KNOWLEDGE MANAGEMENT PRACTICES IN THE SOUTH AFRICAN PUBLIC SECTOR 2002 - 2008

Thesis presented in fulfilment of the requirements for the degree of
Master of Philosophy
(Information and Knowledge Management)

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DECLARATION

By submitting this thesis electronically, I declare that the entirety of the work contained therein is my own, original work, that I am the owner of the copyright thereof (unless to the extent explicitly otherwise stated) and that I have not previously submitted it for obtaining any qualification.

Date: 10 February 2010

OPSOMMING

Kennisbestuur (KM) word reeds geruime tyd toegepas in die openbare sektore van ontwikkelde lande en dit word berig dat die resultaat duidelik speurbaar is. Vir 'n nuwe demokrasie en 'n ontwikkelende land soos Suid-Afrika kan die voordele van KM in die openbare sektor nie oorskat word nie. Onder meer word geglo dat KM kan bydra tot die verbetering van dienslewering wat op die oomblik die belangrikste prioriteit is vir die openbare sektor. Nogtans moet 'n mens wonder of KM die aandag ontvang wat dit verdien, en of daar opmerklike resultate is.

Hierdie studie is in wese 'n rapport van 'n opname van KM praktyke in die Suid-Afrikaanse openbare sektor, in besonder van nasionale departemente. Daar word gehoop dat die resultate van die studie sal bydra tot die identifisering van beste praktyke wat met ander gedeel kan word, en om afwykinge en gapings te identifiseer vir korreksie.

Die studie is ingedeel in die volgende hoofstukke:

Hoofstuk 1 – 'n kort geskiedenis van KM in die openbare sektor.
Die probleemstelling word ook bespreek

Hoofstuk 2: Navorsingsmetodologie

Hoofstuk 3: Knowledge Management: Challenges, Solutions and Technologies.
Hierdie hoofstuk is gebaseer op die boek en model van Becerra-Fernandez et al. En dit bespreek die drie afdelings van die boek, naamlik: Principles of KM, Technologies of KM, KM Systems, asook die epiloog waarin die toekoms van KM behandel word. Beskouings van ander outeurs ten opsigte van die boek en model word bygevoeg.

Hoofstuk 4: Aanbieding en Bespreking van resultate

Hoofstuk 5: Konklusie en Voorstelle
In die konklusie word antwoorde geformuleer op die pertinente vrae wat in hoofstuk 1 gestel is.

SUMMARY

Knowledge Management (KM) have been adopted by the public sector institutions of the developed countries for a while and the rewards that of are said to be immense. For a new democracy and a developing country like South Africa, the benefits of KM in the public sector cannot be over emphasized. Among, other things, it is believed that KM can help speed up service delivery which is a top priority for the South African public sector at the moment. However, one wonders if the South African public sector is giving KM the kind of attention it deserves and if so, are there any noticeable rewards?

The following study is a survey report on KM practices in the South African Public sector, specifically, National departments. It is believed that the results of this study will help identify best practices to be shared and deviations and gaps to be corrected.

The study is made up of the following Chapters and topics:

Chapter 1: Which cover a short history of KM in the Public Service

The chapter also discusses the problem statements, objectives of the study and limitations.

Chapter 2: Research Methodology

The population and sample in this study are discussed. The methods used to collect data is also outlined and discussed.

Chapter 3: Knowledge Management: Challenges, solutions and Technologies.

This chapter is based on the book and model by Beccerra –Fernandez et al. and it discusses the three parts of the book , namely, Principles of KM, Technologies of KM, KM Systems and the epilogue which deals with the future of KM. The views of other authors in relation to the book and model are also outlined and discussed in this chapter.

Chapter 4: Presentation and Discussion of results:

The results of data collected in chapter 3 above are presented and discussed.

Chapter 5: Conclusion and Recommendations

The conclusion of this study based on the data collected using tools and methods outlined and discussed in Chapter 2 & Chapter 3 and presented in Chapter 4 above is then drawn. The conclusion and recommendations seek to answer research questions that were posed in Chapter 1 of this study.

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LIST OF ACRONYMS

AI	Artificial Intelligence
CKO	Chief Knowledge Officers
DoC	Department of Communication
DPSA	Department of Public Service and Administration
GITOC	Government and Information Technology Officers Council
ICT	Information Communications Technology
IPSP	Integrated Provincial Support Program
KE	Knowledge Engineer
KBS	Knowledge Based Systems
KIM	Knowledge and Information Management
KM	Knowledge Management
NPM	New Public Management
OECD	Organisation for Economic Cooperation and Development
PALAMA	Public Administration Leadership and Management Academy
RLKM	Research Learning and Knowledge Management
SAMDI	South African Management Development Institute
SITA	State Information Technology Agency
WWW	World Wide Web

Chapter 1

The Research Problem

1   INTRODUCTION

History shows that most of the management philosophies were first practiced in the large company, McAdam and Reid[1] and this is also the case with Knowledge Management (KM). Delegates to the KM Africa conference[2] also acknowledge and agree that KM refers to a body of practices that have emerged from the corporate world as organisations strive to cope with the pace of change. There is more evidence in literature that points to the direction that KM first started in the private sector of developed economies like Japan, Canada and the US around the mid- nineties. Beccerra- Fernandez[3] refers to this as the re-engineering era of the nineties. This era also resulted in, among other things, downsizing as Girard[4] says 'Organisations now boast leaner structures.' The move also signalled a loss of tacit knowledge. Haynes[5] says that KM is a concept that emerged from a desire to understand key changes in capitalism in the late twentieth century.

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[1] In: Cong, Xiaming and Pandya, Kaushik V.2003. Issues of KM in the Public Sector. Electronic Journal of Km.1 (2) p25-33

[2] Development Bank of South Africa (DBSA).2006. Knowledge Management Africa: Knowledge to address Africa's development challenges: Edited proceedings of the inaugural KMA conference held in Johannesburg, South Africa in March 2005.South Africa. March, 2006. p.23.

[3] Beccerra- Fernandez, et.al.2005. Knowledge management: challenges, solutions and techniques. New Jersey: Pearson.

[4] Girard, J. P.2005. Taming enterprise dementia in public sector organizations. International journal of Public Sector management. 18 (6)p534-545

[5] Haynes, P.2005. Demystification of KM for public service. Public money and management. April. p131-135

This was the time when the public sector in developed countries was embarking on what is referred to by McHugh[6] and, Lonti and Verna[7] as The New Public Management (NPM). The NPM is described as 'a general theory on how government can get things done and get services organised to citizens'. Kudo[8] says that reformers adopt various strategies ranging from institutional reorganisation, rationalisation of administration procedures, introduction of new management techniques and more recently, the implementation of e-government. This, it is believed was a move for public institutions to run like private sectors, as Chong and Pandya[9] say 'The NPM suggests that public organisations should import managerial processes from the private sector, emulating successful techniques'.

The public sector was to undergo a change where delivery of service was to become very important. The era was characterised by the need for accountability for the use of public finance and other resources by public service agencies. Sinclair[10] mentions that citizens are likely to have high expectations of their governments at a time of change. Caron[11] believes that the NPM was designed in response to criticism about the alleged and sometimes proven ineffectiveness and inefficiency of public organisations. Communication and knowledge sharing between government employees and stakeholders became very important.

 It could therefore be argued that KM was introduced in the western public sector around the time that the NPM was introduced. Cong and Pandya state that the NPM has paved the way and laid the foundation for KM. Sinclair[12] believes that 'KM is probably the best hope for successfully moving the monolith of government towards a new and improved business model.' To add to this, Riley[13] says that governments are facing challenges of scale and scope

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[6] McHugh, M.1997. Trouble in paradise: Disintegrated strategic change within a government agency. International journal of Public Sector Management.10 (6)

[7] Lonti, S and Verma, A.2003. The determinants of flexibility and innovation in the government workplace. Journal of public Administration, research and theory.913)3

[8] Kudo, H. 2008. Does e- government guarantee accountability in public sector? Experience in Italy and Japan. Public administration quarterly. Spring.

[9] Cong and Pandya. 2003. Issues of KM in the public sector. Electronic journal of KM1 (2) p25-33

[10] Sinclair, N. 2006. Stealth Knowledge Management: Winning Knowledge Management strategies for the public sector. Oxford, UK: Elsevier. P229

[11] Caron, D J. et...al. 2006. Civil servant identity at crossroads: new challenges for the public administration. International journal of public sector management.19 (6) p543- 555

[12] Sinclair.N. 2006. Stealth Knowledge Management: winning Knowledge management strategies for the public sector. Oxford, UK: Elsevier. p x.

[13] Riley, T B.2003. KM. International tracking survey report 3 (2)

for which KM provides effective solutions. The emergence of KM in the public sector can therefore be traced to this era.

It is also possible that KM has been introduced to both the private and public sector at the same time. This is because there have always been stakeholder relationships between both the public and private sector and it is possible that what happens to one sector could happen to another at the same time. That is, the public sector is the stakeholder of the private sector and vice- versa. Reid and Lindsay[14] say that the two sectors are involved in a two-way transfer of scientifically and socially based knowledge. 'There is talk of 'knowledge- based partnerships' between the public and private sectors' That is why Rowley[15] says 'KM is in conceptual terms a paradigm and in professional terms a collection of strategies and practices that has arisen in response to the needs of organisations, business, communities and government in the knowledge based societies of the 21stC'.

Interestingly enough, during that time (the nineties), change was inevitable for the South African public sector as a result of the political dispensation of the time that included among others, the release of political prisoners and the lifting of sanctions by western countries. South Africa was now an active player in the global economy and at the same time had change thrust upon it by its political situation. As a new democracy, politically, the public sector went through a huge transformation that was based on change in the ruling party, change in the structure and content of the provinces, policies and practices. As a result of this change, knowledge needed to be shared among stakeholders for transformation to take place.

It can therefore be said that KM was introduced around the developed countries in the nineties when South Africa was going through an inevitable change. This is an observation of Thornhill and Van Dijk[16] who says that the South African public service has experienced intensive reorganisation since 1994. Change therefore launched South Africa's re-emergence in the global economy as a new democracy and an emerging knowledge economy.

Changes in the South African political landscape ushered in a total restructuring of the public service, nationally, regionally and provincially. Other changes include changes in legislation

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[14]Reid and Lindsay. 2006. KM in the public sector: Stakeholder partnerships in the public policy development. Journal of Knowledge Management.10 (3)p24-39

[15] Rowley, J.2003. KM- the new librarianship? From custodians of history to gatekeepers of the future. Library management. 24 (8/9). P433-437

[16] Thornhill, C and Van Dijk, H G.2003. The public service as a learning organisation. Journal of Public Admonistration.38 (3) p440

and policies. There is also a visible introduction of information and knowledge management related legislation like, the introduction of the Electronic Communications Act and the Access to Information Act among others (Which are also linked to the use of ICT in the South African Public sector).

The Government Information technology Office Council (GITOC) and the State Information Technology Agency (SITA) was also established to deal with the use of ICT in the South African Public Sector and is presently addressing issues like e-government[17] and Open Source software which is still in its infancy. It should be noted that the emphasis is mostly on information technology which is an enabler of KM.

Evidence of KM in both the private and public sectors in South Africa can be traced to the late 1990s and early 2000. It should however be noted that Bedi[18] says that most public sector agencies are already engaged in knowledge intensive activities, so KM is not a zero based activity. This is also a view of Cong and Pandya[19] who say that 'the concept of KM has been in practice for a long time, and only in an informal manner.

1.1. STATEMENT OF THE PROBLEM

The South African Minister for the Department of Public Service and Administration (DPSA)[20](1994-2008) says; **'**Each of us is a knowledge worker and a learning champion in this knowledge economy**.** We all have a role to play in turning the public service into a learning public sector for quality service delivery'. From this statement, it is clear that the South African public sector embraces or even implements KM. However the statement is not enough. It is unclear whether the entire South African public sector is making progress or is implementing KM effectively. The sentiment is echoed on the GITOC[21] discussion document that says; 'There are already significant KIM practices in government but these are generally not inclusive of all the links in the knowledge value chain and need to be developed further'.

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[17] www.sita.co.za. 2002. E-government experience in South Africa. 2002.

[18] Bedi, N.2003. Aligning with strategy and convincing skeptics in the Canadian public sector. KM Review 6 (3)

[19] Cong and Pandya.2003. Issues of knowledge management in the public sector. Electronic journal of knowledge Management. 1 (2) p25

[20] This statement appears at the back of every issue of the Public Service Delivery Review: a learning journal for public service managers, a journal published by the DPSA for knowledge sharing.

[21] GITOC. 2004. Developing a government Knowledge and Information Management (KIM) Strategy. Released July 2004. p.2

The problem is therefore that there is evidence of KM being introduced and implemented in the SA public sector but there is not yet clear and visible progress or benefits that of.

This study aims at investigating knowledge management practices in the South African public sector. As much as we would like to believe that KM is practiced nationally, some national departments are lagging behind. This happens at different levels, be it strategy or implementation. It is therefore believed that this study can help to expose the challenges and benefits of KM implementation in the South African public sector.

The study is also motivated by the fact that it is possible for government departments that have embarked on KM initiatives to share their lessons with those that have not yet embarked on it. KM practices could also be different and not always successful. Beccerra -Fernandez *et al* [22] say that not all KM implementations have been successful.

This may be because of a lot of reasons, some of which are mentioned by Sinclair[23] who says ' I suspect that most public sector organisations are still mired in the same old problems of lack of understanding of where KM might fit and a lack of appreciation of how best to apply it. Unfortunately the reality is that most governments have many territorial, organizational and cultural barriers standing in the way of such organisational change.'

Girard[24] says 'One wonders how organisations that invested millions of dollars in programs to manage knowledge are now discovering that their managers are inefficient than before the implementation'.

The study would therefore like to find out if there are any failures in the South African public sector so far and what the cause thereof could be.

1.2 RESEARCH QUESTIONS:

The study aims at answering the following questions:

1. What are the current KM practices in the South African public sector?

2. What gaps can be observed from the KM practices?

3. What lessons can be learnt by other public sector institutions and agencies?

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[22] Beccerra-Fernandez, et al. 2004. Knowledge management: Challenges, solutions and technologies. New Jersey: Pearson

[23] Sinclair, N.2006. Stealth KM: Winning KM strategies for the public sector.Amsterdam: Elsevier. p14

[24] Girard, P. 2005. Taming enterprise dementia in public sector organisations. International journal of public sector management. 18 (6)p534-545

4. What is the dominant perception/ definition of KM in the South African Public Sector

1.3 RESEARCH METHOD

The study is done using an empirical method based on a survey of national government departments that are sampled randomly. A sample size was determined by the availability of information from different sources of information namely; the internet, the media, colleagues and employees in the different national departments. The researcher also observed and attended professional gatherings and associations in order to obtain as much information about the subjects as possible.

A questionnaire made up of both closed and open- ended questions was designed and distributed both manually and electronically to KM managers and practitioners to distribute to their colleagues at all levels in various national departments. This is aimed at ensuring that a maximum number of participants are able to receive and participate in the study to ensure the validity of the data. The questions from the questionnaire are based on the book and model by Beccerra- Fernandez *et al* titled: Knowledge management: Challenges, Solutions and technologies[25].

The researcher also did field work based on the responses from the questionnaires. This will took a form of unstructured interviews with KM managers/ practitioners that was aimed at verifying and clarifying other issues raised in response to the questionnaires. The interviews helped to clarify a lot of issues pertaining to the results, conclusions and recommendations of the study.

1.4. DEFINITION OF CONCEPTS:

Knowledge Management (KM): KM is the discovery, capturing, sharing and utilization of knowledge to gain competitive advantage and be innovative in the organisation. This is a very important practice in the knowledge economy because the success of any organisation is measured by how well that organisation manages its knowledge and knowledge resources.

The Public Sector: The Public sector is defined by wikipedia[26] as the part of state that deals with the delivery of goods and services by and for the government whether national, regional or municipal. The public sector in this study relates to what wikipedia says includes direct administration funded through taxation. The delivering organisation generally has no specific

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[25] To be discussed in Chapter 3

[26] From http://en.wikipedia.org/wiki/publi_sector. Retrieved on 14 August 2009

requirements to meet commercial success criteria, and production decisions are determined by government.

The Department of Public Service and Administration (DPSA)[27] mentions the following divisions of Public service institutions in South Africa, namely, National Departments, Provincial Administrations, Provincial Departments and Organisational Departments. The study concentrates on National departments which were 37 from 1994-2009April

1.5 LIMITATIONS OF THE STUDY

Based on the research method employed in this study, the following limitations are foreseen:

(1) It is difficult to locate the actual management of knowledge in the South African Public service because of its nature of a knowledge generating organisation.

