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Getting the Best Value from the Intranet: A Case Study

Hardev Ubhi, Ray Dawson, Thomas W. Jackson and Mark Goodson
Computer Science Dept, Loughborough University, Leicestershire, UK, h.ubhi@lboro.ac.uk

ABSTRACT

Many companies have established Intranets that offer their employees corporate wide information. This paper reviews the points needed for consideration when developing a successful site and how they are applied within an industrial environment. A case study was undertaken to develop a site for a small department within the Naval Marine business of Rolls-Royce with members located some 150 miles apart. It was established that published guidelines on site layout, style and support were accurate and useful but there is little published information on the information content for an intranet web. The information within the site needs to be useful to the users or the site will not be used, will become out of date and will lose credibility. By working closely with the users, a site was produced which met their information needs. This was confirmed with the use of a questionnaire, which collected their feedback on the site. The site's success may be due to the size of the user group, which was small and manageable. It is concluded that further research is required on this aspect.

This paper establishes that a successful intranet requires careful planning and consultation with the users. Above all, to avoid failure it is important to ensure the information is relevant and maintainable. Rolls-Royce continue to take active steps to ensure its intranet sites are both usable, relevant and easily maintained, across all business groups.

INTRODUCTION

Developed over 30 years ago, the Intranet started as a US defence initiative and is now one of the main communication mechanisms within companies [Stroud, 1998]. An intranet is an organisation specific version of the Internet, allowing access to only those within that organisation. Intranets have become extremely popular 'to gain competitive advantages, expedite information sharing, provide enhance customer service, conduct on line training, improve productivity and quality' [Koehler et al, 1998]. Intranets are used as vehicles to deliver information across organisations, and are particularly useful when organisations are geographically dispersed.

Intranet developers claim a number of benefits, but whether these are substantial is questionable. A study conducted within Rolls-Royce Naval Marine looked at sharing information within a department using the Intranet. The literature available was analysed to determine general success factors and to see if our case study reflected these findings.

THE NEED FOR AN INTRANET

The introduction of intranets have revolutionised the way in which companies disseminate information. Previously tools such as Acrobat displayed information at a very high level but within these structures it was difficult to find as it was often sporadically placed with no logical linkage. Managers had the additional burden of providing their staff with key documents they held regarding training, company procedures, career development, etc.

As '18% of corporate printed material becomes outdated within 30 days' [McGrath, 1997] manager's information soon becomes out of date. Documents such as training manuals or telephone directories need maintaining on a daily basis, making the task of keeping the many copies

up to date unreliable and costly. An intranet however, provides an environment where updates can be done once only and instantaneously when required. For example, McGrath [1997], describes a marketing planner for a global pharmaceutical company who found that before the deployment of an intranet, the division was spending about US \$30,000 per month on information mailed to sales representatives. He also reports a consultancy firm that calculated over a three-year period it saved US \$390,000 through the elimination of phone calls, overnight mail and faxes. Companies generally respond to ideas that can save them money and intranets have proven to do so, if implemented correctly.

PRODUCING A SUCCESSFUL INTRANET

Literature is available on the 'right ingredients' needed to develop a successful Intranet site. Management buy-in is essential as it provides the purpose and direction that will outline responsibilities for site content [Lovatt, 1997]. The Ford motor company's [Awad, 2004] senior management directed their staff to gather knowledge and best practices, highlighting the role of management in creating a knowledge base. Resources need to be allocated and supported so that the time and money is available to develop the site to the required standard [Lovatt, 1997]. Nelson and Todd [1999] created a list of management roles in web strategies:

1. Standard and role setting
2. Resource allocation
3. Applications development

With the resources in place a company should then introduce the intranet 'in a manner that fits with, rather than challenges the established social structure' [Scheepers, 1997] helping the site gain acceptance within the company. A case study based on the Bectel Group [Scheepers, 1997] showed that a consistent look and feel and a two layered intranet enhances the acceptability and integration of a site. The two layered approach, layer one for company wide information and layer two for departmental specific information, allows users to access information which is more relevant to their everyday roles. Duane [2000] believes this helps companies to communicate efficiently and co-ordinate activities and also encourages the decision making to move down the organisation hierarchy, therefore empowering and motivating employees.

