goal: have a web based view for apartment owners to facilitate the move-ins, move-outs, via a web site; right now, it's done via phone, email, fax, regular mail)

6.1.3.3 Charlene Stumpf, Training Analyst, Customer Experience

Background

She maintains all of the CS site, the newsletter (she does have some helping her to build the newsletter right now) QRM

Tools

For CSRs

- PSEWeb> Training > desktop for CSRs, managers will set up trainings for them, and they go on line at a prescribed time to take this online course.

- Database for managers – to view what their employees have been taking, what they should know, etc.

- CAC – list of all classes with descriptions, so that a manager can get any idea of what a new CSR should know…

Personal

- Outlook - CS Newsletter/QRM email box

- Update information is on the J drive (a QRM_web) and hard copy

- Microsoft Access (QRM's City Search/Training data bases)

- Adobe Acrobat

- Photo Editor

Issues/Concerns

- Site index is obsolete

- "Update" notation is misleading – the CSRs think it means that information has been updated, but it just means that someone was on the page.

- Search used to work – and return results only in the QRM; it's changed, and now it's returning results from the entire site.

- SharePoint sites are confusing– there's one called Key Operations Metrics that she goes to get data – but there are 2 different ones, and one has more current info than the other.

Goals

QRM Wish list

- Way to archive, remove obsolete pages.

- Easier, faster QRM navigation\

- Better search engine

- Easy way to track updates made

- Automatically update site map

- A tool for requesting regular updates from other departments – a reminder to make sure that was it out there is accurate.

- Be able to create the CS Newsletter and easily add it to the QRM & Customer Services web page

Action Items

- Cross reference "top pages" on Customer Service page with overall top pages doc from Matt.

6.1.3.4 Wendy Micklus, Manager, Customer Experience

Tools

Uses outlook/Blackberry, Outlook desktop, voice mail, calendar. Goes to mYPse weekly, to see what customer's are seeing

Task: set meeting up as requested

1. Went to talk to the person who requested the meeting

2. Called the facilitator

3. Talked to the person again

4. Booked the conference room (outlook)

5. Invited everyone (outlook)

6. Emailed other people the agenda

6.1.3.5 Janet Gaines, Director, Customer Service

Background

Janet has been with PSE for 30 years.

Tools

Personal

Outlook; PSE.com; ART SharePoint site; KOM SharePoint site; Western Energy website; looks up pay stations on PSEWeb, QRM.

Also goes to WUTC site (right nav), checks traffic. Wishes we had weather on the site too.

Goes to PSECU site – checks out bid and barter, to see if there's anything she'd like to get.

Others

There's a tool that allows Customer Service managers to see what tools the CSRs are making use of to help them do their job. It's accessible through CLX.

Issues/Concerns

- PSE Web navigation. She had such a hard time finding the expense report area on PSEWeb that she went and downloaded the forms and has it accessible from her desktop. On the other hand, locating performance appraisal forms was not too difficult.

- QRM Navigation. When attempted to handle a call, she struggles to find information, and has had to ask a CSR to walk her through it.

- CLX complexity. CLX has 300+ screens, and when they hire someone, they go through 5-6 weeks of training to use the tool, but no time is spent on CSR phone relations.

6.1.3.6 Wanda Miller, Lead, Revenue Management

Background

29 years with PSE. Last 3 years in Corporate credit. she reports to Tom Yokum (who is under a new director named Agnes who reports to Darrin). she handles calls from customers who might have complaints about CSRs, talks with collection agencies, NSF checks, bankruptcies.

Tools

Outlook.; CLX - Has a work queue in CLX; monitors to anticipate any issues. MS Access (transaction audit database - flagged transactions, eResource Planner (IE shortcut on desktop)

Handwritten journal with notes that she doesn't want to put on an employee's file yet.

Image Vision (scanned checks from CheckFree)

QRM to look at processes (when transferring a customer, for example – to make sure it's the right person/role)

HR site to get info on family leave (when one of her clerks requests it)

Rate Book – went to look for it before changing an announcement, since they are so governed by utility commission

TASK:

1. Went to look for Rate Book (right nav)
2. Thought it would be under Washington Utility Comm link
3. Went in to QRM > other sites > rate book

6.1.3.7 Melissa Gering: Closed Accounts Collection Representative, Revenue Management - Customer Service
Background

Melissa has been with PSE 27 years.

Tools

Outlook, CLX, SAP, Princeton eCom, Access, Accurint (website – skiptrace), LexisNexis – people look up, Experian – people look up, ImageVision – check scans, and the Dept of Revenue, State of Washington.

