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Information literacy and information seeking of public sector managers in the Welsh Government

Elizabeth Tait, Robert Edwards

Abstract

This paper presents an empirical investigation of information seeking and information literacy of public sector managers in the Welsh Government. A series of 23 two-stage interviews was conducted with managers from a range of grades and departments to determine the levels of awareness and use of the Knowledge and Analytical Services (KAS) and to evaluate information seeking and information literacy of public sector managers. Findings indicated that the managers engage with the information professionals within KAS when embarking on a major project such as developing new legislation or new policy. However, there was a general unfamiliarity with the full range of KAS activities. Staff were more likely to seek information themselves when conducting preliminary research and for meeting small scale information needs. Information literacy skills were limited. Our findings suggest that information literacy could be improved within the Welsh Government if services such as the KAS were more closely aligned with operational teams.

1 Introduction

Public sector organisations are under increased pressure to deliver efficiency savings, to demonstrate value in service delivery and to develop policies that are "evidence-based" with transparency in the decision-making process (Cordella and Iannacci, 2010; Bannister and Connolly, 2011). This has coincided with the development of new technologies that have had a significant impact on the work of government employees (Brown, 2005). The modern public sector manager has a plethora of information resources but how these are selected and used depends

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Authors

Elizabeth Tait is a lecturer in the Department of Information Management at the Robert Gordon University iSchool.

Email: e.j.tait@rgu.ac.uk

Robert Edwards is employed in the Welsh Government. This research was conducted for his postgraduate dissertation in Information and Library Studies.

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on multiple factors including users' perceptions, attitudes, time constraints and organisational culture (Cordella and Iannacci, 2010).

Case (2012) observed that recent studies of information literacy have examined a range of professions but that these tend to be dominated by studies of health professionals' and students' information seeking. While managers have been the subjects of information research, the research has mainly focused on executive-level managers in private sector organisations, while public sector managers are an under-researched area. This paper makes a contribution to addressing a gap in the literature by presenting an empirical evaluation of information seeking behaviour and information literacy of public sector managers working in the Welsh Government. The research focused around a number of objectives: to determine the levels of awareness and use of information services within the Welsh Government, to evaluate the information seeking behaviour of public sector managers using the theoretical lens of the Byström and Järvelin (1995) Information Acquisition Behaviour model, and to critically evaluate information literacy amongst public sector managers. The findings from this research will assist with the development of information services and training in government organisations and contribute to filling a gap in the literature concerning public sector managers' information behaviour.

2 Literature Review

Information literacy has been the subject of much research over the last twenty years. In the UK, the Chartered Institute of Library and Information Professionals (CILIP) defines information literacy as "knowing when and why you need information, where to find it and how to evaluate, use and communicate it in an ethical manner" (CILIP, 2015). This definition was used as the basis for the Information Literacy Framework for Wales 2011 (ILFW) which in turn is based on the Society of College, National and University Libraries Seven Pillars Model. The ILFW was used as the basis for teaching information literacy within the Welsh Government (Eynon 2013).

There has been a move away from regarding information literacy as being solely about individuals' skills and competencies and towards an understanding of information literacy as a set of practices (Lloyd, 2011). Lloyd (2011, p.286) argues that information literacy should be regarded as a "…practice that is situated, driven and influenced by discourses which operated within a setting". This more nuanced view of information literacy views the context of the activities as being critical and also views information seeking as part of a collective activity shaped by the organisational culture which influences how individuals are able to engage with information sources. Jansen *et al.* (2013, p 473) examined the practical realities of using information and discussed the concept of "digital competence". Jansen *et al.* found what it means to be digitally competent difficult to identify and went on to propose a similar context-based definition as that put forward by Lloyd which included skills and attitudes, domains and levels. Ferguson (2009) also advocates that information literacy should be firmly embedded as part of an organisation's wider knowledge management activities with all information sources within an organisation's information landscape, including physical, personal and electronic sources known and considered as a

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matter of course.