(2) KM is a broad concept that is defined differently by different departments. It is therefore difficult to make exact comparisons using the representative components or proxies in this study

(3) There is likely to be an element of bias in responses to the questionnaire.

(4) The respondents are likely not to return their questionnaires and those who do may not do so on time.

(5) Not all the questionnaires were returned.

(6) Technical problems may be encountered since some questionnaires are going to be delivered and returned electronically.

1.6. OUTLINE OF THE STUDY

The study consists of the following chapters that cover the following topics:

(1) **Chapter 1:** An introduction and background to the study. The discussion of the problem statement, research questions, and methodology and limitations are also covered in this chapter.

(2) **Chapter 2:** The research methodology is outlined in this chapter. The chapter looks at the choice of the methodology, the sample, the sample size and the tools used in the collection of data for this study. The suitability of the methodology based on its advantages and disadvantages to this study will also be looked at.

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[27] From www.dpsa.gov.za/about/asap. Retrieved on 14 August 2009

(3) **Chapter 3:**In this chapter the researcher looks at the Theoretical background of the study based on the book by Beccerra- Fernandez., *et al*. The researcher discusses the information and the views of the authors on KM and what other authors and KM practitioners think of topics covered by Beccerra- Fernandez *et al*.

(4) **Chapter 4:** The data collected in Chapter 3 above is then analysed and presented. The findings of the study based on the methodology discussed in Chapter 3 are then presented and discussed.

(5) **Chapter 5:** Recommendations and conclusions to this study which, it is believed will shed some light and answer questions posed on page 5.

Chapter 2

The Research Plan

This is a descriptive research based on empirical study**.** Both qualitative and quantitative methods are used to obtain as much data and information as possible for this study. This is because the study deals with a concept that is relatively new to the South African public sector. The South African Public sector is also very large with a lot of departments and access to suitable practitioners is difficult because of the many titles, job descriptions and approaches to KM that the public sector is using.

2.1 Sampling

The study is based on the 37 national departments. Random sampling is used based on the availability of information from both the secondary and primary sources used in this study. The sample is derived from the pool of vacancies advertised in various government departments and referrals from participants and /or colleagues in other departments.

2.2 Data collection

The first level of this study sees the researcher conducting fieldwork and attending public service knowledge management gatherings. Because there is no readily available information about which departments are implementing KM and the numbers of people employed in those positions, the researcher also conducted both formal and informal interviews with individual knowledge management/ practitioners/ champions in the departments that form part of this study as well as members of other departments to ascertain if there are any formal knowledge management activities in place. The interviews were aimed at gaining historical background of information in the various departments and to verify some information provided by respondents in their responses to questionnaires. The researcher also conducted interviews with individual KM practitioners/ champions or leaders and members of any committees /Communities of practice that may exist in the interest of Knowledge Management in the SA public Sector. The interviews were used as a follow up and to verify some information provided by respondents in their departments.

An interview is considered a very good tool of data collection. That is why Goddard and Melville[28] state that 'advantages of an interview over a questionnaire are that the researcher can ask the respondent to clarify unclear questions and can follow up on interesting answers.

Secondary data was collected from publications (books, journals, conference papers, print media and the internet). From publications, the researcher went through other research engagements on this and other related topics. Furthermore, the researcher looked into what the present trend and beliefs of authors about the subject are. Information was also gathered from colleagues from other departments who might have experienced a service from the departments covered by this study.

Vacancies advertised on the field of KM will also be monitored by means of Public Service Vacancy Circulars[29] and any other print media. The researcher also went through different departments' websites to see if KM is featured anywhere on the websites. The researcher was concerned with whether KM has been given space on the websites and in cases where it appeared, would the information be sufficient to provide answers posed in Chapter 1 of this study? This, it is believed would also help in highlighting whether education about KM is given priority in the South African Public Service.

More primary information will be collected by the use of a questionnaire[30] which is the main tool for data collection in this study. The questionnaire will be based on the book by Becerra-Fernandez *et al* (discussed in detail in Chapter 3). The questionnaire is made up of both open and closed questions. Open-ended questions were used to elicit more information and to ascertain whether the subjects/ participants fully understand the subject and what their views about it are.

The choice of a questionnaire is based on the fact that the subjects in this study cover a large area - Pretoria: South Africa, and because there is no definite information about the number of KM practitioners, it is believed that the questionnaire wou be suitable in case the numbers are more than was initially thought to be. The following are other advantages of the

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[28] Goddard, W and Melville, S.2001. Research methodology: An introduction. Lansdowne: Juta.p148

[29] Vacancy Circulars are a compilation of all vacancies in the public service obtainable from the DPSA on a weekly basis. The SA public sector produces 50 out of every 52 weeks of a year.

[30] See Appendix 1

questionnaires by Kumar[31]: 'They are less expensive and they offer greater anonymity'. The latter can be a disadvantage as well because greater anonymity can offer a good opportunity for misrepresentation of data, bias and non-response.

The questionnaire is made up of eight pages that consist of a cover letter which outlines and introduces the study, its aim and purposes. The next page of the questionnaire (page2) is made up of Beccerra-Fernandez, *et al*'s[32] model to further explain to the participants how the questionnaire is structured and what it is based on. Page 3 of the questionnaire is made up of questions about the participants' background information which includes their positions, qualifications and how long they have been in the public service. This area is covered on page three and part of page four of the questionnaire.

Section A of the questionnaire consists of seven questions which are covered in the first level of the model which is KM processes (KM discovery, capture, sharing and application). The questions range from the definition of KM to KM evaluation. The section starts on page four and ends on page 6. The questions are closed multiple choice questions with others providing the participants an option of making more than one choice of their responses.

Section B of the questionnaire consists of 24 closed ended questions that also offer the participants a choice of 6 answers to choose from (yes it is true, mostly true, sometimes true, not true up to I don't understand the statement), but only one answer must be chosen. Most of the questions cover the second level and third level of the model which is about KM systems, KM mechanisms and KM technologies as well as the fourth level which is KM infrastructure).

 Questions about KM mechanisms include question 5, 11, 16, 17 and 18 which are questions about story-telling, communities of practice and learning through shadowing. Questions about KM technologies are question 8, 12 and 20 that are about cognitive modelling tools, open source software and e-mail .Question 3, 4, 7, 19, 20 and 21are mostly about KM systems which include questions on data mining, artificial intelligence, and knowledge based systems. Questions about KM infrastructure are on 16, 17, 22 and they cover topics like work ethic, organisational culture and general skills.

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[31] Kumar, R. 2005. Research methodology: an introduction: a step- by- step- guide for beginners. 2nd Ed. London: Sage. P.332

[32] Beccerra-Fernandez et al. 2005. Knowledge management: Challenges, solutions and Technologies.New Jersey: Pearson.p 37

It should be noted that the questions also expose the model as an integrated system because questions about KM mechanism may also be questions about KM infrastructure, KM systems or even KM processes. For example, Question 16 is about organisational culture (KM infrastructure) and it is also about Communities of practice (KM mechanisms). This shows that one level of the model cannot function entirely without the other level(s)

The model is discussed in full in the next chapter.

Chapter 3

The theoretical Model

KNOWLEDGE MANAGEMENT: CHALLENGES, SOLUTIONS AND TECHNOLOGIES

The study is based on the contingency view of KM as presented in the book by Beccerra-Fernandez, *et al* titled Knowledge Management: challenges, solutions and technologies. The book treats KM from a holistic point and is based on the argument that 'KM initiatives are contingent upon the task and context in which knowledge is being used and therefore no one solution is best under all circumstances' Beccerra-Fernandez *et al*[33]. This is a contingency view that Handzic[34] says is supported by empirical evidence. The view is also supported in GITOC KIM strategy document that says 'The circumstances in different institutions vary widely; therefore a rigid regulation on how KIM should be treated will not be appropriate'.

The researcher found the contingency view and model to be suitable for this study because in the South African public service, KM practitioners use different titles, have different job descriptions and therefore are also using different ways of approaching and implementing KM. The model is therefore flexible enough to cover KM in its entirety and still accommodate the differences in practices in different public sector departments.

The book is divided into the following parts that the model is created from:

Part I: Principles of KM

Part II: Technologies of KM

Part III: KM systems

Part IV: Epilogue- The future of KM

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[33] Beccerra-Fernandez et al.2005. Knowledge Management:Challenges, solutions and technologies. New Jersey: Pearson:

[34] Handzic Lagumudzija M. and Celio, Amer.2008. Knowledge Management Research and practice.6.p91

3.1 Part I: Principles of KM

This part is made up of the first six chapters of the book. It is an introductory part of the book where the subject of KM is introduced and discussed. The role and advantages of KM in organisations and the knowledge economy are also mentioned. They include building sustainable competitive advantage and decision support. This is also discussed in terms of the impact on the individual and organisational goals according to three levels, namely: the people, processes, and organisational. Cong and Pandya[35] mention only the individual and the organisational level. To add to this, Beccerra- Fernandez further states that; 'it is viewed as an increasingly important discipline that promotes the creation, sharing and leveraging of the organisations' knowledge.

For the public sector, Cong and Pandya[36] say that managing knowledge can reduce the cost of operations and improve customer service. This is supported in the draft KM framework by the Department of Public Service and Administration (DPSA) in South Africa[37] which mentions the following as the reasons why knowledge management and organisational learning in the public sector is needed:

- Improve efficiency, efficacy and quality service delivery and assist in formulation and implementation of public policies

- Meet public service challenge of sustained performance

- Adequately address unexpected challenges and disaster

- Achieve collaboration, common language and orientation.

- Create new partnerships and connections across departments

- Promote transparency in public administration through provision of information to the public

- Avoid repetition/ or re-inventing the wheel

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[35] Cong, X and Pandya, K.V. 2003. Issues of KM in the public sector. Electronic journal of Knowledge management. 1 (2) p27

[36] Cong X and Pandy, KV.2003.Issues of KM in the public sector.Electronic journal of Knowledge management.1 (2) p29

[37] … 'The DPSA is tasked with a need to strategically manage knowledge that is present in the capabilities, innovation and adaptation to change thousands of government servants' Towards a knowledge management framework for the public service drafted by the DPSA (2007-2008; 03). As a result, the DPSA is responsible for, among other things, come up with the framework for Knowledge Management in the SA public sector

- Strengthen relationships between spheres of government and effective service delivery

- Enhance knowledge sharing relating to customer and partner needs

- Maximise the potential of the individuals and the organisation

- Prepare citizens, non-governmental organisations and other social stakeholders to act in partnership with the government in the development and implementation of public policies

GITOC[38] summarizes the benefits of KM in the public service as those of better service delivery (ethics, efficiency, economy, equity and excellence), empowerment, integration, collaboration and general relationship with citizens.

KM is defined by Beccerra- Fernandez *et al*,[39] as doing what is needed to get the most out of knowledge resources. Their broader KM definition is: 'performing the activities involved in discovering, capturing, and applying knowledge so as to enhance in a cost-effective fashion, the impact of knowledge in the unit's goal achievement'. This is the basis on which the book rests. The definition that emanated from Learning Network Session in KM[40] is: 'The collection of processes that govern the creation, dissemination and utilisation of knowledge with a view of achieving organisational goals and improve service delivery.

Sinclair[41] believes that 'any definition that works for any organisation is the right one'. According to him, an organisation must know what the business requirement for doing KM is and define it in those terms. He believes that a definition must be based on departmental strategic goals. He emphasises that what is important is to come up with a definition that can

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[38] Government Information Technology Officers Council in discussion document, draft 2.1 of July 2004 p2. E6 above…They stress that Knowledge and Information Management promotes better understanding of capabilities, efficiencies and inefficiencies, clients' needs, support networks and resources, strategies, goals and objectives, performance and governance requirements and decision options.

[39] Beccerra- Fernandez.et al.2005. Knowledge Management: Challenges, solutions and technologies. New Jersey: Pearson.p31

[40] Organised by the DPSA as its duty as the national coordinator of Knowledge Management in the South African Public Sector. It was held in Bloemfontein from the 13th-15th February 2008 and it was attended by public service officials from both, National, provincial and municipal divisions as well as public agencies and interested organisation.

[41] Sinclair .2006. Stealth KM : Winning KM strategies for the public sector. Oxford, UK: Elsevier. p 17.

be understood by any member of the organisation. The view is supported by Malhotra[42] as well as Rowley[43] who says: 'To argue that there is no clearly defined and generally accepted definition of KM … none of these things matters, if the world out there is in pursuit of solutions that help them survive and flourish effectively in a knowledge based society'.

3.1.1 KM processes:

This is the first level on the model. KM processes are defined as the broad processes that help in discovering, capturing, sharing and applying knowledge. That is, knowledge discovery, knowledge capture and knowledge sharing. This involves the processes of direction, which is the individual process where knowledge directs the action and routines. This is what people do when they utilize knowledge embedded in procedures. The authors[44] list the KM processes as knowledge discovery, knowledge capturing, and knowledge sharing and knowledge application. GITOC has elaborated more on its knowledge processes which they refer to as the knowledge value chain and they include: needs determination, knowledge acquisition (which is connected to knowledge creation and capture), knowledge capture, organising, conservation/maintaining, protection, sharing/ dissemination, utilising and assess value.

3.1.1.1 Knowledge discovery:

It is defined as the development of new tacit or explicit knowledge from data and information or from the synthesis of prior knowledge.

The discovery of new knowledge is facilitated through combination, which is a combination of explicit knowledge combined to form more complex explicit knowledge. And the creation of new knowledge is through socialisation which occurs when tacit knowledge is shared through joint activities.

3.1.1.2 Knowledge capture:

This deals with capturing knowledge that exists in people or anywhere in the organisational environment either in explicit or tacit form. Knowledge capture is defined by the authors as

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[42] In Chong & Chong. 2009. Knowledge management process effectiveness: measurement of preliminary knowledge management implementation. Knowledge management Research and Practice. 7p.143. He says :' ….This probably was attributed to the absence of a universally accepted definition of KM'

[43] Rowley , J.2003.Knowledge Management – the new librarianship? From custodians of history to gatekeepers to the future. P. 433

[44] Beccerra-Fernandez et al. 2004. Knowledge Management. Challenges, solutions and technologies. New Jersey: Pearson. P.32

the process of retrieving either explicit or tacit knowledge that resides within people, artefacts or organisational entities. This occurs through externalisation where tacit knowledge is converted into explicit knowledge and internalisation where explicit knowledge is converted to tacit knowledge.

Internalisation is the actual learning process.

3.1.1.3 Knowledge sharing:

This is the process whereby tacit or explicit knowledge is exchanged between individuals or groups through socialisation. It is important that knowledge sharing should be effective. Knowledge should be communicated in such a way that the people involved in the process benefit and are able to apply the knowledge they are sharing. If knowledge is effective, then innovation and competitive advantage is gained.

3.1.14 Knowledge application:

Knowledge application means that knowledge in an organisation (including individuals, artefacts) is now applied or used in carrying out duties or making decisions.

The above mentioned KM solutions are looked at from a contingency perspective. This is because the authors believe that there is no one universal approach for managing knowledge. This is also believed by Sinclair[45] who says 'Let them bend and change KM into a shape that fits their view of the way it should work. He also says 'There are no wrongs or rights in doing KM.

The contingency factors influencing KM solutions are listed as: characteristics of the tasks performed, the knowledge managed, the organisation and the organisational environment.

3.1.2 KM mechanisms and technologies:

KM mechanisms and technologies are on the third level of the model and are defined by the authors as 'Organisational or structural means used to promote KM'. They are supported by KM infrastructure and they are used to enable KM systems. 'KM mechanisms may or may not utilize technology but they do involve some kind of organizational arrangement or structural means of facilitating KM' Beccerra- Fernandez *et al*[46].

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[45] Sinclair.2005.Stealth KM: Winning knowledge management strategies for the public sector. Oxford,Uk:Elsevier. p5

[46] Beccerra- Fernandez..et…al .2005. Knowledge management: challenges, solutions and technologies. New Jersey: Peason. p 37.

3.1.3 KM systems:

KM discovery systems, KM capture systems and KM sharing and application systems are on the second level of the KM model. It should be noted that the KM systems are a combination of technologies and mechanisms. To sum it all up, Simard[47] says; 'In a knowledge organisation, people use systems and processes to generate, manage, and use knowledge to support organisational goals, learning and adaptation. KM discovery systems are discussed in detail in the next part of the book (Part II).

The final section of this part of the book discusses KM evaluation/ assessment. This is an important part of KM implementation which is acknowledged by the OECD[48] which says that we need to understand KM better, to find ways to measure it and identify best practices in this area so that companies can operate better and governments can develop policies and help them do so. To support the above statement Chong & Chong says that having a proper measurement system is important as it is a basis through which it is possible to control, evaluate and improve knowledge processes.