6.1.3.8 Leonora Filley, Clerk, Revenue Management

Background

Leonora has been with PSE for 19 years, 10 years of that working with refund checks.

Tools

Her tools include: Outlook, CLX, MS Access, and [boxes of] physical checks.

6.1.4 Information Technology

6.1.4.1 Matt Grover, Senior Applications Analyst, Information Technology

Involvement with this project: Department co-sponsor

Background

Matt is the unofficial "go to" guy for all things PSEWeb. Matt's responsibilities have grown, and he would welcome standards and guidelines to refer to when handling requests regarding PSEWeb.

Tools and Usage

Matt described many of the small web apps (at the department level) that exist, along with other tools and initiatives:

- QRM
- PSEPhone (asp). Syncs nightly with SAP and resolves discrepancies (supposedly) (See flow for detail of how it works)
- EZ Soft
- Image Site
- Tapes of backups going back 8 years (it's a requirement)
- Shared drives – various permissions: all access, specific group access, private folders. The X drive is the backup drive – users should put everything they need/want backed up on it.
- He's heard about the eForms project, using Adobe Lifecycle
- He's used surveymonkey to do past surveys

Matt provided flow of how PSEPhone, SAP, AD, Outlook, telecom etc all interact.

He notes that there are no web analytics in place for PSEWeb; he uses Urchin for external site.

Issues/Concerns

For current systems

- SAP sync. There are issues with the nightly sync with SAP – but he has not had the bandwidth to investigate and solve the problem.
- Web Analytics. He notes that there are no web analytics in place for PSEWeb; he uses Urchin for external site.
- Maintenance of multiple instances of the "out of office" application. It was originally built it for IT (to see when someone could take vacation time) – but many others requested a custom instance. http://pseweb/outofoffice/default.asp
- Internal and external references to content. Energy Efficiency Services is a department that makes use of PSE.com (http://pseweb/BusinessDev/ResidentialPrograms.html) – breaks that standard of keeping this internal. Need to find an easy way for them to duplicate the information and not link to an external site.

For potential systems

Top concerns around PSEWeb, security and SharePoint:

- All content that appears on PSEWeb must be developed in a separate authoring environment and published to PSEWeb

- No web parts/components/features may be used that allow users to edit content directly on PSEWeb or bypass the standard publication process

- Security and user permissions within PSEWeb and the authoring environment will be administered solely by the PSE IT department

- PSEWeb must be isolated from SharePoint sites that host collaborative functionality at the application level (i.e. PSEWeb will live in its own Web Application and collaboration sites will not be allowed within the PSEWeb hierarchy)

- PSEWeb needs to be treated as an independent application, meaning that there cannot be dependencies between PSEWeb and other planned SharePoint applications that prevent the implementation or operation of those applications before the PSEWeb redesign is complete

- The Architecture needs to allow for the continued operation of separate web applications that have been designed to integrate with the existing PSEWeb site.

Additional Concerns

- Challenge of Governance. sees the value, but also knows that there are internal conflicts that create a barrier to creating governance.

- Challenge of Single Sign on: it's a "nice to have" but there are many reasons why it probably can't happen, including security and cost.

Action Items

- Matt will see what data he can find regarding a list of departments

- Look into some open source app to run against the log files

- Look for most visited pages

6.1.4.2 Bob Bisschoff; IT Consultant, Information Technology

Involvement with this project: Department co-sponsor

Background

Bob has supported several systems. He is familiar with the Customer Service Representative roles and cited the Consumer Linx (CLX) tool from .Alliance Data Systems. Recommends looking at Outage map, Autodesk application.

Issues/Concerns

- Multiple players and technologies competing for approach– SAP vs. SharePoint stakeholders, for example.

- Customer Service reporting. Currently, Paula receives a very data intensive, difficult to use document. Bob put a proposal in to get storage space to duplicate the feed from Alliance Data Systems and store it locally, so that someone like Paula can filter, extract, etc. any part of the report that she needs.

Goals

Ideal intranet:

- Consistently recognize who he is and where he is (as an employee or customer)

- Easy access to all the capabilities he needs to do his job – applications, documents, etc.

- A disciplined way of creating web pages

- A search that really works and returns what he expects

- Collaboration sites within reason

- Offers a solution to security issues associated with using contractors, consultants, 3rd parties

6.1.4.3 Chris Dietz, Manager, Data & Applications

Involvement with this project: SME

Background

Chris is responsible for Document Management and Legal Retention.