We must be mindful that managers, including those in the public sector, work in a range of settings and perform diverse roles (Choo and Auster, 1993). They are often subject to pressures of time and to make decisions with insufficient information or insufficient time to process the information they have. Managers rely heavily on aggregated data, seek options and alternatives rather than answers and require different constructs of information to make a decision (Choo and Auster, 1993). McKenzie (2003) observed a tendency for managers to accrue information they do not need immediately to simplify their environment and speed later decisions. He observed that managers are drawn to what they consider the best relationship rather than best source. Hirsh and Dinkelacker (2004) observed a wide use of information resources by managers where choice was linked to time constraints, culture and convenience. Currency, reliability and familiarity were not seen as significant in source selection. De Alwis *et al.* (2006) also suggest that managers have yet to effectively utilise Information and Communication Technologies (ICTs) for information acquisition and that they do not how to identify what information they require, and from which source.

Trust is considered to be important for managers in choosing an information source and managers consciously cultivate other individuals and information sources. Woudstra and van den Hooff (2008) noted that source quality remains the most important attribute when selecting human sources. Farhoomand and Drury (2002) observed how a trust element also seems to be applied to Internet resources with managers using familiar, reliable resources. Further studies by Hirsh and Dinkelacker (2004) and Sellen *et al.* (2002) suggest managers have a tendency to return to a handful of trusted sites rather than use keyword searches or spend time verifying the quality of the information they locate. Connaway *et al.* (2011) suggested that the Internet is chosen not as the best source of information, but as the most convenient, with ease of access and time constraints all having a bearing. In terms of selecting reliable material from the Internet, searchers are aware of the potential problems with material which is accessible. Xie (2009) indicated that the stage a piece of work is at will also influence the strategy used to obtain additional information. According to Guo (2011), the greater the level of uncertainty associated with a task, the wider a search is thrown. This aligns with earlier research regarding uncertainty and information acquisition behaviour in managers.

There has been relatively little research conducted on information literacy within government organisations, and investigations of managers who support decision makers are a particularly under-researched area, but there are some examples of work in this area from recent years. Crawford and Irving (2009) investigated information literacy in the public sector workplace and discovered that information exchange between people is a key source of information seeking in the public sector; additionally, the role of human relationships must be recognised. Further research conducted by Woudstra *et al.* (2012), which examined the information source selection process with 88 Dutch government employees, identified a social capital dimension to the process of information seeking, and that quality and accessibility influenced source selection. In a study of users of the European Parliamentary Documentation Centre, which included

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MEPs and their assistants, Marcella *et al.* (2007) found that users were relying on information that could be found quickly on the Internet with satisfaction determined by what could be easily located and that the majority of respondents were unaware of the European Parliament's information service. Recent research by Killick and Hall (2016) examined the use of the census as an information source for public policy makers and suggested that the low use of census data could be related to information seeking challenges of policy-makers.

There are several models of information seeking behaviour available and these are usefully summarised by Case (2012). For this study, the Byström and Järvelin (1995) model was selected. Other models such as 'sWilson (1981) was considered too systems orientated and Krikelas' (1983) was too document orientated. The Ellis (1989; 1993) model was also considered too document orientated with an emphasis on general use rather than the work environment. The Kuhlthau (1991) model focuses on feelings, thoughts and actions rather than contextual factors such as types of sources and was therefore seen as unsuitable for this study.