However, Sinclair[49] thinks that the need to implement KM metrics has been a thorn in the side of many a knowledge manager, not that there are not plenty of KM metrics around. In the absence of any standardized approach to measurement, many organisations have invented measurement systems of their own. This view is supported by Chong and Chong[50] who say that measurement is undoubtedly the least developed aspect of KM due to the intangibility of knowledge assets. Kazimi *et al.*[51] warns: 'Without practical guidelines for institutionalising and successfully measuring KM maturity, more and more practitioners are starting to question the very concept of KM arguing that owing to the high cost in terms of time and commitment , and subsequent to non delivery, KM is not worthy of the attention it is receiving'.

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[47] Simard, A. (2006). Knowledge services: The 'why' of KM. Version 2 (8). P1-21

[48] OECD. 2004. The significance of KM in the public Sector. July.

[49] Sinclair (2006) Stealth KM: How to make KM successful in any organization. International journal of Information and KM systems. (36) 1. p97- 107.

[50] Chong, CW & Chong, S C.2009.Knowledge Measurement process effectiveness: measurement of preliminary Knowledge management implementation. Knowledge Management Research and Practice7. p.142. …This is not surprising, given the difficulties in defining it, let alone measuring it'.

[51] In Kruger & Snyman. 2007. Guidelines for assessing the knowledge management maturity of organizations. South African Journal of Information Management. (9) 3

The advantages of KM assessment include:

- to identify the contributions made by KM,
- to an organisation, and
- to enhance the understanding of the quality of efforts put into KM as well as to measure its cost effectiveness.

The types of KM assessment are listed as: Assessment before implementation[52], during implementation and after implementation. These types are used according to the period when KM is assessed, how it is assessed and what aspects of KM are assessed. Assessment is also divided into: Assessment of knowledge, assessment of impact on employees, processes and products. KM assessment can also be qualitative and quantitative.

3.2. PART II: Technologies of KM

This part refers to technologies used to manage knowledge and it is situated parallel to KM mechanisms on the model. It is a well known fact that technology is an enabler of KM and therefore important in KM practice. This is also a view of Haynes[53] who says 'much practice of KM is rooted in links to classical business process and the use of information technology to control work processes'.

However Davenport and Prusack[54] warn against excessive focus on technology where some organisations try to design knowledge to suit technology. McAdam and MCCreedy[55] also say 'ICT is not the answer to the success of implementing KM. ICT infrastructure seems to allow individuals in the organisation to create and share knowledge effectively and contribute to the performance of knowledge transfer.' This is also reiterated by Syed-Ikshan and Rowland[56] who says 'Although technological platforms play an important role in developing and sharing knowledge, without the attention to issues, technology may not be able to stimulate the flow

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[52] Chong & Chong says that it is of paramount importance to establish performance measures at different stages of KM implementation.p142-151

[53] Haynes, P. 2005. New Development. The demystification of Knowledge management for Public services. Public money and management. p131

[54] In Syed- Ikshan, S O S and Rowland, F. 2004. KM in public organization: a study on the relationship between organizational elements and the performance of knowledge transfer. Journal of KM. 8 (2). P95- 111.

[55] MacAdam, R and McCreedy, S.2000. A critique of knowledge management: using a social constructionist model. New technology, work and employment.15 (2)p.161

[56] Syed- Ikshan, S O and Rowland (2004). KM in the public organization: a study on the relationship between organizational elements and the performance of knowledge transfer. Journal of KM. 8 (2). P95-111.

of knowledge. McAdam and McCreedy[57] think that some organisations try to 'design knowledge to suit the technology'. They argue that the organisational structure, culture, technology and people should be considered to work together to stimulate the flow of knowledge.

The authors give attention to Artificial Intelligence (AI). Beccerra- Fernandez, *et al*[58] define AI as machines exhibiting human-like cognitive abilities as they attempt to emulate the problem-solving skills of accomplished problem solvers in a specific field. They also say that it is a technology of information processing concerned with processes of reasoning, learning and perception. The author says that AI is very important in KM because of the inherent relationship between intelligence and knowledge and therefore the word AI is used interchangeably with Knowledge Based Systems (KBS). Riley[59] says that AI also provides a solution to the problem of document overload.

AI is classified into:

- Search Based Systems which captures only basic knowledge but do not provide information on how to solve problems.

- Knowledge Based Systems (KBS) which store knowledge that is possessed by specialists in a particular field and uses domain knowledge to arrive at a solution within a field. KBS also provides examples of problems and solutions to problems therefore allowing users to apply knowledge for problem solving.

  KBS have the following characteristics:

 - Use of highly specific domain knowledge but some are about general knowledge.

 - Use heuristics instead of algorithmics

 - Separate knowledge from how it is used.

KBS support KM because of their use of heuristic. There are developed Knowledge Engineers (KE) who interact with the specialist in the field through different ways of eliciting

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[57] McAdam, R and McCreedy, S. A critique of KM: using a social constructionist model. New Technology, work and employment. 15 (2) p155-166

[58] Beccerra-Fernandez. 2005. Knowledge Management: Challenges. Solutions and technologies. New Jersey: Pearson.p102

[59] Riley. T. B. 2003. KM and technology. International tracking survey report. 3 (2)

information. This is also deemed very important by Langley[60] who says "The involvement of experts is essential to discovering new knowledge in knowledge discovery systems, including a heuristic one." KE can perform information elicitation through either one-on-one interviews, general knowledge gathering sessions, observation and role reversal.

However, Riley [61] warns that 'many people are reluctant to disclose aspects of their knowledge even when they are conscious of them - they see their knowledge as a source of power'. These are also referred to as manual knowledge elicitation. There is also mention of an automated knowledge capture process which can be used to make the knowledge capture process easier and quicker. Model-based reasoning can be used to perform automated information elicitation. The KE then uses the intelligent programs' knowledge base and inference engine. The end-user of a KBS expects to use the database/ knowledge bases of the KBS to solve problems.

There are two types of KBS that have been mentioned namely: Rule based systems which are KBS deriving knowledge from experts and Case Based Reasoning which solves a problem by referring to a similar previous one. The latter type is more popular because learning is encouraged. Other AI technologies mentioned by the authors are: Construct based Systems, model based reasoning, diagrammatic reasoning, fuzzy logic and evolutionary algorithms.

The use of computers, specifically the World Wide Web (www) as a medium for knowledge sharing is recognised by the authors but they also highlight the issue of security. Literature mentions that measures of ensuring information security on the www like the use of passwords, access control and firewalls are crucial in the use of computers. One wonders the magnitude of the effects that the disadvantages of using computers can have and how they could hinder effective knowledge exchange. Workflow management systems can also be used to manage documents via the web.

Literature mentions data mining, which is the discovery of knowledge in databases, as suitable for the discovery of new knowledge. The two types of data mining systems that are mentioned are descriptive data mining and prescriptive data mining. Various techniques that are used in data mining are listed as: symbolic techniques, connectionist techniques and

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[60] In Takuhashi and Van den Brink (2004) Formative knowledge: from knowledge dichotomy to knowledge geography- KM transformed by the ubiquitous information society. 8 (1) p64-76

[61] Riley, T. B.2003. KM and technology. International tracking survey report. 3 (2)p1-26

statistical methods. Data mining is applied in business and e-commerce in fields like retail, banking, insurance and operations management.

3.3. PART III: KM Systems

This is the third level on the model. It should be noted that KM systems use both KM mechanisms and technologies to function successfully. This is the discovery or synthesis of new knowledge through socialisation using technology. Socialisation is defined by Takeuchi and Nonaka[62] as the exchange of tacit knowledge between individuals. Beccerra- Fernandez *et al*, define it simply as a process whereby tacit knowledge is shared through joint activities by individuals. Socialisation is considered to be very important for the public sector by Reid and Lindsay[63] who say that government functions are based on social interactions and they reckon that socially derived information is more difficult to capture than scientifically derived knowledge.

The process of designing knowledge discovery systems is also discussed; the authors warn that this is a very difficult process because there is no general way of designing knowledge discovery systems. This is because the culture and nature of a particular business needs to be borne in mind during this process. This means that the person who designs the knowledge discovery system needs to understand the business and know the data they are working with in order to design a useful knowledge discovery system.

3.3.1 Knowledge-capture systems:

The authors define them as systems designed to help elicit and store organisational and individual knowledge, both tacit and explicit. Such knowledge is captured so that it can be shared by others. Knowledge capture systems give way to externalisation – where knowledge changes from tacit to explicit- and internalisation -where knowledge changes from explicit to tacit. Story-telling, communities of practice and observation provides a good platform for the process of knowledge capturing. In designing knowledge capture systems, one can use concept maps and concept based reasoning.

3.3.2 Knowledge-sharing systems:

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[62] Takeuchi, I and Nonaka, H .2002. The knowledge creating company: how Japanese companies create the dynamics if innovation. New York: Oxford University Press. p.84

[63] Reid and Lindsey .2006. KM in the public sector: stakeholder partnerships in the policy development. Journal Knowledge Management 10 (3) p24-39

They are defined as systems that organize and share knowledge. They are also referred to as applications that prevent the loss of corporate memory/ organisational memory. Knowledge sharing systems enable members of an organisation to acquire tacit and explicit knowledge from each other. Knowledge sharing systems are considered to be very useful in the information society by Takahashi and Van den Brink[64] who says that 'in the past, given the limitations of the IT paradigm it was difficult to share tacit knowledge, but in the ubiquitous information society, it will be possible to approximate some tacit knowledge with what they call 'formative knowledge'.

The authors say 'This serves as a platform for 'knowledge seekers' and 'knowledge owners' to exchange knowledge. Riley says 'the reason why sharing is so important in government knowledge work is that no single individual possesses the combination of knowledge, skills and authority to complete a procedure without the input of others'.

However, Syed- Ikshad and Rowland[65] think 'knowledge sharing in government possesses some unique challenges because government agencies are typically hierarchical and bureaucratic organisations that make sharing of knowledge difficult. Most people seem reluctant to share knowledge because they keep knowledge close to their hearts as they move through the ranks. Knowledge sharing culture is one of the most important elements that need to be understood before implementing any new strategies in public organisations'

Knowledge sharing systems integrate the capabilities of document management and collaborative systems along with KM mechanisms. Examples of Knowledge sharing systems are: Document management systems, e-mails, databases, workflow management systems. Systems like best practices systems, expertise locator systems and alert systems.

3.3.3 Knowledge application systems

These systems support the process through which individuals utilize the knowledge possessed by other individuals. The authors also refer to them as systems that utilize knowledge.

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[64] Takahashi, T and Van Den Brink, D.2004. Formative knowledge: from knowledge dichotomy to knowledge geography- Km transformed by the ubiquitous society. Journal of KM . 8 (1) p64-76

[65] Syed-Ikshad, SOS and Rowland F. 2004 KM in the public sector: a study on the relationship between organisational elements and the performance of knowledge transfer. Journal of KM. 8 (2) p95-111

Knowledge application systems facilitate the process of routines and direction thus saving time and resources for the organisation.

It can be noted that the four levels on the model, namely, Knowledge processes, knowledge systems, KM mechanisms & KM technologies and KM infrastructure can work very well together as an integrated system. That is why when one designs a KM system (level 2) they must design it with a specific process (level 1) in mind and making use of mechanism and technology (level 3) at their disposal and taking note of the available infrastructure (level 4)

3.4. PART IV: Epilogue- the future of KM

The last part of the book raises the most important part that reinforces the relationship between KM and technology. The authors acknowledge that KM will continue to use technology and technology will always be a very important enabler of KM. This point is also mentioned by Riley[66] who says 'Technology is the facilitator of KM, a tool to assist individuals and groups in the creation, capturing and distribution of knowledge'. There are concerns that there should always be a balance between technology and people. Organisations must not over-use technology or use technology as a substitute for people. That is why the model includes organisational culture and culture together with IT infrastructure as part of KM infrastructure.

The authors also see the future where KM is integrated from different perspectives. They say that KM started with the individual, then organisations and now it is increasingly appearing at inter-organisational level.   This is evident in big multinational companies where communication across geographical boundaries is being facilitated on a daily basis.

However the issue of information security is also highlighted as technology tends to make a lot of information available to a lot of people at a given time. Beccerra- Fernandez[67] also warns of 'information leakage'. The authors warn that preventing access to information could also lead to the prevention of the right information getting to the right recipients. Riley[68] says that 'privacy, confidentiality and security provisions must be respected or sanctions will

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[66] Riley T.B.2003. Knowledge Management and Technology. International tracking survey Report. P1-26

[67] Beccerra-Fernandez. 2004.Knowledge Management: Challenges, solutions and technologies. New Jersey: Pearson. p355

[68] Riley, T B. 2003. Knowledge management and technology. International tracking survey report. P23

follow'. Riley[69] also uses the word netiquette to refer to a 'proper' way of using technology in KM.

3.5 The Model in graphic form[70]

The Knowledge management model that results from the above is shown here. All questions in the questionnaire are derived from this model.
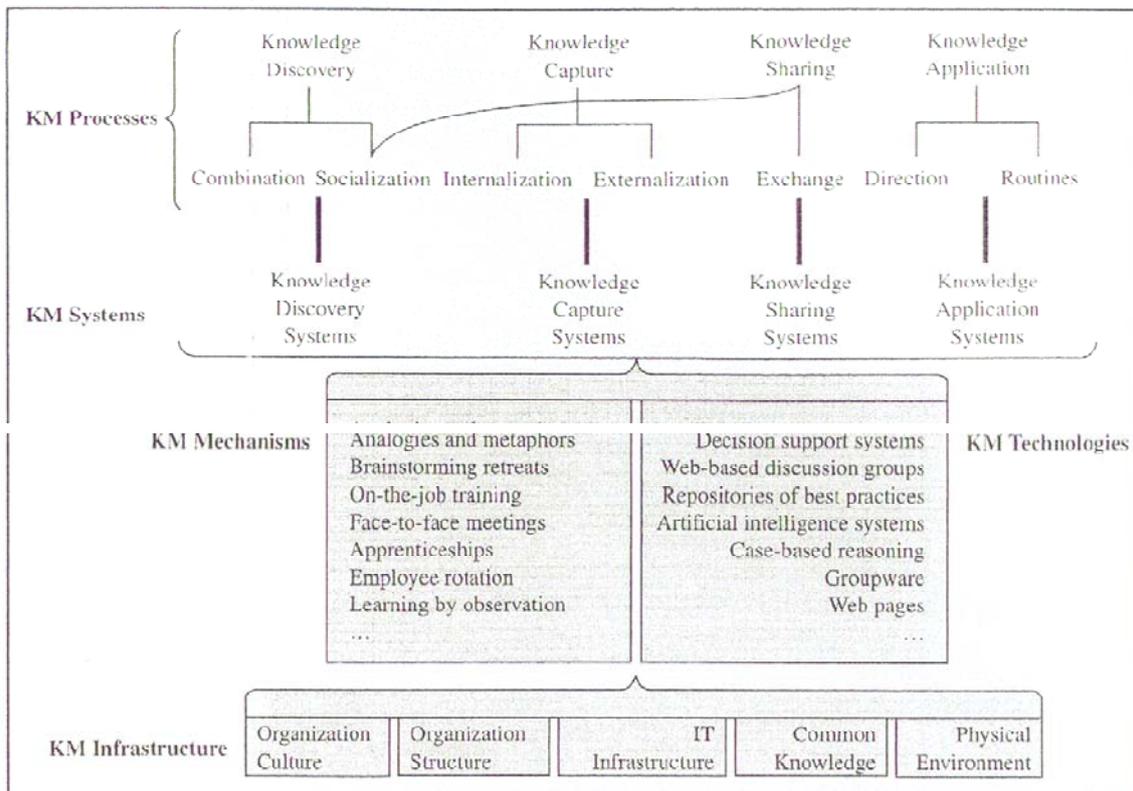
◇ ◇ ◇ FIGURE 3-3 Detailed View of Knowledge Management Solutions

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[69] Riley, TB. Knowledge management and technology. International tracking survey report.p1-26

[70] Beccerra-Fernandez. 2004.Knowledge Management: Challenges, solutions and technologies. New Jersey: Pearson. P47

Chapter 4

Data Analysis

The collected data was analysed through the use of written explanations, graphs and a discussion of results. Tables may also be used to accompany the data.

The analysis will follow the following sequence:

    a. Results of the fieldwork which include a report of KM gatherings by the Public sector institutions, visits and interviews with different KM champions/ practitioners/ leaders from different departments or organised groups.

    b. A look into the Public Service Vacancy Circulars.

    c. The analysis of responses to the questionnaires.