Blackmore [2001] summarised a list of suggestions for a successful intranet site:

1. Fully understand the employees expectations and requirements
2. Be very clear about what the intranet can deliver
3. Take a long term view about content delivery, but think short-term about encouraging use of the intranet
4. Look for interesting opportunities to link the intranet into employees work
5. Make sure it is easy to use
6. Involve everyone at all stages
7. Don't promise the earth
8. Don't ever assume anything

9. Empower users with the ability to contribute
10. Update the system daily

The points above outline a good basis for developing a site, but there is nothing published on their implementation in practice, so it is difficult to determine if a site created this way would be successful.

REASONS FOR AN UNSUCCESSFUL INTRANET

The case study material available on unsuccessful sites is limited. This could be because intranets are difficult to measure, companies may not be willing to spend the time conducting surveys into a site's success or because companies are reluctant to publicise their failures. Ten common mistakes highlighted by Koehler et al [1998] are:

1. Failing to build internal support
2. A weak plan of action
3. Setting unrealistic goals
4. Not focussing on users
5. Not knowing the technology
6. Failing to encourage interaction
7. Information overload
8. Stalling
9. Failure of the project leader to keep up with technology
10. Failing to keep a fresh face.

Vaughan-Nichols [1997] highlighted a number of more detailed faults with websites but only considered the visual perspective including pointless graphics, and a lacking direction to the information required.

A case study by Slater [1996] found that after an intranet was launched it 'caused a great deal of conflict internally'. There were issues concerning security and the department responsible for official paper publications objected to the new intranet documents by-passing their own. The cost and effort the intranet required was seen as an issue within the company as many viewed it as 'non-essential work'.

When non-management employees drive the development of an intranet it shows the enthusiasm of the developers but this can become out of control. For example, the National Semiconductor Corporation found that their intranet site grew rapidly with different business units creating their own sites [Scheepers, 1997]. This prompted the following concerns:

- The intranet was not being 'controlled'
- No one was 'in-charge'
- Information sharing could disclose 'corporate secrets'
- Staff wasted time searching the Internet.

This was due to a lack of direction and internal communication regarding the site, showing the importance of planning and information content.

CASE STUDY WITHIN ROLLS-ROYCE

Rolls-Royce has a well established intranet site which was developed as a knowledge management tool, to help engineering and technological disciplines share information/knowledge. It was developed with the look and feel of a Microsoft interface as employees within the company were familiar with Microsoft applications and it would therefore not be necessary to train users, except for the intranet site developers. The intranet currently works on a corporate level proving generic information to all employees and has proven to be successful with over 60% of the population regularly using it. According to Duane [2000], the literature available on intranet development focuses on the visual and technological aspects of the site and not on the information content or user needs. A case study was conducted within the Total Care Programmes department. This department was selected for study as the users were involved in a wide range of projects and workgroups. Following the suggestions of the literature, the aim of the development was to gain management buy-in, create an overall strategy and work with the users to produce a site that the team believed belonged to them.

The first step was to assign a web-editor, site co-ordinator and site owner [Lovatt, 1997]. As suggested by Scheepers [1997] the intranet was developed in line with the company procedures and did not challenge the social or organisational working methods. In accordance with Blackmore [2000] the requirements were well documented and agreed by the team. To comply with the 10 points for a successful intranet site suggested by Blackmore [2000]:

1. Regular meetings between the developers and the users were held to discuss the site plans and gain agreement.
2. Goals and aims for the site were stressed at the beginning of the development and the detail regarding the site's functionality was discussed within the meetings.
3. The site content was well documented and feedback was encouraged by asking people to review the content for correctness.
4. The site relates to individuals' work including project documents and links to relevant corporate knowledge.
5. The site has easy to use navigation buttons.
6. In addition to the regular meetings, all users were kept informed of developments with regular emails.
7. Users were encouraged to make suggestions but these would be reviewed by the developers before implementation.
8. All assumptions were discussed with the users and the corporate IT department to ensure there were no misunderstandings.
9. Users were assigned responsibility for passing the relevant information to the developers.
10. The developers and users considered the suggestion to update the site on a daily basis but, initially, as the site was required to be low maintenance, such frequent updates were considered unnecessary.

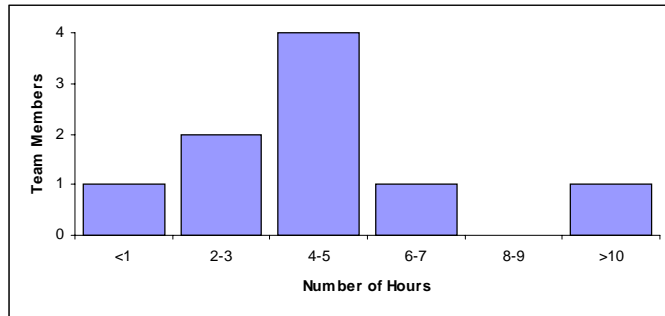
After a number of meetings with the users/stakeholders the required content of the site was established. All decisions were based on the consensus of the whole group with individuals given the opportunity to voice their concerns. The main deviation from Blackmore's suggestions is highlighted in point 10 above. It was believed that the initial purpose of the site was for it to be the main source for stable user information that would not change on a daily basis. The long-term aim is for the site to be more interactive with changes made on a regular basis, adding project documents as required. The site was then created and launched.