The Byström and Järvelin (1995) model was developed in the context of education and provides a clear linear progression through the information acquisition stages with four decision making elements included (Situational factors, Actor's Ambition, Education and Experience and the two Evaluation elements). The authors thought the model could be amended to reflect the nature of the information seeking paths as well as the relative importance of the decision-making elements to the information seeking activities of civil servants.
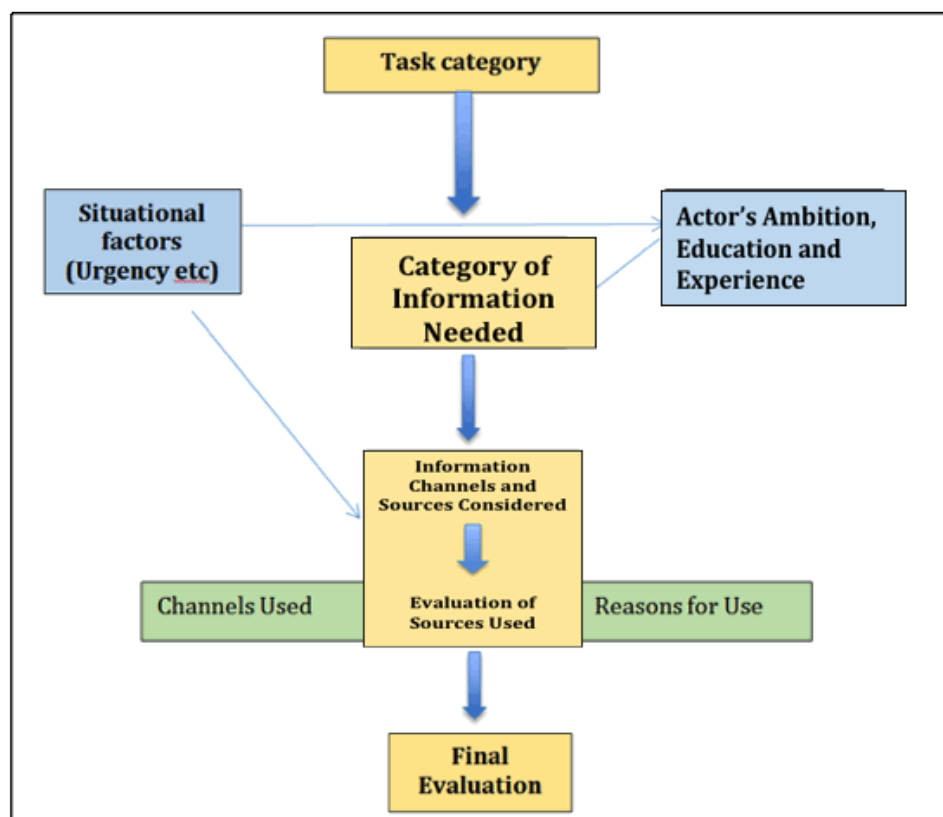

Figure 1: Byström and Järvelin (1995) Model of Information Acquisition processes

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3 Methodology

A case study approach was selected for this study to investigate the phenomenon of information seeking within its real-life context (Chowdhury *et al.,* 2008). The approach is versatile in terms of the methods of study which can be applied and is particularly appropriate for dealing with complex situations. According to Denscombe (2010), the real value of case studies is they help explain why certain outcomes may happen, rather than just what those outcomes are. The case study can therefore help investigate process and explain intricate details. The principle criticisms of case studies are a potential lack of generalisability (Thomas, 2011) and potentially subjective findings. In order to mitigate against these risks, clear units of analysis and interview protocols were established.

The main data collection involved interviewing 23 members of staff in junior and middle management positions. The sampling was purposive (Denscombe, 2010) in order to gather a broadly representative range of views from managers with relevant knowledge and experience. However, this was not intended to be a statistically significant sample of the Welsh Government workforce.

The sampling profile of the interviews was as follows.

- Gender: 12 Female, 11 Male;

- Model average age: 46-50;

- Academic levels: 10 Bachelor's Degree, 7 Master's Degree, 2 PhD, 1 Other Professional Qualification;

- Office Size Location: 13 Large, 7 Medium, 3 Small;

- Directorate: 11 Local Government and Communities Directorate (LGC), 12 Sustainable Futures Directorate (SF);

- Grade: 4 MB3, 8 MB2, 7 MB1, 2 EB2 and 2 EB1.

The grades included in the interview sample were the 1st (MB3, lowest) to 5th (EB1) level of Civil Service manager and represent the operational grades responsible for the bulk of the day to day operations. Senior Civil Servants are ranked Grades 1 to 5 with a Permanent Secretary (Grade 1) in charge of a government department with Grade 3s in charge of Directorates within Departments. In simple cases, Directorates are divided into Divisions (managed by Grade 5s) which in turn are divided into Branches (managed by EB2s) which are divided into teams (Managed by MB1s). In practice, there is considerable variation in terms of Departmental structure, management hierarchy and the actual responsibilities held by managers. These are determined by local factors such as the nature of the work, work load, size of teams, etc.

The interviews were conducted in two stages. Firstly, a short Pre-Interview Questionnaire (PIQ) containing a mix of multiple choice and open-ended questions was sent to interviewees shortly before the interviews. The primary objective of this survey was to evaluate their awareness of Welsh Government Knowledge and Analytical Services Division and Library Services before the interview. The PIQ was also intended to provide an insight into the perception of interviewees of their levels of information literacy as well as the information

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sources they regularly use. Secondly, semi-structured discursive interviews were held. The discursive element involved open-ended questions on a number of subjects with the objective of evaluating awareness of services, satisfaction with services, and use of the Internet. The interview included questions around simple and complex situations, the importance of speed of acquisition, importance of reliability of information, use of Internet and internal information resources/services, opinions as to which is best and opinions of internal professional information services.