4.1 Fieldwork results

As part of the fieldwork, the researcher attended the 'Indaba on the Public Services as a Learning Organisation' which was held in November 2006 at the Birchwood Hotel in Gauteng and hosted by the DPSA and the 'Knowledge Management Learning Network' which also was hosted by the DPSA at Kopano Nokeng in Free State from the 14-15 February 2008. The learning network was attended by about 300 KM champions from public service departments and parastatals from both National, provincial and regional parts of the public service. Presentations included case studies and lectures from practitioners from the public sector and industry. Each delegate received a package that consisted of journal articles and speeches, names of presenters and their contact information and their presentations[71].

The researcher also attended a GITOC KIM workgroup meeting which was held at the DPSA on 15 July 2009. The items on the agenda included, among other things: KIM charter, Open Source Software and E-learning for the Public Sector.

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[71] The package included a KM strategy of the Free State Provincial Government., an article titled, Issues of Knowledge management in the Public Service and an Australian case study about communities of practice.

The following information was also obtained from gatherings and interactions as well as interviews with public servants.

4.1.1 The Department of Public Service and Administration (DPSA).

The DPSA is the national coordinator of KM in the South African Public Service. The responsibility was borne by the Research, Learning and Knowledge Management (RLKM) sub directorate which falls under the Service Delivery and Implementation directorate. The research, Learning and Knowledge Management sub directorate is staffed by the Chief Director, Director, an events manager, a librarian and an assistant as well as a web administrator.

The need for knowledge management was realised for service delivery to be implemented. KM was to be used as a vehicle to facilitate 'Batho Pele' [72] The DPSA then agreed with the Department of Communications (DoC) in 2002[73] 'to introduce and market the benefits of Knowledge Management countrywide'. The Learning and Knowledge Management Network was then launched in 2003.

The DPSA has successfully introduced the following programmes:

1. The DPSA produces a newsletter/ journal called Services Delivery Review: A learning Journal for Public Service Managers[74] which is free and distributed all over South Africa. It is also e-mailed to participants who are on the DPSA mailing list. The journal is also obtainable on the DPSA website. The contents are case studies, success stories (best practices), failures and information on all programmes undertaken by different departments, provinces, municipalities and other bodies in South Africa. International case studies and stories are also included.

2. The annual Indaba on KM in the public service is also a prominent feature on the DPSA calendar. Speakers from different organizations, both internationally and nationally are invited to present on different topics relating to KM. A workshop is also held on the last day of the Indaba where specific topics of interest are attended to.

3. There is also a research colloquium which has been held since 2005 where researchers in different organizations and fields meet annually to discuss issues relating to

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[72] 'Batho Pele' is a Sotho word for 'People first' which was to be the mantra for transformation in the South African Public sector, which is also a responsibility of the DPSA

[73] DPSA, Research Learning and Knowledge Management Directorate. 2009. Towards a Knowledge Management Framework for the Public Service. P.11

[74] The newsletter proved to be a good source of information for this study.

research and development in the public service. This is in a quest to promote learning networks and introduce the need for communities of practice. Other learning networks include the Learning network on 'batho pele' and another one on monitoring and evaluation.

4. The learning academy which is called 'The Annual Service Delivery learning Academy' is held in different provinces. The learning academy attracts the majority of public servants. This is a great step in achieving learning networks as learning and knowledge sharing is encouraged. Matomela [75] says 'We initially started with about 300 participants and now we attract between 500 and 600 participants.'

5. The DPSA has an internal newsletter called 'Rutanang' which is a Sotho word for 'educate each other'. This newsletter is aimed at the DPSA and is based on the sharing of knowledge and learning among the DPSA staff. Rutanang sessions are also held periodically where speakers are invited to present on and about topics of interest and significance to the DPSA staff.

6. A programme called Integrated Provincial Support Programme (IPSP) has been introduced to Kwa-Zulu Natal(KZN), Free State (FS), and Western Cape (WC) where KM champions were identified to drive KM in the different provinces. Some provinces like the Free State and Kwan-Zulu Natal have implemented . Radebe[76] says 'The IPSP has led to increased shared learning and capacity in the DPSA and the provinces'

7. Matomela[77] also mentions that they have also managed to publish guides and audio visual material.

8. The DPSA also has plans to build a database of all projects that are taking place in South Africa where everybody can gain access and learn. This way duplication of efforts can be easily eliminated.

Challenges:

- The main challenge is the fact that KM is voluntary and not mandatory in the South African Public Service. As a result some departments are not even aware of the

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[75] Matomela, B. 2006. Increased shared learning and capacity. Service Delivery Review. 5(2).p94-95 .Mr Matomela was the Director of Research Learning and Knowledge Management in the DPSA until 2008

[76] Radebe, T.2006. Probing legacies of IPSP. Service delivery review. 5 (2) p78-79

[77] Matomela, B.2006. Increased shared learning and capacity. Service Delivery review. 5 (2). P94-95

need for KM. The DPSA is however working on a draft KM framework for the SA public service.

- The culture in most government departments is one that is not conducive for KM. In most cases, there is little or no culture of learning and sharing among and across departments.

- One needs to gain the buy-in and support from the managers. Some managers need to be educated about KM and the benefits thereof. The South African Management Development Institute (SAMDI), now called the PALAMA may be called in to come up with a tailor made program of KM for the South African Public Service. This could also attend to the problem of capacity which is evident and can explain why some departments are not incorporating KM in their activities.

- 'There has been uneven progress in provinces with regard to increasing learning and KM. There has also been a lack of consistent and dedicated learning champions'[78]

4.1.2 Department of Communications (DoC)

The DoC initiated KM practices and processes in the early 2000 and it is one of the first departments in the South African public sector to go on a KM promotion drive. 'The department of Communications established a KM desk, launched a KM website, and conducted a KM awareness programme in most government departments to educate public sector workers on how their knowledge assists the public, and how to improve service delivery'[79].

The DoC agreed with the DPSA in 2002 to promote KM in the SA public sector and held seminars and workshops on KM in all the nine provinces of South Africa.

The DoC employed a director, two deputy directors, an assistant director as well as an administration officer.

The KM function has since been moved to fall under IT, the Director moved to another department and the 'KM Debate' link on the DoC website has been discontinued. The KM sub directorate now has a deputy director, assistant director and an administration assistant.

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[78] Matomela, B. 2006. Increased shared learning and capacity. Service delivery review.5 (2)p.94-95

[79] Knowledge Management Africa. 2006. Knowledge to address Africa's development challenges: edited proceedings of the inaugural KMA conference held in Johannesburg, South Africa. p.86

4.1.3 Government Information Technology Officers Council

'In 2000 the South African cabinet approved the establishment of Government Information Technology Officers Council (GITOC) to coordinate IT development in the national government. The Council is a forum of Chief Information Officers of all government departments and provinces. The council's primary objectives include making recommendations on government information and IT resource management, policy, procedures, norms, standards, guidelines….[80]'

GITOC established a Knowledge and Information Management (KIM) workgroup in 2003 as a result of GITOC's acknowledgement of the increasing importance of KM in the public service and the effect it has on their daily duties and operations. Membership of the workgroup includes members from twelve national government departments, two provincial governments and ten government agencies[81].

The purpose of GITOC is: 'To conduct investigations and submit recommended KIM policies and strategies to the GITOC aimed at ensuring that the potential of KIM to enhance government service delivery projects is fully utilised'. Its core objectives include: to report on the most appropriate definition of KIM, to report on a KIM model or the most appropriate that can be adopted as a basis for KIM in government and the present nature of KIM in the South African government'.[82]

The following are the intended outcomes of KIM: Improved KIM in all areas of the public service, leading to improved availability and utilization of knowledge within the public service and about relevant public service activities among citizens interacting with it. A KIM draft strategy of 2004 exists and is yet to be reviewed by both the DPSA and GITOC[83]

It should be noted that KIM is made up mainly of Chief Information Officers and not every Chief Information Officer communicates with their KM champions in their respective departments. KM does not always fall under the ICT unit/division in every government department. Communication therefore seems to be a problem as information about KIM is

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[80] Van Niekerk .2005. In Knowledge Management Africa p.86 referred to in footnote 54 (previous page)

[81] 2003. Charter for the KM workgroup .Retrieved from www.gitoc.gov.za/kim/index on 04 June2009

[82] Taken from the charter as referred to at 80 above.

[83] GITOC KIM and DPSA have decided to work together in the interest of KM in the public service.

not always or often communicated to the concerned KM Practitioners. The KIM website is still under construction and therefore not much information is available.

The DPSA and GITOC KIM have since decided to work together in addressing KM in unison. The first project is to work on the draft KM Framework which was drafted by the DPSA and the KM Strategy which was drafted by GITOC KIM in unison and perhaps come up with a single documentation that covers the entire public service.

4.2 Public Service Vacancy Circulars

These are weekly information booklets of all the positions (senior management and others) advertised in the public service and public service agencies nationally and provincially. The researcher obtained public service vacancy circulars from 2005 to 2009 May from the DPSA which is responsible for compiling a list of all the advertised vacancies from departments. Out of 52 weeks of the year, the government produces fifty vacancy circulars per year. There are no public service vacancies advertised in the first and last week of every year. The researcher went through approximately 200 circulars from 2005 to 2008 and 20 for the period January to May 2009. This is because the government has since changed ministers and the structures of departments in May 2009 and this might affect the contents of the vacancy circulars.

The positions in the vacancy circulars are advertised according to departments which are listed alphabetically. The positions are also divided into: Senior positions (Chef Directors and Directors) and other Posts (Middle Managers- Deputy Directors and Assistant directors up to the lowest ranking staff members).

The researcher went through the vacancy circulars to find out what positions are advertised as far as ICT and KM[84] is concerned as well as at which level they are advertised. The researcher needed this information in order to be able to ensure that the right information is obtained from the right people. The researcher also wanted to see which departments are active and how far they are as far as KM processes, principles and practices are concerned by looking at the vacancies and positions available for incumbents. This way the researcher would be able to discover what other departments are involved in or whether they are making a conscious effort to implement KM practices.

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[84] It is believed that KM can be approached from either a technological or organisational theory base. Hence the concentration on both the ICT and KM vacancies. This is also because of the strong link that ICT has with KM.

This is however a challenge because some positions would not specifically mention KM. Positions in Library field and government ICT areas would also be included if there is mention or emphasis on KM and its related systems because in most cases KM is usually confused or even used interchangeably with Information Management and/ or Librarianship. However, the researcher will concentrate mainly on those that include KM practices, processes and technologies as presented in the model by Beccerra- Frenandez, *et al*

From the national government the researcher was able to retrieve forty four advertised positions in KM and Information Management, ICT and Librarianship but with a mention of KM or its practices as a requirement or duty for the period 2005 to 2009 May. It should be noted that this is not a representation of all the KM positions in the National Public sector because some positions may not be advertised. Intra departmental and/ or interdepartmental transfers might have been made or some positions may belong to other areas like human resources management as it is a practice in other departments and countries. Other positions may have been made available before 2005 January. Some positions may even be replacements of staff that existed but resigned.

The following departments have advertised various positions in Knowledge Management and ICT in the period between 2005 and 2009 May:

Department of Communications

Department of Defence

Department of Housing

Department of Water Affairs and Forestry

Department of Health

Department of Social Development

Department of Public Service and Administration

Department of Justice and Constitutional Development

Department of Housing

Department of Environmental Affairs and Tourism

Department of Provincial and Local Government

Department of Home Affairs

The Presidency

Department of Science and Technology

Department of Land Affairs

Government Treasury

It can therefore be concluded that out of thirty seven national departments, approximately fifteen departments advertised positions for a knowledge management practitioner and ICT practitioner at either senior or middle management level or both levels in the past four years up to 2009. It should be noted that this is not a true and conclusive reflection because there are some positions like that of Information Security Officer[85] and Resource Centre Information specialist[86] bears a relation to both an ordinary information service and the inclusion IKM practice since the Public service's basic duties are KM in nature.

The following Department advertised senior positions (Director and Chief Director) in KM, specifically.

Department of Communications, 05 February 2005 – Director: Knowledge Management

The post requires a bachelor's degree and appropriate experience as well as basic management skills like people management and project management.

The duties to be carried out by the incumbent include management of the establishment of a Knowledge Management development section and the formulation of the Knowledge management strategy. Other duties include identifying key policy issues in knowledge management and establishing projects aimed at providing effective knowledge base systems.

The following Departments advertised senior positions (Director and Chief Director) in Information Communication Technology (ICT) positions:

Table 1.1

Department	Advertised Position	Date
1. Department of Social Development	(1)Director: Information Technology and Systems (2)Director :Information Management (advertised again in February 2009) (3)Director: Information Technology	03.03.2005
3. Department of Housing	Chief Director: Sector Management Information	06.10.2006
4. Department of Provincial and Local	(1)Executive Manager (Chief Director) : Information Technology and Management	13.10.2006

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[85]Department of Minerals and Energy, Public Service vacancy circular 10 of 09 March 2007

[86] Department of Agriculture, Public Service vacancy circular of 17 January 2007

Government	(2)Senior Manager: Information Technology and customer relations	03.11.2006
	(3) Senior Manager: Information Technology	
5. Department of Environmental Affairs and Tourism	(1)Director: Waste Policy Information Management	20.10.2006
	(2)Director: Information and Communication Technology	
6. Government Treasury	Director: Information Technology	08.12.2006
7. Department of Home Affairs	Director: Information System Technology	19.09.2007
8. Department of Public Works	Director: IT Support: Information Services	06.07.2008
9. Department of Public Service and Administration	Government Information Technology Officer	17.10.2008

The senior positions above generally require a degree or diploma in Information Technology or Information Management or an equivalent and appropriate experience (between 5 and 10 years' experience). The position also requires basic management skills like planning, financial management, human resources management and project management as well as knowledge of IT and Information Science related legislation (Access to Information Act, SETA Act) and department specific legislation. The position for Chief Director: Sector Management Information[87] specifically requires experience in an Information and KM environment.

Duties mentioned for the advertised senior management positions include, to establish, implement and maintain policies, standards and procedures for Information Technology infrastructure .The development of Information systems and KM systems is also prominent in the advertisements. The incumbent also manages service level agreements and the relationship with SITA and various service providers. The incumbent is also required to

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[87] Department of Housing, Public Finance Vacancy Circular 40 of 06 October 2006

represent their specific department at various government IT gatherings and committees, specifically the Government Information Technology Officer (GITO) council. The provision of training to various users is also included among the duties required in this post.

It can be noted that the senior positions for KM and those for IT have similar requirements whilst the duties are different but a relationship or a common ground is evident because of the duties that require the use of Information and KM systems by both incumbents. The prevalence of available senior positions with their primary focus being IT is supported by Kruger and Snyman[88] who propose that: 'Before any formal endeavour in KM commences, an organisation must have a certain amount of ICT and Information Management (to render effective Knowledge Management)'.

The following positions were advertised for Knowledge Managers in middle management level (Deputy Director and Assistant Director):

Table 1.2

Department	Advertised position	Date advertised
1. Department of Public enterprises	Assistant Director: Knowledge Management	18.02. 2005
2. Department of Communications:	Deputy Director: Knowledge Management	24.02.2005
3. Department of Water Affairs and Forestry	Senior Forestry Scientist: Knowledge Officer Assistant Director: Knowledge Specialist	01.08.2008 26.04.2008
4. Department of Home Affairs	1.Deputy Director: Knowledge Management 2.Nine positions for knowledge management interns 3. Four positions for Information Technology Project Administrator interns.	19.09.2008 16.03. 2007

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[88] In Kruger and Snyman. (2007). Guidelines for assessing KM maturity of organizations. SA Journal of Information Management.9 (3) pg.1-11

5. Department of Public Works	1.Deputy Director: Knowledge Management and Research 2.Assistant Director: Library Strategic Management	20 .04. 2007 30.06.2006 and in 22.07.2007
6.Department of Land Affairs	Deputy Director: Information Technology (Knowledge and Information Manager)	15.06.2007
7. Department of Social Development	Deputy Director: Information and Knowledge Research	13 .07. 2007
8. Department of Public Service and Administration	1.Deputy Director: Knowledge Management 2.Deputy Director: Learning Networks	05.02.2008
9. Department of Defence	1.Assistant Director: (Information and Knowledge Management) 2.Assistant Director: (Information and Communication System Strategic Direction)	09.03.2007
10. Presidency	Assistant Manager (Assistant Director): Knowledge Management and Library Services	02.02.2007
11.Department of Education	Assistant Director: Information Management Systems	15.09.2006
12.Department of Justice and Constitutional Development	1.Deputy Director: Information Support and Services 2.Assistant Director: IT (Information Systems Development)	15.09.2006
13.Department of Housing	Deputy Director : Information Technology	13.10..2006
14.Department of Science and	Deputy Director: Information and Communications Technology	09.02.2007

Technology		
15.Department of Defence	1.Assistant Director: (Information and Communications Systems Strategic Direction) 2.Assistant Director (Information and Knowledge Management	09.03.2007
16.Department of Sports and Recreation	Information Officer	07.03.2008

The positions above reflect that Information and KM is given consideration in different departments in the public sector. This observation is based on the fact that many national departments (sixteen out of thirty seven) have advertised vacant positions that required the skills and competencies of Information and KM. Positions can also be differentiated between those with a focus on Technology Management and those with a strong focus on KM and Library Management. However, other departments, like the Department of Water Affairs and Forestry and the Department of Sports and Recreation have elected job titles like Information Officer and/ knowledge Specialist or knowledge officer with a lot of focus on department or discipline specific work.