Tools

General Use

EZ Soft is the application that HR uses to scan and archive their documentation, though support is an issue. It works well with SAP right now, but would like to transition certain document collections to SharePoint.

Image Site is another image archival application – the D-4s are scanned in to this one, and then physically archived.

Shared drives – H, I and J are drives with different permissions (for example, H is a subset of I, which is for a group, while J could for the entire department). X drive is for the whole company, and gets backed up; K drive gets wiped monthly, and N is a personal drive.

Some SharePoint sites already, taking advantage of the collaboration capability.

Personal Use

Chris uses PSE Phone the most

Issues/Concerns

- PSEPhone: The reporting structure information takes so long to be updated and is still inaccurate.

Goals

- She'd like to see the reporting structure not only in PSE Phone, but also within the department sites.

6.1.4.4 Barb Padagas, Manager, Security and Corporate Records

Involvement with this project: SME

Background

Barb has been with PSE 3 months; she came from Starbucks. She works with records management and retention; there has been no one in that position for approximately 3 years. She has a strategic plan put together, and her priority is to focus on protecting all assets that produce energy. She needs to have all plans published, with easy access. There are 2 task forces that she's a part of: privacy breach and emergency response.

Security encompasses: All documentation that is transmitted and stored on a computer. All data transmission between the properties (wind farms, natural gas farms, substations, hydro power plant, wireless and remote employees), with customers, other businesses, utility commissions (government entities).

Corporate Records encompasses: Rules surrounding retention of records: length of time and form (electronic, paper) as determined by legal, regulatory directives, business needs and "no more" – when can something be shredded and tossed?

Tools And Usage

PSEWeb

She does not use the shared drives; she does use the "N" drive for backing up her docs.

Her documents can be located through the following routes: Departments > Office Services > Corporate Records and Retention; Departments > IT > IT Security Policy; Policies & Standards > IT Security Policy.

Issues/Concerns

- Outdated and/or difficult PSE Web navigation. For example, her documentation can be found under "Office Services"- a department which no longer exists.

- Obsolete or inaccurate documents. Documents under her direct purview are four years old. She does not know where the original source documents are. She is not web savvy, and so doesn't know how to update information on the site.

  - Determining ownership and "officialness" of a document. She may locate a document- particularly policies- but may not know its owner or whether it's current. She must ask around, locate the owner, and hope he/she can provide validation of document content.

- Unlocatable documents. She wanted to find the docs on security management, but couldn't find those either.

- Challenge with the hard copies that are archived right now – there's been no process to make sure that everything is being scanned, so all hard copies are saved until some sort of process is in place to start the massive audit.

Goals

- Shared drives need to be phased out. (She has implemented such a migration before).

- On PSE Web: all policies, standards and guidelines and forms for everything related to electronic security.

- Training "people who touch paper on a regular basis" (admins, clerks, etc) to manage documents appropriately (because Barb cannot take on the whole burden). She can see having available:

  - FAQs

  - Training documentation (like QRM)

  - Tutorials

  - Brown bag trainings

  - Quick start

  - Refresher training

- Mandatory security training for people with permission to build a site *before* getting access, with formal agreement to the security rules and the responsibility of owning a site. From prior experience, a process could include on-line requests for a site, with manager's approval. Training. Security audits. Management accountability. Regular forums for managers to answer questions.

6.1.4.5 Shirley Pressley, SAP BA, Training and Change Management

Involvement with this project: SME

Background

Shirley has been at PSE for 16 years; for past 6 years, .she has been responsible for the SAP section of PSE Web – both the SAP RoadMap and the Mobile Work Force. She is part of the ESS project and the SAP Roadmap project. She also creates all the training pdfs and posts them on PSEWeb. Her largest area to create training pdfs for is Work Management – over 1000 users. She is one of the few web authors who can publish to the live site (instead of to a staging server, where Joel or Matt pushes out). She has content that is time sensitive. She also creates the business processes for every job at PSE.

Pdfs can be accessed both through the SAP Support section of PSEWeb, as well as through the Help dropdown within SAP itself ("PSE Help").

Training Process Example

BA in Purchasing captures screenshots for transactions; puts in to a Word Doc; sends to Shirley. Shirley adds the appropriate comments to support the screenshots; PDFs the doc; posts to SAP site.

Business Process Example

The BA/field rep will jot notes down (pen to paper, sometimes in email, mailed to her also). Shirley builds the process flow in Visio, emails back to the originator. They give it back to her with handwritten notes and edits. She updates the flow, sends it back. When it's final and approved, she pdf's it and posts it to the SAP support section.

Tools

When updating the SAP site, she hard codes the JavaScript nav.