The information services examined in the study relate to those used by Civil Servants who support Welsh Ministers rather than services used directly by Welsh Ministers.

4 Research Findings

4.1   Background of the Case Study

The Welsh Government was established in 1998 following a referendum on devolution in Wales. The Welsh Government is a multifunction organisation with Directorates dedicated to each of the main elements of devolved government activity; namely, Local Government and Communities, Health, Education, Economy, Transport and Environment. These directorates are supported by central services which provide legal, human resource and finance support. During the period over which the research was conducted, the Strategic Planning Finance and Performance Directorate contained the Knowledge and Analytical Services Division (KAS) which provides specialist information services such as social research and library services to the organisation that help support and evidence policy-making.

ICTs are discussed in the 2014 Commission on Public Service Governance and Delivery (Welsh Government, 2014) where digital services and challenges of information management are highlighted as key areas of improvement for improving service delivery and also delivering efficiency savings. The report states that: "A modern and efficient public sector cannot operate without effective and functional digital and ICT services … This is not simply a matter of technology and compatible ICT systems. Data quality, standards, protection and sharing are all key issues that must also be resolved" (p.48).

Welsh Government staff are expected to be competent in basic information gathering and engage with library and other specialist services for complex information searches. Further, the Welsh Government provides information on the KAS services available via its internal Intranet and supports the use of the 2009 Information Literacy Framework for Wales (ILFW) within the organisation. KAS Division also hosts the Records Management Unit (RMU) which provides Record management services to the Welsh Government. Since 2012 this has been based on an e-records management system known as iShare within the Welsh Government. Paper records created prior to 2012 are also available via RMU.

4.2   Awareness and use of Knowledge and Analytical Services (KAS).

Participants were generally aware of the KAS and its component units, but there was a limited appreciation of the details of what services they offer. In the PIQ, 4

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respondents (3 LGC and 1 SF) stated they had never used KAS services but all were able to provide examples of use in the interviews. Frequency of use was variable with many respondents indicating that they had not used KAS in the last 12 months. The SF Directorate and the MB1 and MB2 grades appeared to make most use of the service. It would seem KAS is used for specialist work when there is a need for it rather than as a day to day service despite the fact that the Library, for example, is geared to instant access services.

Staff appear to become aware of the KAS through discussions with colleagues in response to specific needs related to their work. As a result of these referrals, staff seem to be aware in detail of services which have been provided to them in response to their needs, but not the wider services available through KAS. Few were made aware through formal training events though those in the Cardiff office were more likely to have attended a training course which did refer to KAS.

The modal average for library use is 1-5 occasions in a year with staff from the Cardiff office using the Cardiff based library more frequently than others. The least used services were reported as being information literacy training, the online catalogue and Company searches. The most used services were: E Journals, Books, literature searches and the physical reading area. Respondents were generally positive about both services and staff. Representative comments included:

> **Library** – *"So yeah that sort of continuity was very useful together with the willingness and knowledge of the subject to point me at some interesting material and take it in good grace when that "does not look interesting but that does". You can have a good conversation with the folks down there".*

> (Subject 02)

> **Cartographics** –*"They set that all up for me and did not charge our Department at all. I was delighted with the outcome. I think it is the best looking noise map in terms of the way it was presented in the UK".*

> (Subject 03)

> **Statistics** – *"I have found them very good, very helpful and very knowledgeable. I found the first few meetings they do use a lot technical jargon but I found when I asked them to clarify that they did".*

> (Subject 17)

A common theme throughout the interviews was that KAS needs to be more proactive in marketing itself. Respondents suggested making contact lists available in accessible places on the internal intranet as well as providing more details about the services available. Respondents also made some more innovative suggestions associated with restructuring and embedding KAS staff in policy teams.

> *I think having people working in the teams. I know, I am aware that people are linked within the teams and people have their own portfolios in KAS. But I don't know who those people are. I know who Stats is because I have a lot of dealings with **** in Stats and I see him quite regularly. But I*

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> *wouldn't know who my contact for the other professional services are because I don't see them or hear from them. If there was that interaction and that relationship built I would be more likely to ring them up and ask them.* (Subject 20)

Respondents did not necessarily see KAS as the first point of contact for a new information search. There are quicker ways to obtain information; additionally, KAS is seen as a professional service available to assist with major pieces of work. It would seem KAS is used for specialist work when there is a need for it rather than a day to day service. The main reasons for not using KAS services more were reported as being that either respondents did not know how to engage or the belief that certain services were not relevant to their current post.