The requirements are: An appropriate degree in either information science, Library Science, Computer Science or Information and KM or equivalent qualification coupled with relevant experience, approximately three to five years.

Competencies required are that of basic management skills like planning and organising as well as project management skills. Knowledge of discipline and department specific legislation is also a required competency.

Duties include, developing, maintaining of databases and designing of effective data collection tools. Website management is also included in the technology focused positions.

In the positions that are KM- processes(knowledge sharing, knowledge creating and knowledge capture) focused, Basic KM practices form the basis of duties to be performed by the incumbent, for example, to ensure knowledge sharing and to provide advice and guidance

on KM aspects and matters[89]. Some positions like Assistant Manager: KM and Library Services[90] and Assistant Director: Library Strategic Management[91] focus on basic library functions while the latter incorporates

KM practices like: 'to recommend funding for projects related to Information and KM as well as to promote knowledge sharing' as part of the requirements.

It can therefore be concluded that though in its infancy (more positions are prevalent in 2006 and 2007), the public sector has taken an initiative in incorporating, initiating and implementing KM in its practices.

4.3 Questionnaires

Because of the inherent difficulties in locating/identifying specific departments which have already or are already implementing KM, the researcher used the vacancy circular document and any medium for information on or about participants. The participants were identified through the information provided on the Government Vacancy circulars as well as referrals from other participants. The sample is therefore derived from the pool of vacancies advertised. The person that is named as a contact for a specific advertised position was then contacted so that reliable information could be obtained about a specific department.

The participants were then contacted and interviews with some participants were arranged and questionnaires were e-mailed to participants. Out of 37 national departments[92], 19 government departments were contacted. The participants were requested to pass the questionnaires along to their colleagues in their divisions so that the researcher can have a bigger picture of KM in specific departments.

The following government departments were contacted by phone for possible participation in the study:

Table 1.3

Department contacted	Source of information about the department

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[89] Department of Home affairs, Public Service vacancy Circular 38 of 19 September 2008
[90] The Presidency, Public Service Vacancy Circular 05 of 02 February 2007
[91] Department of Public Works, Public Service Vacancy Circular 29 of 22 July 2007

[92] These are the national departments as they were between 1994 and 2009 April.

Department of Communications	Vacancy circular and its role in KM in the public sector
Department of Public Service and Administration	Vacancy secular and its role as the national coordinator of KM
Department of Arts and culture	Referral. Chairperson of GITOC KIM
Department of Land Affairs	Vacancy circular
Department of Water Affairs and Forestry	Vacancy circular
Department of Transport	Vacancy circular
Department of Correctional Services	Referral
Department of Home affairs	Vacancy circular
Department of Public Enterprises	Vacancy circular
Department of Housing	Vacancy circular
Department of Justice and Constitutional Development	Vacancy circular
Department of Social Development	Vacancy circular, referral and GITOC chair
Department of Trade and Industry	Referral
Department of Sports and Recreation	Vacancy circular
Department of Environmental Affairs and Tourism	Vacancy circular
Department of Defence	Vacancy circular
Department of Provincial and Local government	Vacancy circular
Department of Transport	Vacancy circular

No responses could be obtained from seven other departments which agreed to participate in the study.

The following are the departments that participated in the study and the number of questionnaires returned by each of the participating departments:

Table 1.4

Department	Number of Questionnaires
Department of Land Affairs	5
Department of Trade and Industry	4
Department of Water Affairs	2
Department of Provincial and Local Government	2
Department of Arts and Culture	1
Department of Public Service and Administration	1
Department of Transport	1
Department of Public Enterprises	1
Department of Housing	1
The Presidency	1
Department of Arts and Culture	1
TOTAL: 11 departments	**21 Questionnaires**

The respondents were divided into the senior position holders or policy makers and 'others' or policy implementers based on the information obtained from the questions from the introductory part of the questionnaire and the divisions as made on the Vacancy Circulars which are an invaluable source of information for this study. The division will also help to find out the specific views of the senior managers who are policy makers and middle managers who are policy implementers.

It should be noted that middle managers are considered very important in KM and they are referred to by Chong and Chong as the strategic knot that binds management with frontline workers[93]

Table 1.5

Category	Number
Directors/ Chief Directors	6
Deputy Directors/ Managers and Assistant Directors	15
Assistant Directors/ Information Specialists	6

Number of years in the public service and number of years in their present positions:

Table 1.6

Category	Number of years in the Public Service (average)	Number of years in position (average)
Directors/ Chief Directors	Between 9 months and 12 years	Between 2years and 9 months
Deputy Directors/ Managers	Between 4 months and 22 years	Between 8 years and 5 months
Assistant Directors/ Information Specialists	Between 10years and 2years	Between 10 years and two years

Qualifications:

Table 1.7

Category	Qualifications	IT related qualifications	Public Service Qualifications

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[93] Chong & Chong mentions Nonaka and Takeuchi, Mintzberg e.t.c as some of the authors who acknowledges the role that the middle managers play in KM.

		(average)	(average)
Directors/ Chief Directors	Masters Qualifications	50%	50%
Deputy Directors/ Managers	M+5	50%	50%
Assistant Directors/ Information Specialists	M+5	50%	50%

Responsibilities of all categories are in correspondence with the responsibilities as laid out on the Related Public Services Vacancy Circulars that were consulted for information for this study[94].The influence they have in implementing policy also vary according to the different categories. That is, directors' responses to all the questions about the influence they have on policy formulation, implementation and financial expending, was: 'high', 'a lot', 'to a big extent'.

The responsibilities Deputy Directors/ Middle Managers are as stipulated in the vacancy circulars as discussed from page 23 to page 29 of this study. The Deputy Directors and Assistant Directors acknowledge that they 'make suggestions', 'implement', 'advice' and 'assist' and have 'very limited' or 'no influence' over the financial expenditure of their divisions/ units.

4.3.1 SECTION A

The following is a breakdown of data according to responses to each question:

Each question will be written before the corresponding response.

The respondents will be divided into two categories as above, that is, those holding senior posts/ policy makers and the middle managers/ policy implementers[95]. The overall response

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[94] See page 23 to p29 of this study. For example, Directors perform the overall management functions including policy formulation. While deputy directors and assistant directors implement policy.

[95] The division appears on the vacancy circulars where positions for chief directors and directors are referred to as Senior posts and other posts is the term used to refer to positions for deputy directors downwards.

will also be analysed, first by category, then an overall analysis (combination of data from senior management posts and middle management posts) will then follow:

Respondents will be numbered and each number will be consistent with its corresponding respondent throughout the study.

Question 1:

The respondents were instructed to tick the boxes.

Even if people do not really know what KM means, which one of the following describes the situation in your department?

        (a) There is a strong conviction that KM is needed

        (b) There is a kneejerk approach

        (c) There is indifference

        (d) Very few of the staff have heard of KM

Senior Managers (6)
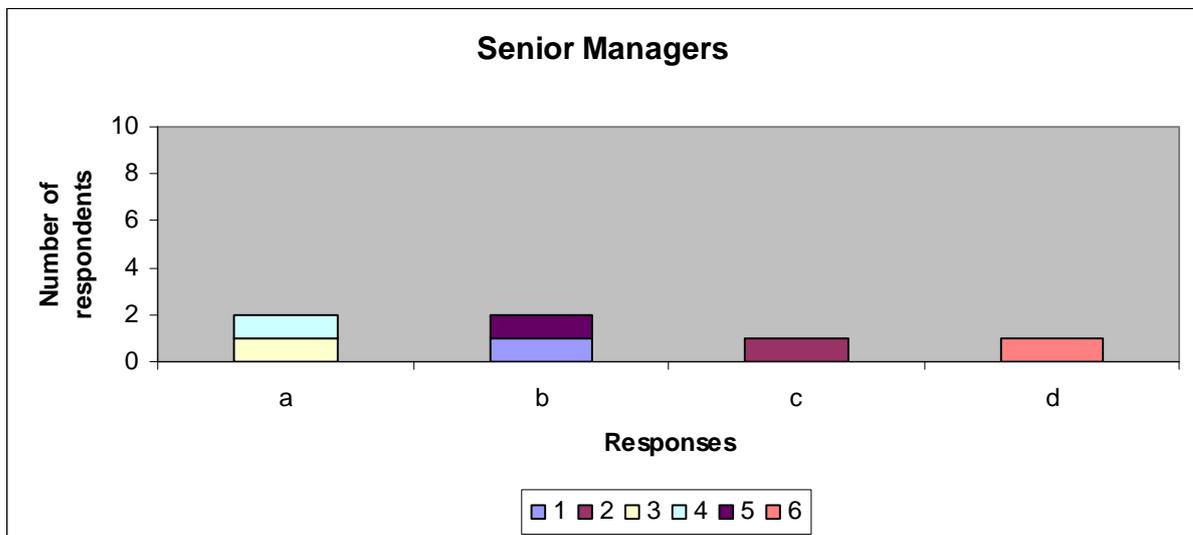
Out of six participants who hold senior management positions, two participants think there is a kneejerk approach to KM (b) in their different departments whilst two think that there is a strong conviction that KM (a) is needed and one participant thinks that very few people in his/ her department have heard about KM (d) whilst one participant thinks that there is indifference about KM in their specific department (c).

Middle Managers (15)
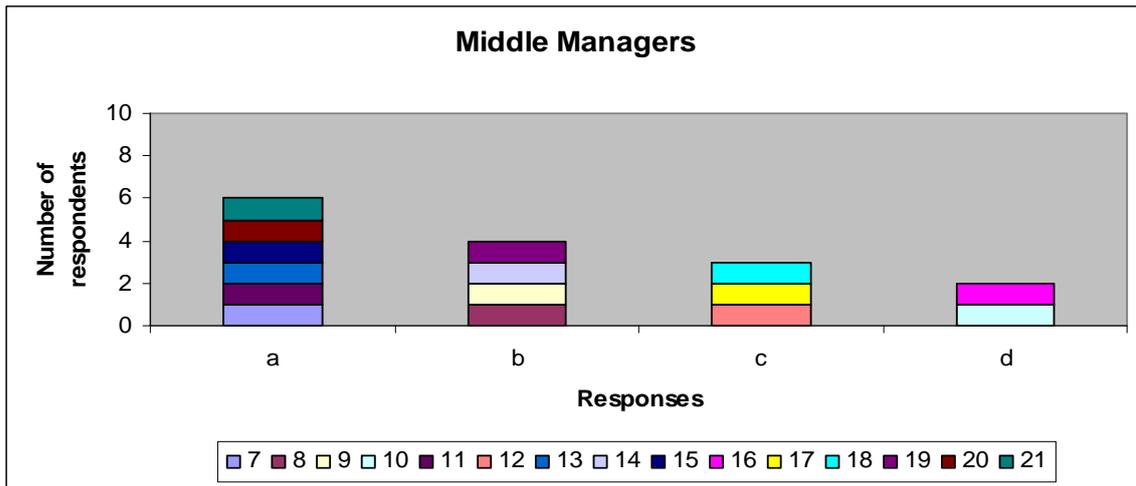
Out of 15 middle managers in this study, 6 of them think there is a strong conviction that KM is needed in their departments (a), 4 participants think there is a kneejerk approach and 3 think there is indifference(c). Only 2 participants think that very people in their departments have heard about KM.

The overall results of Question I (Both Senior and Middle Managers- 21 in total):
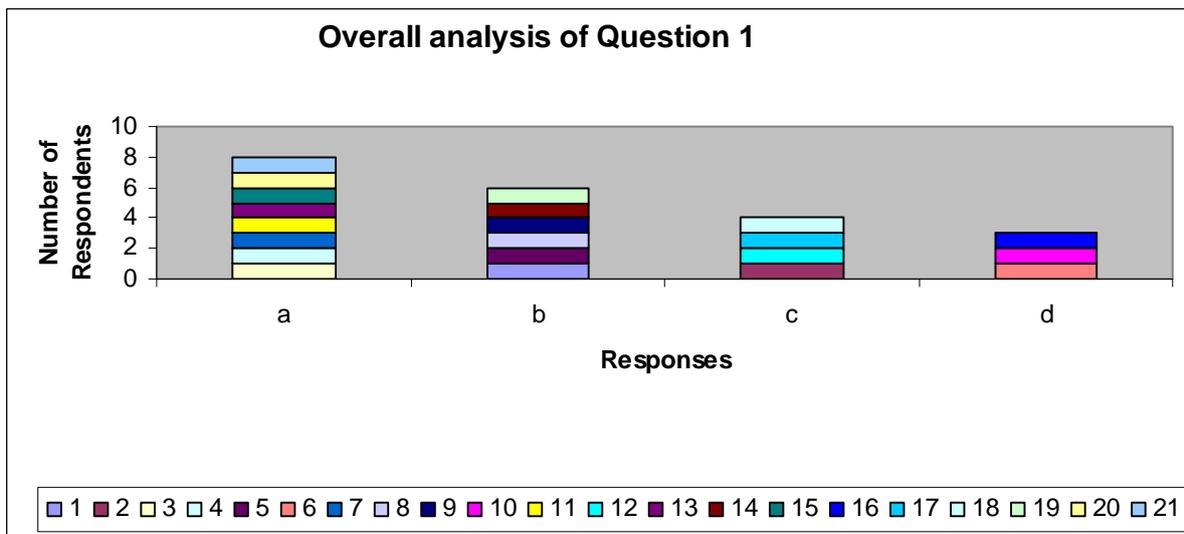
It can therefore be said that the majority of the participants, 8 think that there is a strong conviction that KM is needed in their departments (a). 6 think there is a kneejerk approach to KM whilst (b), 4 thinks there is indifference whilst (c) only 3 participants say very few people have heard about KM.

Question 2:

With reference to the top management of the department, which (one or more) of the following statements will in your opinion they associate with KM?

(e) KM is about the upgrade of library and archiving systems and procedures

(f) KM is about extracting tacit knowledge and codifying it

(g) KM is about establishing a culture of continuous organisational learning

(h) KM is about the organisational transformation of information flows and access

(i) KM is about transformation of organisational learning

(j) KM is about investing in artificial intelligence and integrating it with the departmental strategies

(k) KM is about knowledge creation and innovation

(l) KM is about the nurturing and mobilisation of individual expert knowledge

(m) KM is the opposite of rigid and bureaucratic organisation which operates along circumscribed line functions.

Senior Managers (6):
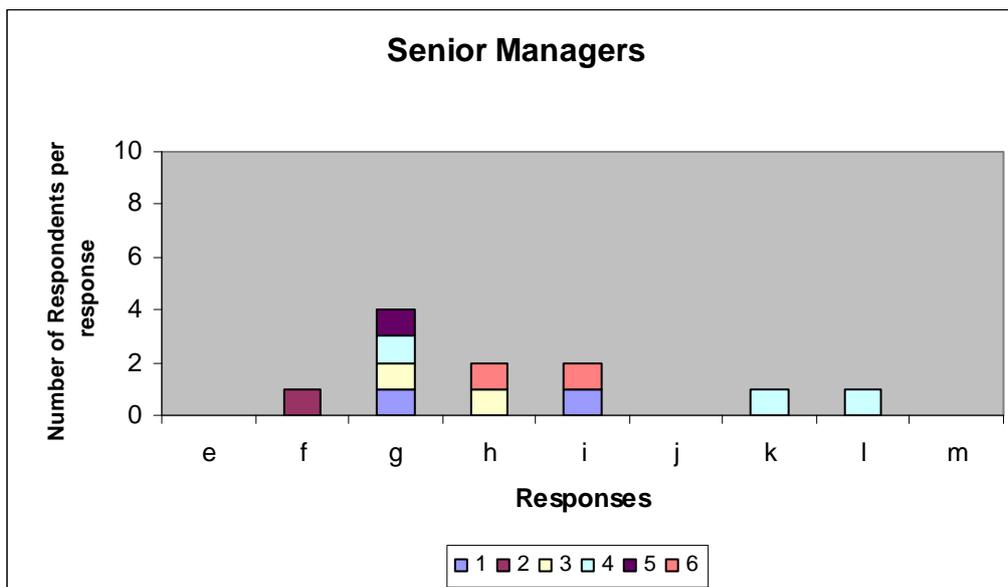
NB: Only the most prevalent responses will be looked at in this study.