She uses SharePoint Designer, her drive is the L: drive.

A new software for training has been purchased (like iTutor) – the goal is to have interactive tutorials also; that will take a while to get going – right now, the rule is if a new pdf is needed, she'll create the pdf and also make it interactive.

Recent PSEWeb visits:

- HR > update medical forms – went to Quick Contacts>Regence

- Uses org charts to confirm who is in which group

- Checks the SAP page

- PSE Phone to look up someone – to see the "reporting up" info, if it's not on the org chart

- Employee # - she works on the budget for Mobile Work Force, helps to track expenses, so looks up employee # to attach to the expense.

- pCard link – to do expense report – takes her to an external site where she can reconcile the charges – verifies the charges, add in information needed, prints the report. She has her manager sign it, and it also gets emailed automatically to someone in Purchasing, and she also interoffice mails the hard copy with the signatures on it to Purchasing.

6.1.4.6 Duncan Gibbs, Application Analyst, Information Technology

Involvement with this project: SME

Background

Duncan is in the Creative Services: Web Team group. He oversees the content for PSE.com, and manages the PSEWeb Corporate Communications site- which he built a large portion of. He is involved at the strategic level. For example, when considering questions like: "Where should an alert go if something happens like the Wind Storm last year?"

- He'll work with IT to figure out process, where it goes, etc.

- He'll work with the Task force, PR, everyone who would have something to contribute in such an emergency, and get everything in place in terms of messaging.

Tools

He hardly uses PSEWeb; he figures that he won't find what he needs on PSEWeb; when he needed an IT procedure, he called someone.

He does use PSEPhone.

Issues/Concerns

- Establishing Site Development Process and Standards. He recognizes the need for process and standards – having built major portions of the Corporate Communications site and reviewing or correcting the work of others – but current workload doesn't allow time to establish standards.

- Content and Publishing Consistency. The challenge being to achieve consistency when content is delivered to multiple sites including PSEWeb, PSE.com, and 3rd party sites (MY PSE.com). There are several ways that they publish to the intranet – through Front Page, through a web interface, through some step by step process that no one knows how it works – in fact, no one knows why it's being done still. Then, there's the Friday Focus, which is uploaded through a directory.

Goals

- ▪ A standards document in place that is clear; can see that it would require a balance of discipline, standards and consequence.

- ▪ Sustainable Pace/Process. Wishes he could do things right, at the right pace – but is often pushed to rush because of a VP's presentation included the completion of the Corp Comm website, for example.

- ▪ Accessibility

6.1.4.7 Jon Pielemeier, Manager, SAP Support

Involvement with this project: SME

Background

Jon has 15 years with PSE, from the gas side. His group is responsible for supporting SAP for financials, hr/payroll, materials, work management, and sales distribution. Also works with Supplier Relationship management, emissions management. His group also supports new functionality, projects, and business intelligence efforts.

Tools

Jon uses xEM (composite application) and PSE Web.

Goals

ESS will have a "who's who" look up for people, preferably better than SAP.

6.1.4.8 Brenda Bartell: PM, SAP Roadmap

Involvement with this project: SME

Background

26 years with PSE, working with SAP roadmap project since Feb. 2007.

Tools

Brenda always has PSEPhone open, and feels it's her best option though it may not always be accurate.

Uses and likes SAP Portal – file share, collaboration, communication; single sign on makes access efficient. Also uses IM because Deloitte consultants can't access their drives.

Issues/Concerns

- ▪ PSEWeb content organization, navigation, and labeling is based on an outdated organizational structure. Further, the labeling is not always an intuitive description of the information housed. For example, Corporate security is the physical security of the building as opposed to online security. Content organization should be by function, not by organization.

Goals

- • Org Charts – to create distro lists

- • She likes the idea of collaboration sites – for her old group, she had cheat sheets up, reference documents, her team used it as the main repository for information they needed at their fingertips.

- • She likes having access to manuals to get answers – anything from petty cash to storm damage accounting.

6.1.4.9 Joel Chrisman, Applications Analyst

Involvement with this project: SME

Background

Joel has 41 years with PSE. He currently helps set up new sites on PSEWeb by creating a directory for the site and confirming its creation. The confirmation email is manual, not automatic. Joel does not routinely monitor site activity or health.

Joel notes that some people can publish to the live site, including Shirley Pressely, Eric Bantque (sp?), Charlene Stumpf, and Corporate Communications.

Tools

Not specifically noted.

Issues/Concerns

None described.

6.2   Screenshots

Included in previous sections

6.3   References

Not included.