> *Part of it I think, is about, I think people have in their head about stats, maybe Social Research. But I wonder if people have an idea in their heads what library is. Because people think of libraries in a very traditional sense don't they? And you know from those I work with I would not be alone in that. Even though I know the library service does more than just books. Maybe there is something in the title.* (Subject 14)

4.3   Information Needs and Sources

During the interviews, subjects were asked to describe their typical information gathering activities. The first choice of information source was dependent on the type of information being sought but, in general terms, online resources, followed by colleagues, were most commonly cited as the first points of contact in information seeking. This trend was evident across the sub-analysis units. The research identified over 32 classes of information need and demonstrated that Welsh Government managers have a wide range of information requirements which are necessary to support their jobs. These activities can be broken down into two broad categories: day to day needs and major work. Most commonly, the former relates to information needs around specific documents, individual facts, contact details and local, corporate or historical information. Major work activities in support of policy sees these needs complemented by a requirement for scientific peer-reviewed papers, professional input from colleagues, and wider professional networks, as well as input from professional information providers such as statisticians and librarians.

Promoting the Welsh language and ensuring that services are delivered in Welsh if that is the preference of citizens is a major priority of the Welsh Government. This project did not address Welsh language issues directly as they are concerned with information seeking behaviour in the context of policy-making. Within the two Directorates that participated in the project most, if not all, of the evidence base used in developing policy, research papers and reports, is written in English. Welsh language issues were not mentioned by the research subjects during the course of the interviews.

Civil servants are generally conservative in their choice of information sources, with reliability being the key attribute for selecting information to use. As a result, trusted sources are accessed either via the Web or through networks of personal contacts. The fastest route to that information was also reported as important, with

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speed of access influencing the choice of information channel. Respondents indicated that online resources were used to obtain overviews, facts, statistics, contact details or specific documents. Internet resources are also used to obtain detailed information but the tendency is to access government or institutional websites for this information. Colleagues and networks are still an important source of information and are used for quick answers, verification of Internet derived information, for local or organisational history and most importantly for professional input.

> *I just happened to bump into one of them on a train. He dropped an email with a couple of other names. With a few clues from there we got to the guy with a batch of things we could look at. So it does tend to be interpersonal and not always using central services.*

(Subject 08)

The primary motivation to seek information from online resources was immediate accessibility. Just as colleagues are easier to access than books and libraries, the Internet is easier to access than colleagues. Internet resources do not provide the level of interaction a colleague provides, nor the intuitive responses to questioners' needs, but they are generally more accessible because subjects do not have to wait for a colleague to be free to speak or to travel to meet them. Perhaps surprisingly during the interview sessions, internal records were mentioned as a reference resource by only a small part of the cohort. This potentially has implications for an organisation which has aspirations to be considered a learning organisation. In the PIQ, however, records were regarded as the 3rd most frequently accessed information source and the 5th most useful source of information. The main problems identified with the e-records appears to be inadequate training in the use of the electronic record keeping system (iShare) and poor naming conventions/version control, making retrieval difficult.

> *Because I find there is a lot of documents which look the same on iShare with figures on. I don't know, I don't know the structures of iShare, I don't know how people archive different things on it, or do different drafts on iShare. So I can find a figure it's a bit like when I am trying to look for FS co-ordinators for health leads. There are several spreadsheets set up. You know people have set them up for their own use. But when it comes to someone else looking for it, you have 4 or 5 different versions, yeah you can look at version control and properties but who knows which one is right.*
> (Subject 20)

The results suggest that external online resources have replaced colleagues as the first point of contact in the WG as it is easier and quicker to use for certain types of information such as "do you have a copy of…" Choo and Auster(1993) suggested managers use a mix of internal and external sources as well as personal and impersonal sources. The study supports this and suggests that the Internet, colleagues and professional networks are the preferred sources of information within the Welsh Government. The Internet is cited as the preferred source, the most used source and the most important source in each of the two components of primary research conducted as part of this project. Significantly traditional personal contacts in the form of colleagues and professional networks have not

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been displaced by online information resources, and are cited as the second and third most favoured contacts.