Although many other choices were made, 4/6 senior managers seem to agree that top management in their departments would associate KM with continuous organisational learning (g). No other choices are the same.

Middle Managers(15):
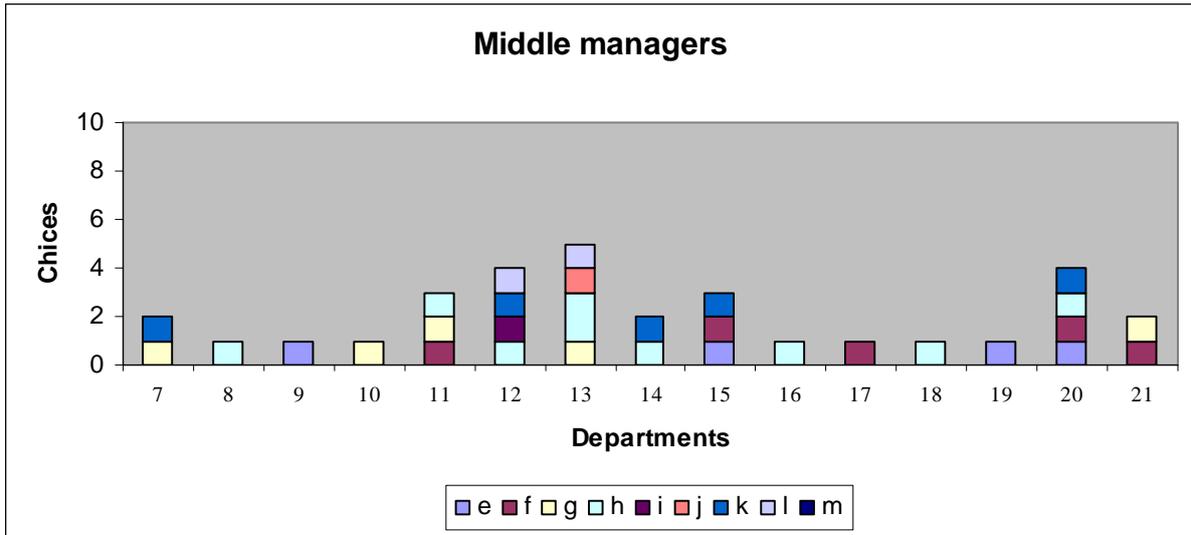
Middle managers

8/16 middle managers agree that KM is about the organisational transformation of information flows and access (h).

6 /18 middle managers agree with the senior managers that KM is about organisational learning.

5/18 middle managers say that KM is about knowledge creation and innovation. No middle manager made exactly the same choice as the other.

Overall analysis of Question 2(Both senior and middle managers- 21 in total):

Overall analysis of Question 2
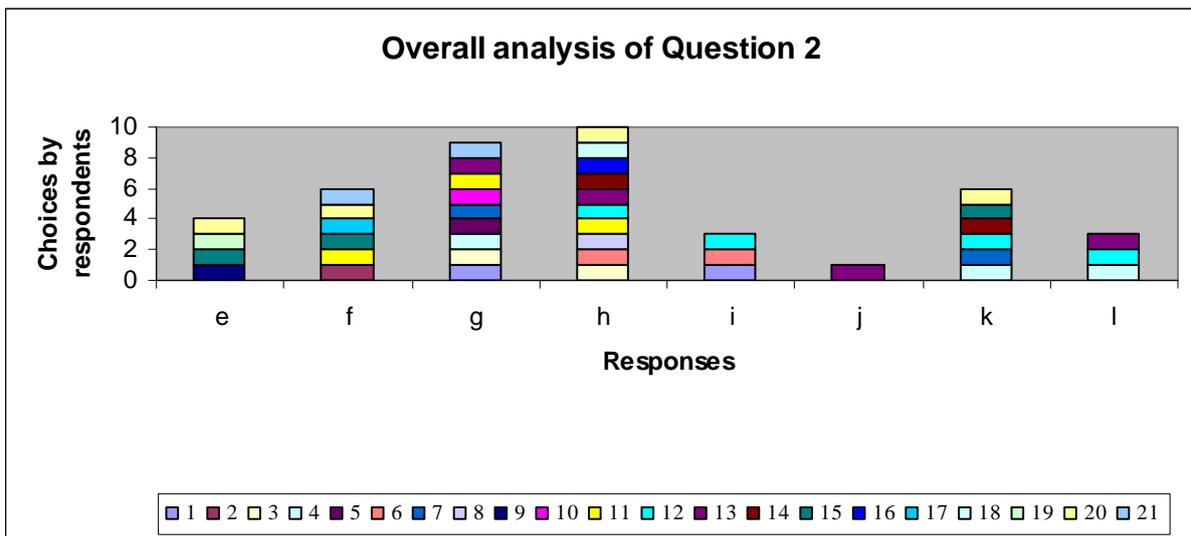
9/21 participants in this study say that their top management will associate KM with (g) Establishing a culture of continuous organisational learning (g).

9/21 other participants also agree that top management in their organisations associates KM with organisational transformation of information flows and access (h).

Only 3/21 participants chose both (g) and (h) in their responses.

Question 3:

In your opinion, please rank the following KM dimensions in order of significance for your department (1= most significant/5=least significant):

    (n) To increase the pool of knowledge and understanding

    (o) To capture existing knowledge into documents

    (p) To disseminate existing knowledge to as broad an audience in the department as possible

    (q) To apply existing knowledge better to the process of the department

    (r) To generate knowledge which will allow the department to create entirely new processes and change the way it deals with the public and government.

Senior Managers (6)
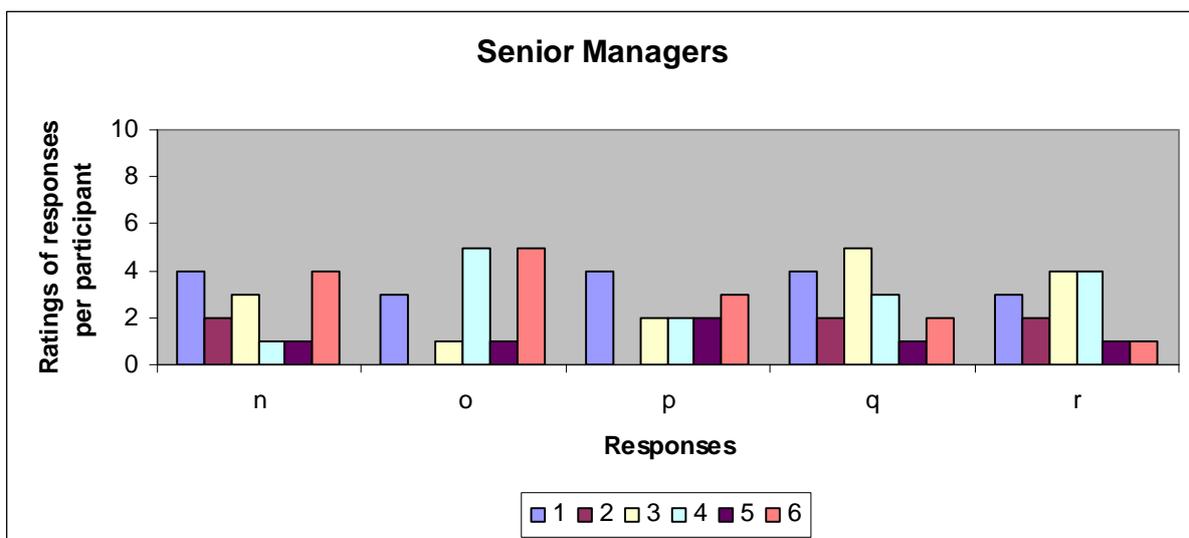
No two or more senior managers responded the same to this question. 3/6 managers filled in all the spaces from least significant to most significant .

Only 1 senior manager has put 4 activities out of 5 as most significant. However two respondents did not select option (1) which is most significant and three respondents did not select option (5) which is least significant.

Middle managers(15):
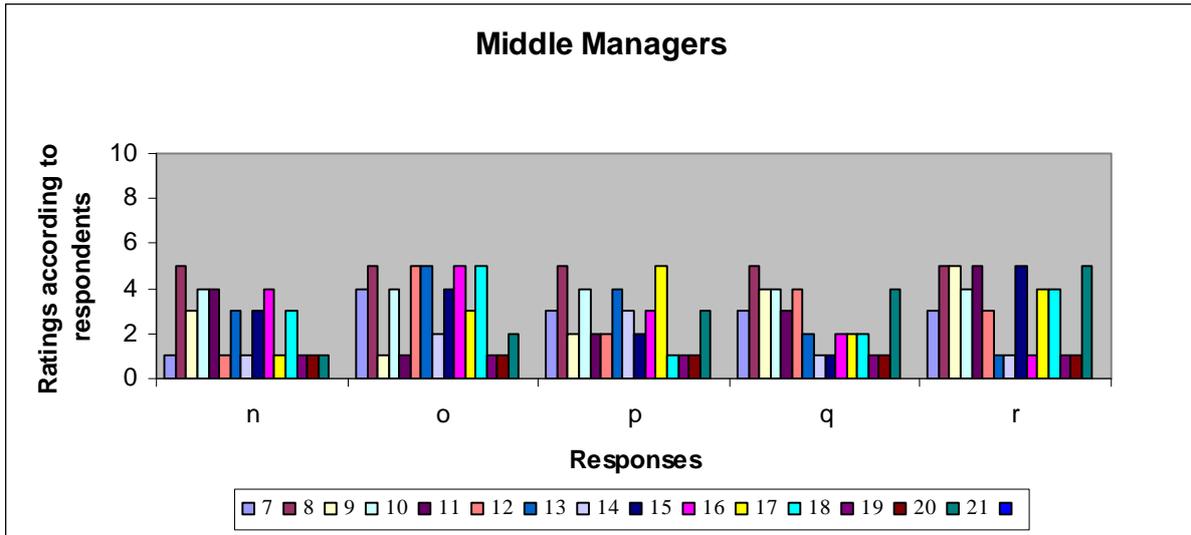
Middle Managers

2/15 middle managers consider all activities as most significant, whilst 1 middle manager consider all activities as least significant.

Overall results of Question 3(Both senior and middle managers- 21 in total):

Overall analysis of Question 3
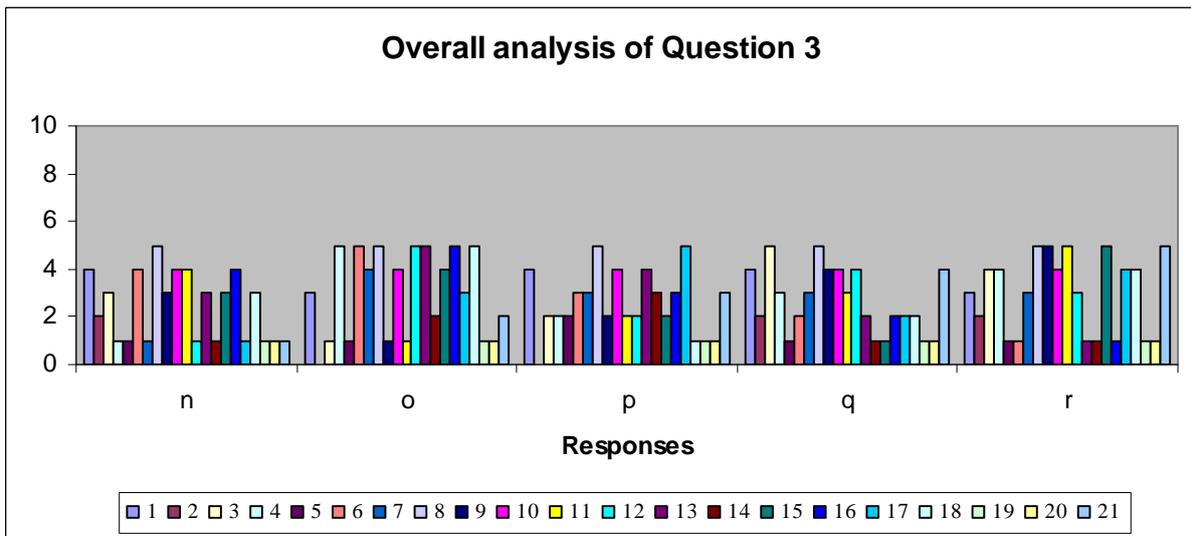
All respondents have answered this question differently prioritising KM activities and processing as they go. However the 2/21 participants agree that all KM activities listed in question 3 above are of equal importance (most significant)

Question 4

Organisational learning is a very important aspect of KM in any enterprise, which (ONE OR MORE) of the following are used in your department to support learning?

  (s) Frequent cross functional group discussions about pertinent cases and experiences

(t)   Podcasting as a means of dissemination of experiences and insights

(u)   Expert talks

(v)   "out of the box" thinking exercises

(w)   Skills broadening through job shadowing

(x)   Open cast project debriefings

(y)   Department-wide creative brainstorming (at least once a year)

(z)   Continuous up skilling of ICT proficiency of all staff

Senior Managers (6):
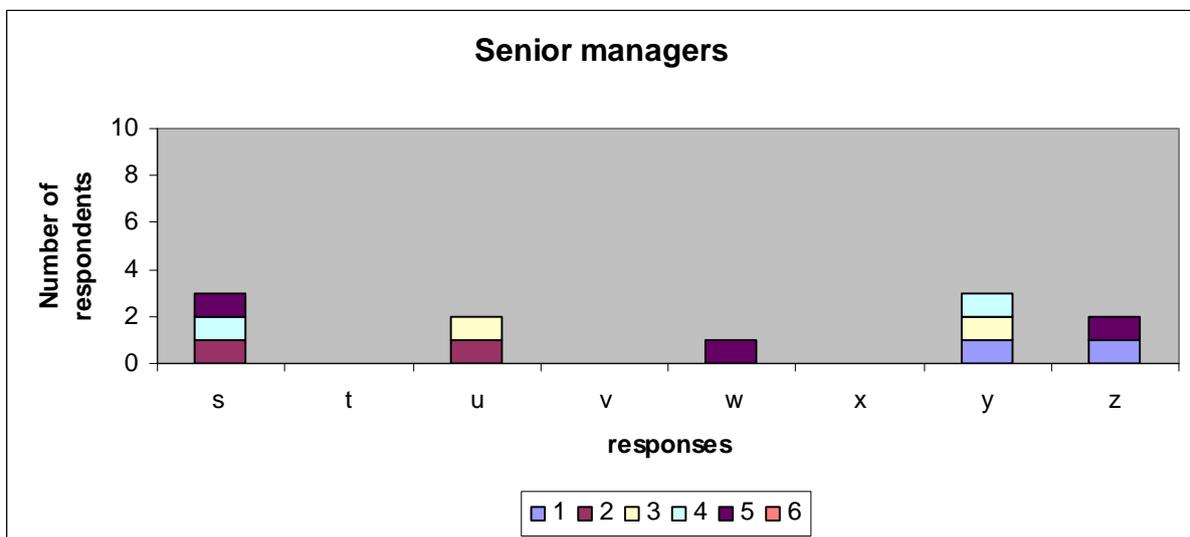
Of the 8 choices provided, the most prevalent choices are as follows:

3/6 Senior managers say their departments hold frequent cross functional group discussions about pertinent cases and experiences.

3/6 Other Senior managers say their departments hold department–wide creative brainstorming (at least once a year) (y)

2/6 Say their departments hold expert talks (u)

2/6 have continuous up-skilling of ICT proficiency of all staff

Only 1 senior manager says his/her department have skills broadening through job shadowing.

One senior manager did not respond to this question.

No two or more senior manager(s) made the same choices and they all had to choose more than one KM process/activity.