The research available on the best evaluation techniques to measure the success of intranet sites is limited. This may be due to the difficulty in establishing accurate measurements [McNay, 2000]. The research methodology used was based on the techniques of Koehler et al [1998], who suggested key measurement techniques of:

- *Passively tracking usage.* A standard quantitative measurement tool was placed on the site to produce statistics such as the number of hits per page, the length of time spend viewing pages, and the most popular entrance page.
- *Actively soliciting feedback.* The site, having a prominent feedback page, encouraged feedback from users.
- *Conducting ongoing surveys.* To obtain the user's initial views, a survey was carried out a few days after the launch to establish if the site had met the users' perceived expectations. The results of the survey were fed back to the users in a report and have been discussed below.

The survey was conducted by a questionnaire put to each user. A fixed number of both open and closed questions were used. The first question asked how many times individual members within the group believed that they would access the site each day. Two thirds of the group said that they would visit it on an average of 2-5 times a day, showing that the team feel the final version contained useful information. Within six months time another study will be conducted using the same group to see if there projected usage was accurate. If an intranet site is not being used, it is important to establish why at an early stage, then work towards correcting the errors. Blackmore [2001] suggests it is necessary to include everyone within the team when creating a site. Figure 1 shows

Figure 1. Chart to Show the Number of Hours Contributed to the Site Creation



this was attained, as 44% of the group contributed 4-5 hours towards the development through interactive sessions.

As sites are placed on a corporate intranet, employees from different areas of the business would be able to view the information, so it has to be presented at a level they can understand. The next three questions were based on assessing the benefits at an individual, team and business level. The individual level showed that the team perceived their main benefits as:

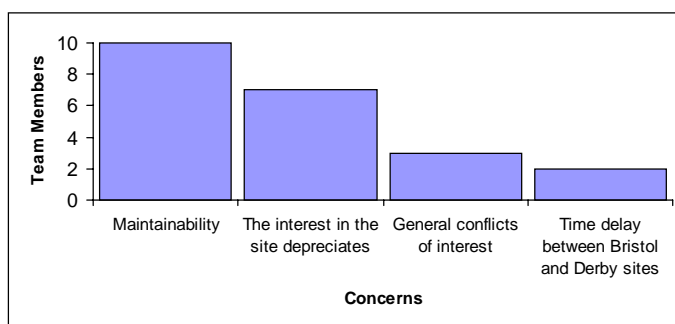
- Significant time saving when accessing the information from the site.
- A greater understanding of the relationship between the department and business was achieved.
- The general sharing of information was found to be more effective.
- Team working was improved as the individual work commitments were highlighted.
- Team members felt their individual profiles were enhanced as their activities became more visible.

The most prominent point highlighted for the individual was that team members could save time through accessing information on the site efficiently and effectively.

As the user group was based in two business sites in different cities 150 miles apart, this was a significant benefit. The team found that the information relevant to their work could be accessed from the intranet site, indicating the site met the requirement of being useful and increasing information sharing.

From a business perspective the team believed that the site would enhance their visibility across the business. Other employees could view the site and gain an understanding of the department's function. Other benefits included enhanced team working towards the same business goals and raising the awareness of the key resources and skills available within the team.

Figure 2. Chart to Show the Users Concerns



One of the final questions asked of the group was to identify problems they believed the site might incur. Figure 2 displays the number of users identifying each category of concern.

Maintainability was seen as an issue by all of the users, as they were worried that the site content would become out of date. Many intranet sites fail to have people revisit them when the initial interest vanishes. Three quarters of the group thought this would be a problem, particularly if the information was not regularly updated. From the outset, therefore, careful attention was given to the problem of site content maintenance. Site content was therefore monitored to ensure:

- All information was relevant.
- All information would be low maintenance, requiring few changes.
- An owner was assigned for each individual page to be responsible for its content. This technique is known as 'distributed authorship' and is being used at many companies, for example Siemens Energy & Automation. [McNay, 2000]

DOES SIZE MATTER?