Respondents reported that online resources are used to obtain factual information, dates, contact details, published documents, and overviews, and – from a limited range of Internet sources – views and opinions to support policy development. These finding are similar to the Waller (2011) study which found that different bodies of knowledge are used for different purposes; Catalano (2013) observed similar results in a study of student Internet use where the Internet was used to start a search and other sources were used for in-depth information. Similarly, in He *et al.*'s (2012) study, undergraduates used different sources of information for different information requirements.

Some variations were evident in respondents' perceptions of information seeking with indications that these were influenced by academic background, age and established information seeking behaviours. Further, respondents reported selecting online resources which conform to their world view or position on an issue. For example, Subject 02 excluded websites from his searching which opposed his views on climate change. Furthermore, respondents reported that the proximity of colleagues with subject or historical corporate knowledge eliminated the need to use the Internet or central library services.

> *...although we have quite a lot of info what we still do is phone the fire Service direct and ask them, something like that….. But quite often it is easier to talk to someone. So either an organisation we work with, another public body or third sector or another Government Department.* (Subject 14)

In keeping with other research in this area, situational factors influenced the information seeker. Staff involved in service delivery activities in small local offices such as Carnarvon, for example, have different needs compared to those who are involved in policy development in Cardiff. The availability of long-serving staff with historical corporate knowledge would eliminate the need to consult central information service providers in KAS or use the internet.

> *That's just because of her knowledge of the area. It's very particular, very local. I suppose I do feel that the library is in Cardiff and don't know how, I wonder if they will perhaps have information on North Wales locally.* (Subject 05)

Time constraints were the most common situational factor and influenced choice of search route.

> *By the time I have worked out how to commission a broad info search like that it would be quicker to do it myself. If I had a specific thing about the partnership I may seek support. If it was a little bit nebulous or unclear it probably is quicker to do the work myself.* (Subject 02)

Situational factors play a significant part in information channel selection and are one of the key decision influences in the information acquisition process.

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4.4   The Place of the Internet and Validation of Information

When asked how they determined whether a website or web derived information was reliable, respondents' decisions were overwhelmingly based on trusted sources and previous experience. Site selection within search results is primarily based on URL, Government sites and trusted institutions. Search strategies which concentrate on trusted sites can be seen as a response to time constraints, weeding out the peripheral sites and concentrating on sources which are likely to provide meaningful answers.

> *Because I would make a judgement call. You know instantly upon having a look at the organisation, the author, and then make a judgement call on whether I could probably rely on it or not.* (Subject 06)

When asked to rate the reliability of information derived from a number of Internet sites and sources on a scale of 1-10, subject responses reinforced the views expressed during the PIQ, with Government sites and peer-reviewed documents seen as the most reliable sources of information, and sites which take a particular point of view seen as most biased and unreliable. Quality of source is therefore a major consideration in selecting a website for viewing and extracting information. There was some minor variation across the units of analysis with smaller offices having the more extreme range of views on reliability of sources. Although speed of access significantly influenced the choice of channel used in a search, the reliability of the information source was the determining factor in its selection for use. There was a recognition that there may be material missed, and that partly motivated those who took as long as the time allowed, but it was seen as an acceptable risk.

> *I honestly, if the time allowed to you is the time you have, you tend to work to that time. But also I tend to work on the basis "do I have enough"… evidence to justify a position or justify a particular direction.* (Subject 22)

When asked for their views on the place of Internet information derived within the Welsh Government, responses were fairly uniform. It is a useful source of information and is very accessible, but must be treated with caution and verified via other published information.

> *I think not to rely on it would be incredibly short sighted because it provides tremendously valuable information quickly and we just have to be realistic. Increasingly everyone is working to very tight deadlines, there are short resources. To deny ourselves the Internet would be foolish. But I do think and again this goes back to academic training, I think there needs to be an awful lot of emphasis on using it with real discrimination because there is so much unreliable material out there. And we have to accept that a lot of the spheres in which the WG is engaged in are spheres which are emotive, impact on people directly and the kind of information which may be out there may be highly unreliable or biased. We need the skills to determine that and act correctly.* (Subject 10)

Staff are therefore careful in how they use information derived from the Internet. Most staff put information through some sort of evaluation and summarising process before use and will quote sources when they do use them. Evaluation is