Middle managers (15):
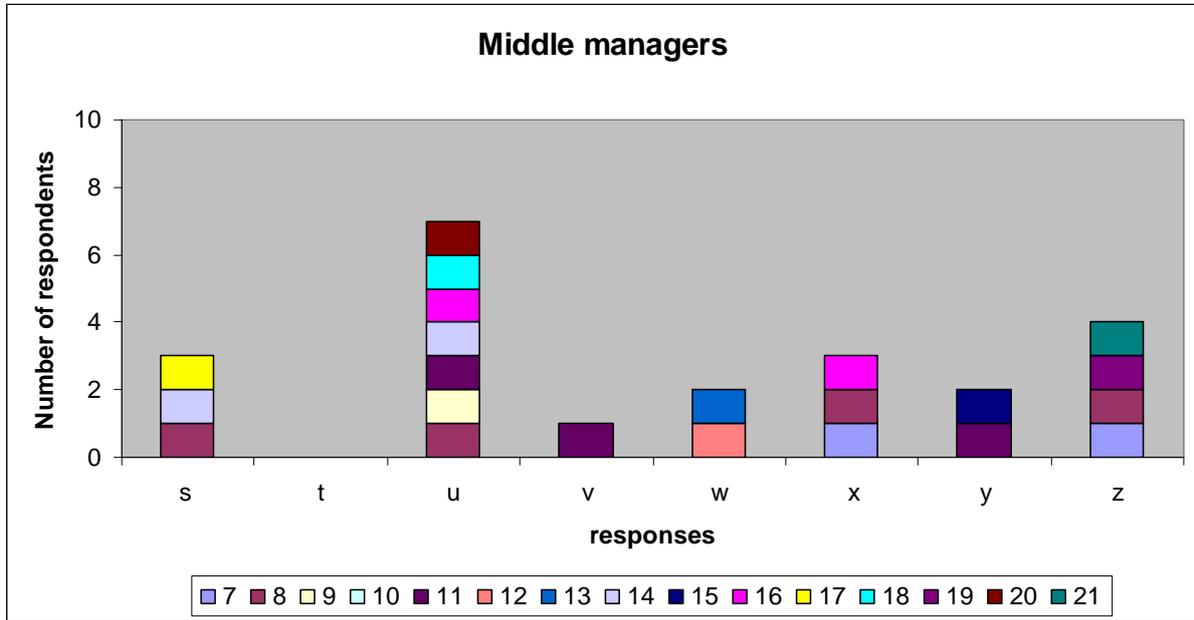
7/15 policy implementers in this study say that expert talks are used in their departments to support organisational learning (u). 4/15 participants in this category say that continuous up-skilling of ICT proficiency of all staff (z). 3/15 participants chose (u) as their only answer to this question.

Overall results of Question 4(both senior and middle managers- 21 in total):
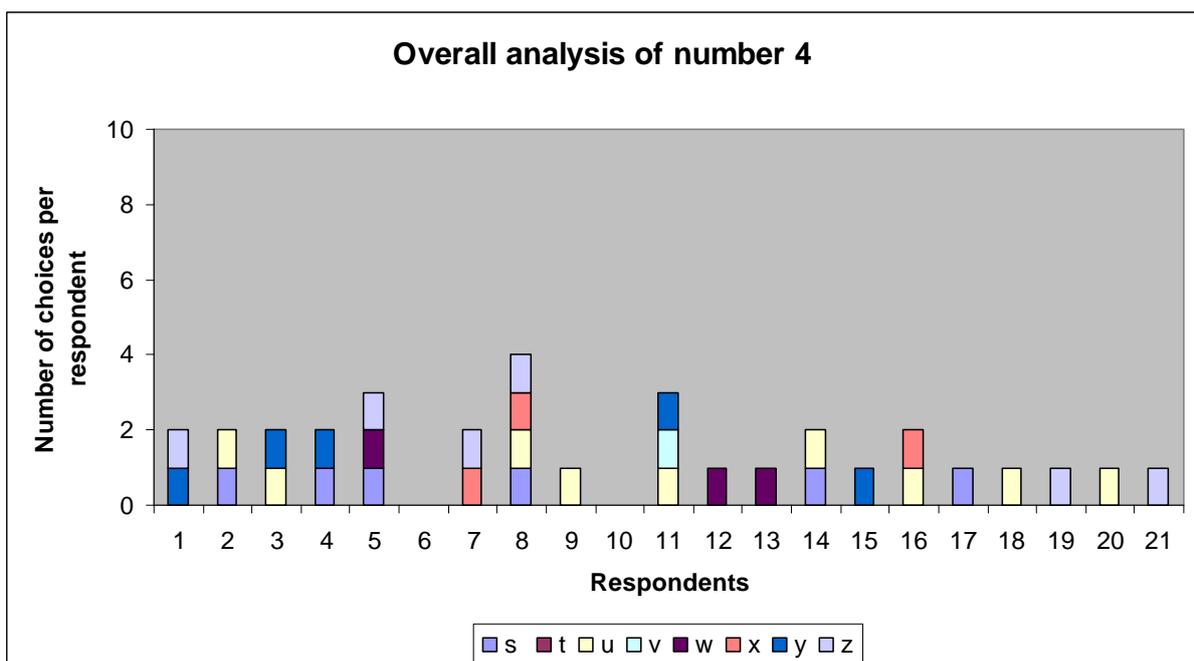
Of the 21 participants in this study, 9 participants selected expert talks (u) as their answer to this question.

6/21 respondents selected continuous upskilling (z).

Another 6/21 respondents selected Frequent cross functional discussions about pertinent cases and experiences. (s)

5/21 selected department wide brainstorming (at least once a year) (y)

It can be said that most departments in this study (5 out of 11) are using expert talks to support organisational learning (u).

4 out of 11 departments are using creative brainstorming at least once a year(y), continuous up-skilling of ICT proficiency of all staff (z) and frequent cross functional groups discussions about pertinent cases and experiences.

Question 5

When higher level staff is recruited and appointments made, how high on the specification list is the knowledge assets the candidate brings to the department? (Choose only one of the following)

    (aa) Proven expert knowledge capacity is always the primary criterion

    (bb) Some sort of knowledge capacity (but not proven expertise) is always sought

    (cc) Knowledge capacity is only one of the factors taken into account

    (dd) Knowledge capacity plays no effective role

Senior Managers(6):
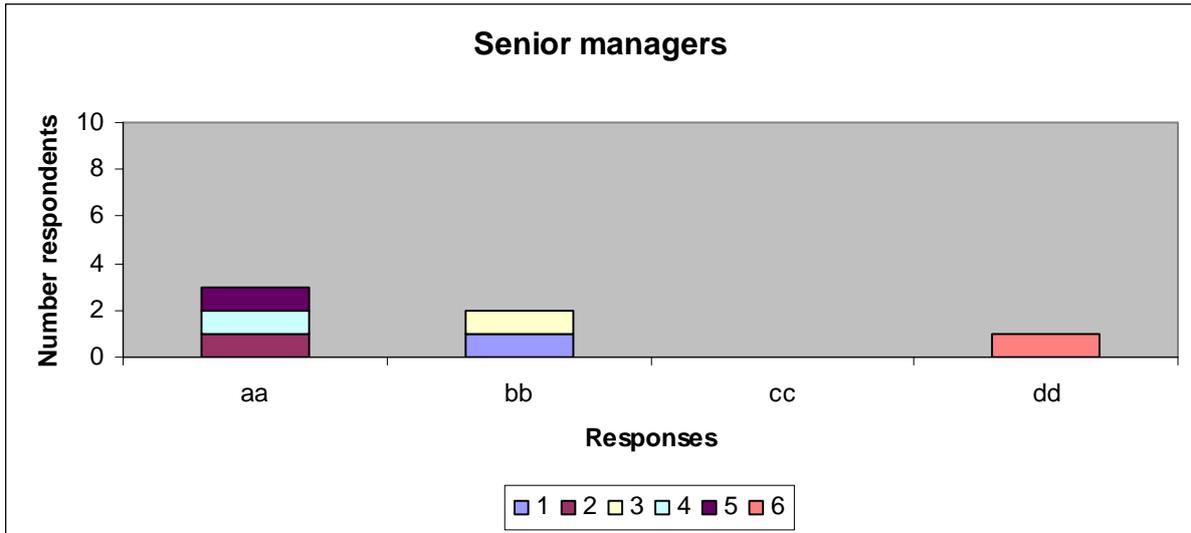
Only 5/6 participants in this category responded well to this question:

3/5 respondents say that when higher level staff is recruited and appointments made, proven expert knowledge is capacity is always the primary criterion (aa).

2/5 participants say that some sort of knowledge capacity (but not proven expertise) is always sought (bb).

Middle managers (15):
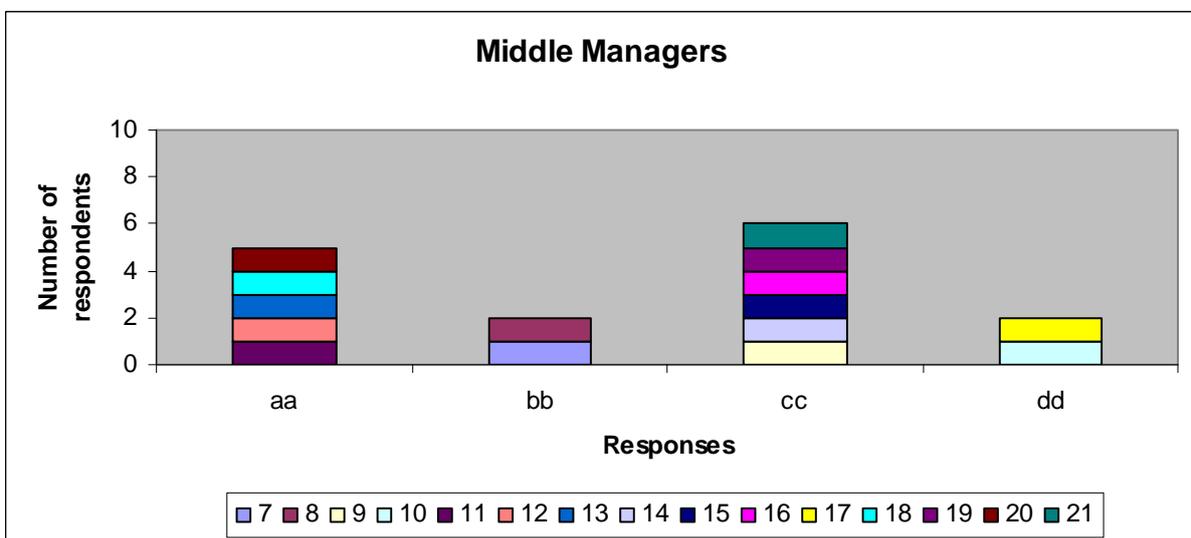
Respondents in this category think that when higher level staff is recruited and appointments are made:

6/15 says that knowledge capacity is only one of the factors taken into account (cc).

5/15 says that proven expert capacity is always the primary criterion (aa)

2/15 say that some sort of knowledge capacity (but not proven expertise) is always sought (bb)

2/15 say that knowledge capacity play no effective role.

Overall results of Question 5(both senior and middle managers-21 in total):
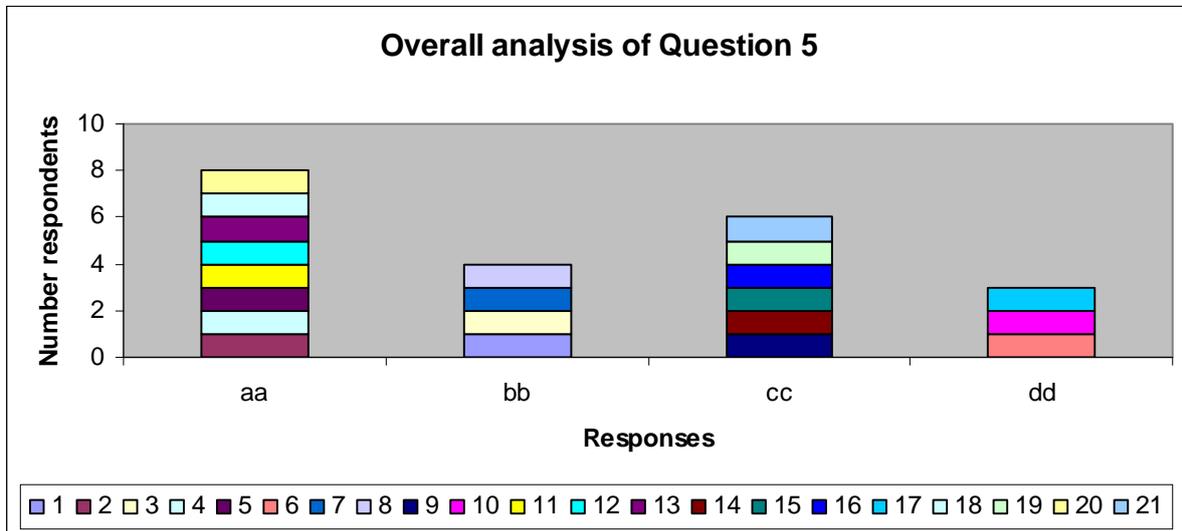
8/21 correspondents say that proven expert knowledge capacity is always the primary criterion (a). This group is made up 6/11 departments.

6/21 participants say that knowledge capacity is only one of the factors taken into account (cc). This is made up of 3/11 departments.

4/21 participants say that some sort of knowledge capacity (but not proven expertise) is always sought. This is made up of 3/11 departments.

2/21 say that knowledge capacity play no effective role (dd). This is made up of 1/11 departments.

1 respondent did not answer this question.

Question 6

In your personal opinion, in your department the success of KM application is:

(ee) High

(ff) We have noticed some success

(gg) Little

(hh) Not at all

Senior Managers (6):
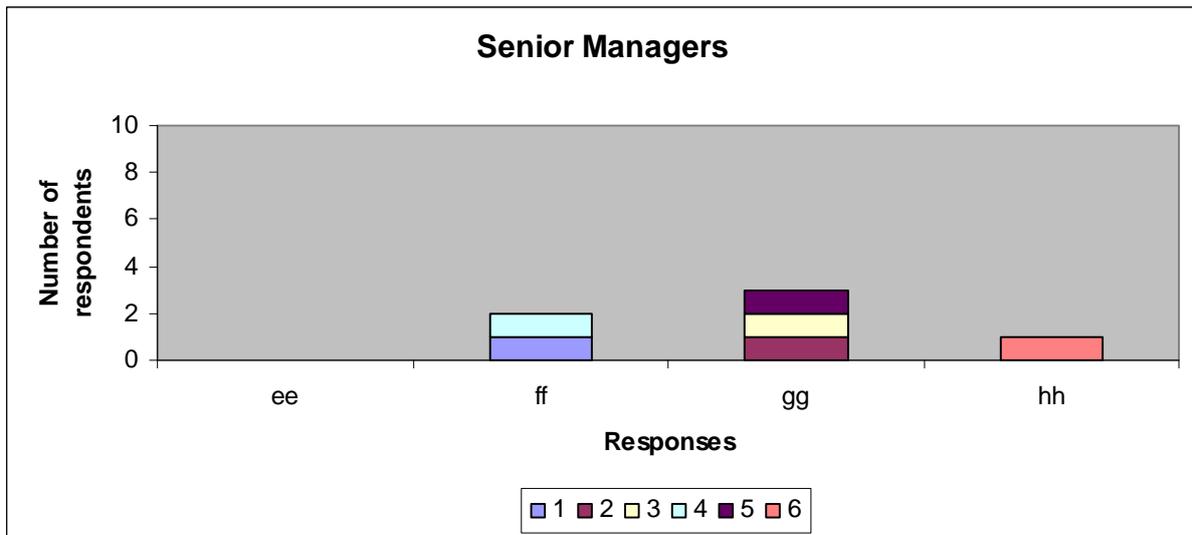
3/6 respondents in this category say that the success of KM implementation in their departments is little (gg)

2/6 respondents in this category think that the success of KM implementation in their department is 'they have noticed some success' (ff)

1/6 Respondents in this category say that the KM implementation is not at all (he)

Middle Managers (15):
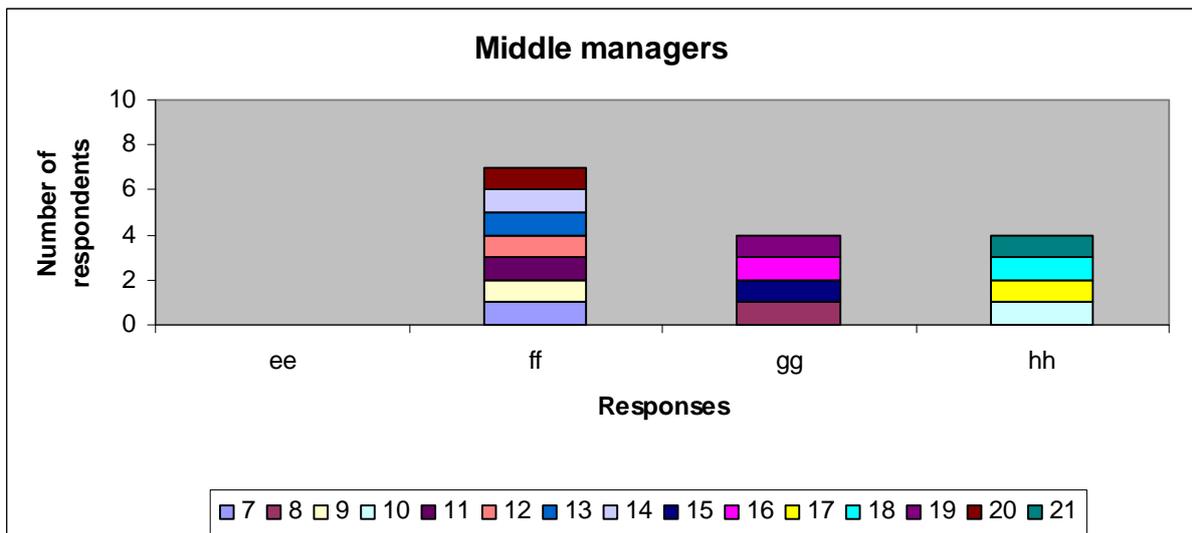
7/15 respondents in this category say that they have noticed some success of KM implementation in their departments (ff)