The intranet site developed was a success, fulfilling the user requirements, but could this be due to the small size of the group it was developed for? There is no conclusive research to determine the effect group size has on the use of an intranet site. A smaller group allows more interaction with the developer so that the users' needs can be specifically catered for. A larger group may have to allocate stakeholders who represent the group. However, this could hinder the site development, as it is difficult to make generalisations for large groups based on a small sample. Within large organisations it can be difficult and costly to develop sites based on small groups rather than a corporate wide intranet.

In addition, it is possible that consultation with the users is more effective with a small group, as everyone has the ability to voice their opinions without feeling intimidated by the group size. Intranet developers need to establish if their intranet site offers information the users actually require. To improve the relevance of their intranet content, Rolls-Royce are now trying new ways of developing sites by training people within different business areas to be responsible for gathering the specifications, creating and maintaining the site.

CONCLUSION

After reviewing the questionnaire results, the conclusions obtained were that the team were pleased with the site and will go on using it. It allowed the members to have all of their relevant information collated within an easily accessible central location. Why was it a success? Attention to the users' needs played a big factor in the intranet's success. The main point, which we believe companies need to take from this case study, is that intranet sites are developed to provide people with the information they need to complete and do their jobs. If that information is not present then employees are wasting time looking at colourful HTML pages. This is both inefficient and costly, and will ultimately lead to the sites becoming out of date and unused.

Rolls-Royce has a very efficient intranet site which delivers information to all employees at a corporate level. Smaller departments are using the advantages of the intranets to allow them to share information, which is department specific. It is successful if the site contains the information the users require. It was felt that the current literature available on intranets did not detail the importance of the information contained within the site and how this information should be collected. Within Rolls-Royce regular meetings were conducted with the users to ensure that the information within the site met their needs. This may have been made easier by the small size of the user group. For a larger group, attention must be paid to ensure there is adequate consultation with the users. For example, prototypes and plans for the site could be emailed to users to give them an opportunity to raise issues. Further research is required into the effect of the size of the user group on the success of an intranet.

This paper has established that a successful intranet requires careful planning and consultation with the users. Above all, to avoid failure it

is important to ensure the information is relevant and maintainable. A site would be better without an item of information if it cannot be kept up to date as this could potentially lead to the whole intranet losing credibility. Rolls-Royce is continually taking active steps to ensure its intranet sites are tools employees want to use, by being, easy to use, relevant and easily maintained. The authors suggest that other companies would benefit from following the principles employed by Rolls-Royce in the development of their intranet sites.

REFERENCES

- Awad. E. M & Ghaziri. H. M, 2004 'Knowledge Management' Pearson Education, Inc., Upper Saddle River, New Jersey.
- Blackmore. P, 2001 'Intranets, a guide to their design, implementation and management' published by Aslib-IMI, London.
- Duane. A and Finnegan. P, 2000 'Managing intranet technology in an organizational context: toward a "stages of growth" model for balancing empowerment and control' The Waterford Institute of Technology Ireland and University College Cork Ireland.
- Koehler. J. W, Dupper. T, Scaff. M. D, Reitberger. F and Paxon. P, 1998 'The human side of Intranets' Library of congress cataloguing-in-publication data, USA.
- Lovatt. M, 1997 'Herding Cats: A case study on the development of Internet and Intranet strategies within an engineering organisation' Kenonic controls Ltd, Calgary, Alberta (pg 105).
- McGrath. G and Schneider. A, 1997 'Measuring Intranet Return on Investment' Intranet communicator.
- Nelson. R.R and Todd. P 'Strategies for managing EUC on the web' Journal of end user computing, January/March 1999.
- McNay. H. E, 2000 'Corporate Intranets: Building Communities with Data' Siemens Energy & Automation, Inc, Georgia.
- Robertson. J, 2004 'Intranets and Knowledge sharing' KM column
- Scheepers. R, 1997 'Using Internet technology within the organisation: a structural analysis of intranets' Aalborg university, dept of computer science, Denmark.
- Slater, D 1996 'Evangelical fervor' http://www.cio.com/webbusiness/110196_fervor.htm - viewed August 2004
- Stroud, D, 1998 'Internet strategies' Macmillan press ltd, London. Page 1
- Talleen. S. L, 2000 'Intranets as Knowledge Management systems – basic concepts and definitions' Business Aligned web sites – www.iorg.com/papers/knowledge.html viewed Aug 2004
- Vaughan-Nichols. S. J, 1997 'Intranets' Academic press UK.

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