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mainly based on testing against other published sources or via colleagues and networks. Staff were also aware of plagiarism and copyright issues and take care to ensure they are not in breach of the law. If information is not verified, the tendency is not to use it, though in some cases, newspaper reports can be used in daily briefings with caveats such as "According to an article …"

Where doubt about the quality of web derived information did arise, the response is mostly to check the information against other published sources or with colleagues. There was a strong element of selection prior to arriving at this stage, with subjects stating if they had doubts about a website, they would not undertake any checks, but ignore the information and move on. The checks appear to apply to information they consider likely to be useful. None of the subjects interviewed indicated they would undertake a structured evaluation of websites or documents.

The findings support the work of researchers such as Mansourian and Ford (2007), Mansourian *et al.* (2008), Prabha *et al.* (2007), Kalantari (2010), Agosto (2002) and MacDonald *et al.* (2011), which also observed evidence of satisficing, satiation and the recognition of risk of missing material. Subjects generally stop when they have enough material to satisfy their information need, and the selection of websites as suitable for use is largely based on prior experience as well as a preference for institutional sites.

4.5   Reflections on Information Literacy in the Welsh Government

In the PIQ, only 5 respondents said they did not consider themselves information literate but no respondents were able to provide a definition of information literacy; at best, respondents identified the need to access and use information. In a second question on information literacy standards, respondents were asked what skills are needed, and the responses were focussed on technical and individual skills. Most of the cohort considered their current level of information literacy training to be inadequate. Based on these findings, information literacy skills of Welsh Government staff are limited. Internet searching skills were basic amongst the majority of the research cohort and few could identify advanced search techniques. Few could state the strengths and weaknesses of the search engines they used, and none appeared to be aware of issues around results ranking, previous search history influencing current results, and information invisible to general search engines. Staff recognised there is a deficiency in their knowledge, and suggested a number of options to improve information literacy skills, most of which involve formal training within the Welsh Government. This is already available but few staff avail themselves of it.

A key question is whether the lack of awareness of information literacy and staff overestimating their search skills really matters if managers appear to obtain the information they want either via the Internet or from colleagues. It could be argued, in terms of Lloyd's (2011) Information Practitioner definition, that staff are already embedded within a range of contextual information networks. However, the research findings here suggest that information literacy levels are important, not only in terms of efficiency in accessing currently used information resources, but also that improved information literacy skills could make staff more aware of the range of information sources available on the Internet and through

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internal resources. Being able to identify and validate sites other than those which are familiar could also allow new fresh information to be used rather than recycling the same limited information around government. As Lloyd (2011) argues, information should be seen in context of an organisation where information literacy is shaped by the organisational culture and the individual should be able to engage with all relevant information sources. Increased information literacy skills, which help create information practitioners, would support the development of a learning organisation and improve the process of evidence gathering which in turn would allow more informed decision making. While staff can access the information sources they need on a day to day basis, additional training on the full range of information sources available as well as on the efficient use of the Internet would be beneficial.

4.6   The Amended Byström and Järvelin Model

The Byström and Järvelin (1995) model shows a linear transition through the information acquisition process moving from Task Category through Category of Information need to selection of Channels Used, Evaluation of Sources to Final Evaluation of information used. In the model, Category of Need is influenced by the Actor's Ambition, Education and Experience, which in turn is influenced by Situational Factors, and they also influence choice of Channels Used and Evaluation of Sources. Channels Used and Evaluation of Sources are represented as a single process in the original model. They have been separated partly for clarity within the amended diagram (Figure 2) but also in the belief that Channel Selection and Evaluation of Sources are two distinct processes.
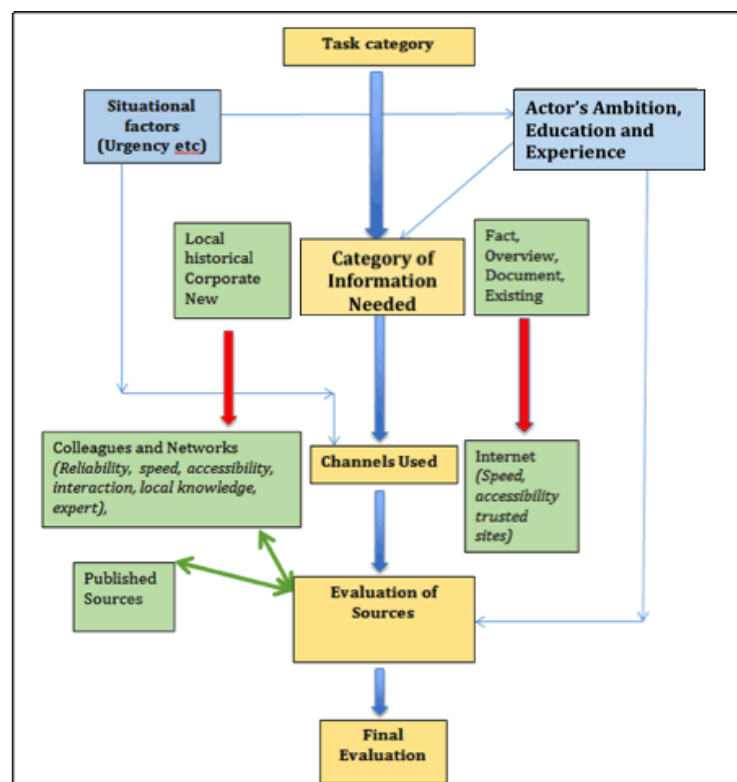

Figure 2: Welsh Government Information Acquisition model (after Byström and Järvelin)

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According to this study, Welsh Government Civil Servants have information acquisition practices which may be fitted to the model, with minor amendment to the original structure. The Byström and Järvelin model can be amended to show Colleagues and Networks as being the preferred Channels for local, corporate and new research material and the internet being the preferred channel for facts, publications and to obtain overviews on a topic. This is clearly indicated in the amended model along with reasons for use (in italics).

The original model indicated that Actor's Ambition, Education and Experience influences the Category of Need. The study indicated that it also influenced the Evaluation Activities undertaken prior to using information, in particular whether to ignore the information and move on, or how the information is confirmed as accurate. The latter is generally achieved through following established channels rather than inventing a new unique validation process. Apart from indicating the link to Evaluation of Sources, the model has not been significantly altered. However, Actor's Ambition, Education and Experience is an important part of the information acquisition process, and the text has been highlighted to show this.

As per the original model, Situational Factors influence the information seeker, the Category of Need and the search Channels Used. This element of the model remains unchanged in the Welsh Government model. The main details to be added are specific situational factors, which in the study were time constraints and locality.

5 Conclusion

Welsh Government staff engage with the information professionals within KAS, the social research team, statisticians and librarians when embarking on a major project such as developing new legislation or new policy. However, they are more likely to seek information themselves when conducting preliminary research and for small scale information needs, and they undertake information searches based on their own understanding of what they need to do to acquire information. There was a general awareness of KAS services, but a general unfamiliarity with the full range of KAS activities. The amendments to the Byström and Järvelin model reflect behaviours recorded in relation to small scale information acquisition undertaken by staff themselves.

In terms of individual information seeking practices of managers, the study indicates that Welsh Government managers have similar information seeking behaviours across the various grades, locations and Directorate included in the research. These behaviours are also similar to those attributed to mangers and information seekers in other professions in that they favour Internet searches for reasons of speed and ease of access. When searching for more detailed information, the respondents indicated that they tend to concentrate their searching on specific publications or trusted sites. They are cautious about quality issues, and while speed is important in locating information, reliability is the deciding factor when selecting information for use. The reasons for using the Internet are similar to using colleagues, ease of access and quality information about specific subjects. Colleagues are frequently the second port of call after an

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Internet search to verify information, clarify understanding and provide local/historical input.

While this study was limited to one government institution, other civil servants and specialist information departments in other governments may face similar challenges. In order to increase levels of awareness of the information services available to staff within government organisations, the services must engage user groups, including managers, in outreach and training activities. It must also be easy for clients to use these services, and so Intranet-based information and commissioning processes, including contact details of staff, may make them more inclined to use the service. Further, based on our findings, information services such as the KAS should be more closely aligned with operational teams and that embedding KAS staff within a team on a temporary basis should be considered. Information literacy courses should be expanded to cover the practitioner role, not just ICT-related information skills. Information literacy should be firmly embedded with knowledge and information management training and promote the creation of the learning organisation.

The Knowledge and Analytical Services Division are currently reflecting on the recommendations of the report.

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