4/15 respondents in this category say that have noticed very little success (gg)

4/15 respondents say that there is 'not at all' success of KM implementation in their department (hh)

Overall results of Question 6 (Both senior and middle managers- 21 in total):
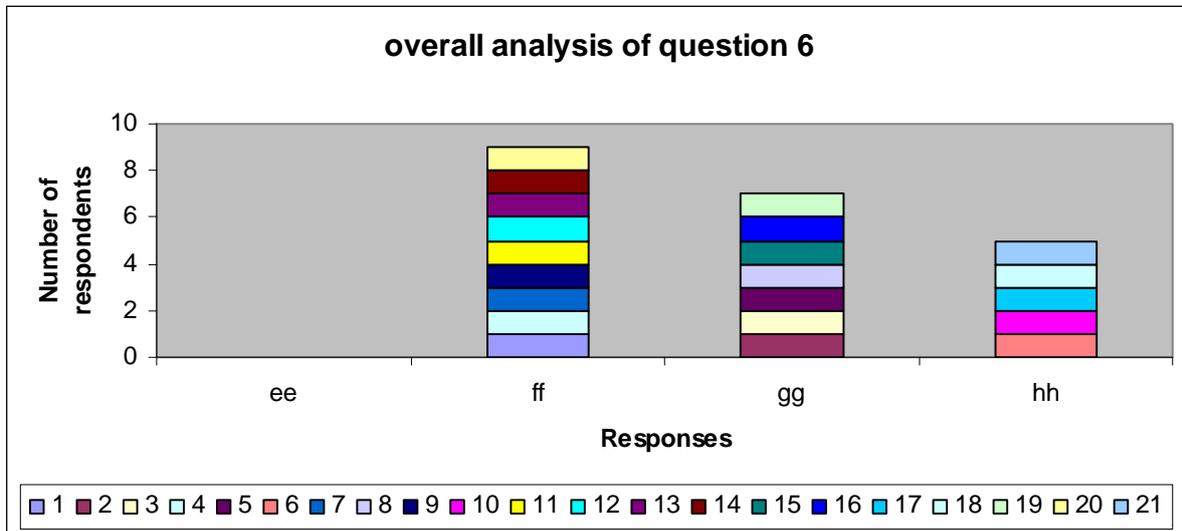
9/21 departments say that they have noticed some success of KM implementation in their departments (ff). This is made up of 7/11 departments.

7/21 respondents say that little success has been noticed (gg). This is made up of 5/11 departments.

5/21 respondents say that there is 'not at all' success of KM implementation in their departments. (hh) this is made up of 2/11 departments.

None of the respondents/department has noted high success of KM implementation (ee) in their responses.

It should be noted that respondents from the same departments do not always give the same responses.

Question 7

In respect of measuring the extent and impact of KM in your department, do you know of?

(ii) Extensive and structured attempts to measure

(jj) Ad hoc attempts to measure

(kk) Thumb-suck attempts to measure

(ll) None at all

Senior Managers (6):
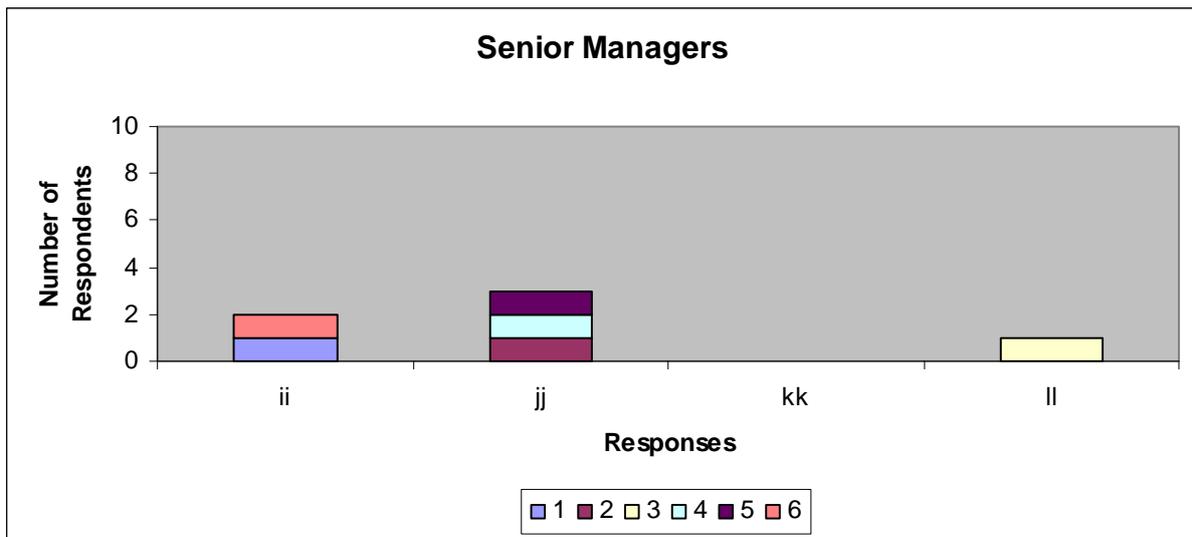
 3/6 participants know of adhoc attempts to measure (jj) the extent and impact of KM in their departments.

2/6 respondents say there is 'none at all' (ll) attempt to measure KM in their department

1/6 respondents say that they have extensive and structured attempts to measure (ii) the extent and impact of KM in their departments.

Middle Managers(15):
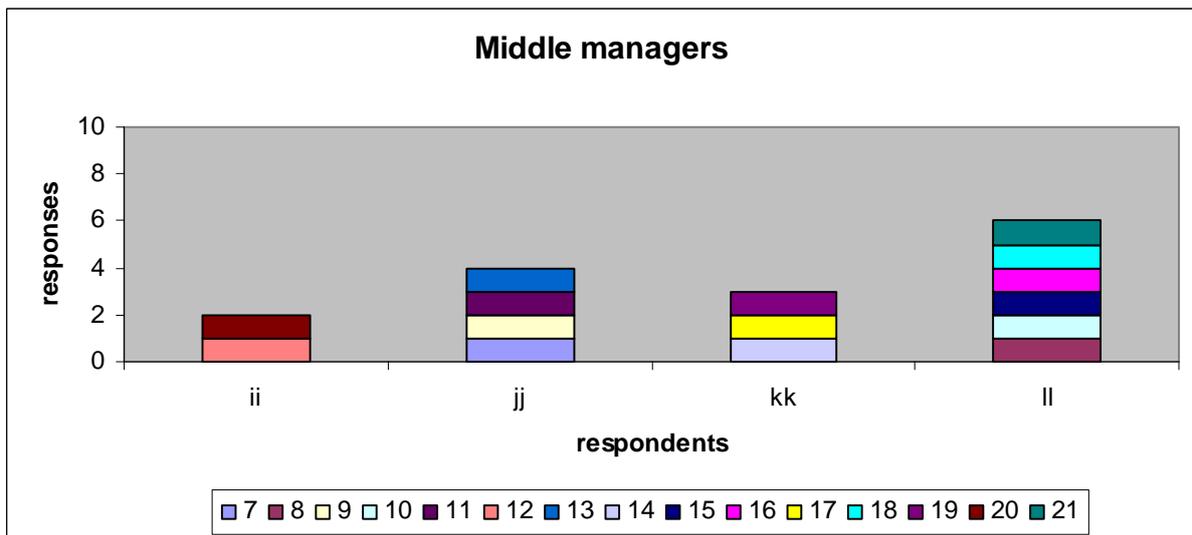
6/15 respondents say that there is 'none at all' (ll) attempts to measure the extent and impact of KM in their departments.

4/15 respondents say that adhoc attempts (JJ) to measure the extent and impact of KM in their departments are in place.

3/15 respondents say that thumb suck attempts to measure the extent and impact of KM implementation in their departments (kk)

3/5 respondents say that extensive and structured attempts to measure (ii) KM in their departments

Overall results Question 7 (both senior and middle managers- 21 in total):
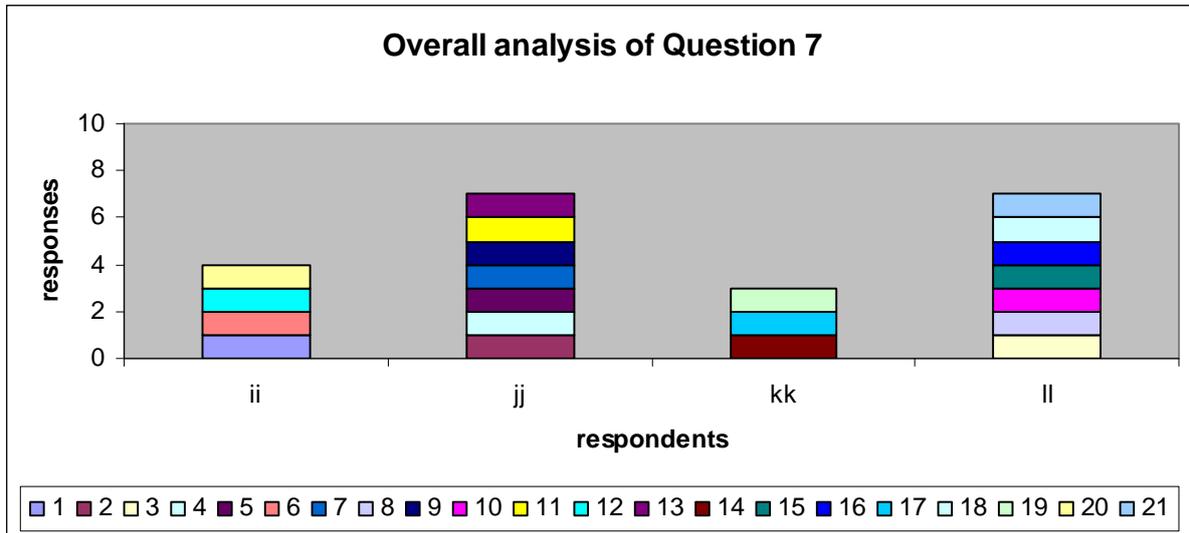
8/21 respondents say that there are 'not at all' (ll) attempts in respect of measuring the extent and impact of KM in their department. 5/11 departments are represented in this response.

7/21 respondents say that there are adhoc attempts to measure (JJ) the extent and impact of KM in their department.5/11 departments are represented in this response.

3/21 respondents say that there are extensive and structured attempts to measure (ii) KM in their departments.2/11 departments are represented in this response.

3/21 respondents say that there are thumb suck attempts to measure (kk) the extent and impact of KM in their departments. 2/11 departments are represented in this response.

4.3.2 SECTION B

Question 1

The department maintains a sophisticated 24/7 online access to core non-library databases for the department- open to all staff.

Senior Managers (6):

Senior Managerss

Number of respondents

10 8 6 4 2 0

yes   mostly   stimes   no   I don't   I'm not

Responses

□1 ■2 □3 □4 ■5 □6
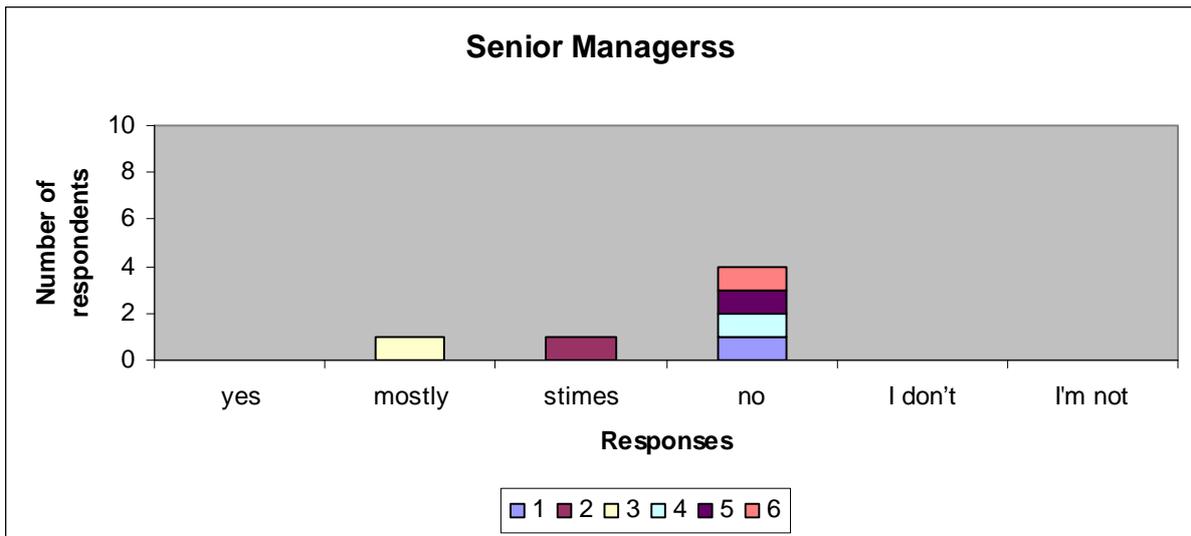
To the statement: 'the department maintains 24/7 online access to core non-library databases for the department open to all staff

4/6 senior managers selected the response 'no, this is incorrect'

1/6 selected 'mostly true but sometimes not'

1/6 selected 'sometimes true but mostly not'

Middle Managers (15):

Middle managers

Responses

10 8 6 4 2 0

yes   mostly   stimes   no   I don't   I'm not

Respondents

□7 ■8 □9 □10 ■11 □12 ■13 □14 ■15 ■16 □17 □18 ■19 ■20 ■21
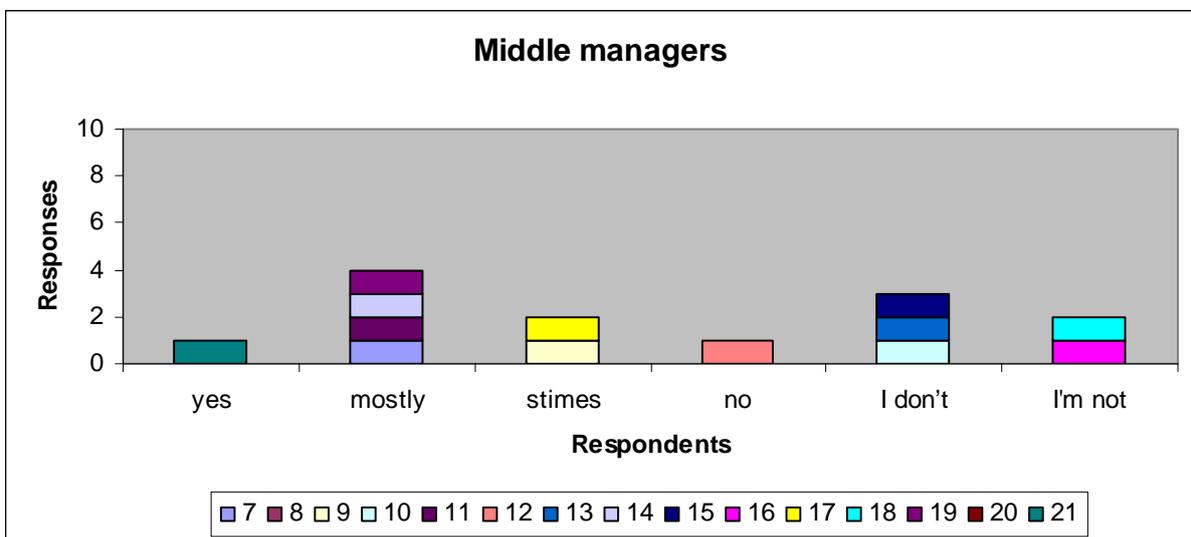
To the statement: 'the department maintains a sophisticated 24/7 online access to non-core library databases for the department open to all staff:

8/15 respondents selected 'no, this is not correct' as their response.

2/15 respondents selected 'mostly true but sometimes not'.

3/15 respondents selected 'sometimes true but mostly not'.

6/15 respondents selected 'yes this is correct'

1/15 respondents did not respond to this question

Overall results of question 1(both senior and middle managers- 21 in total:
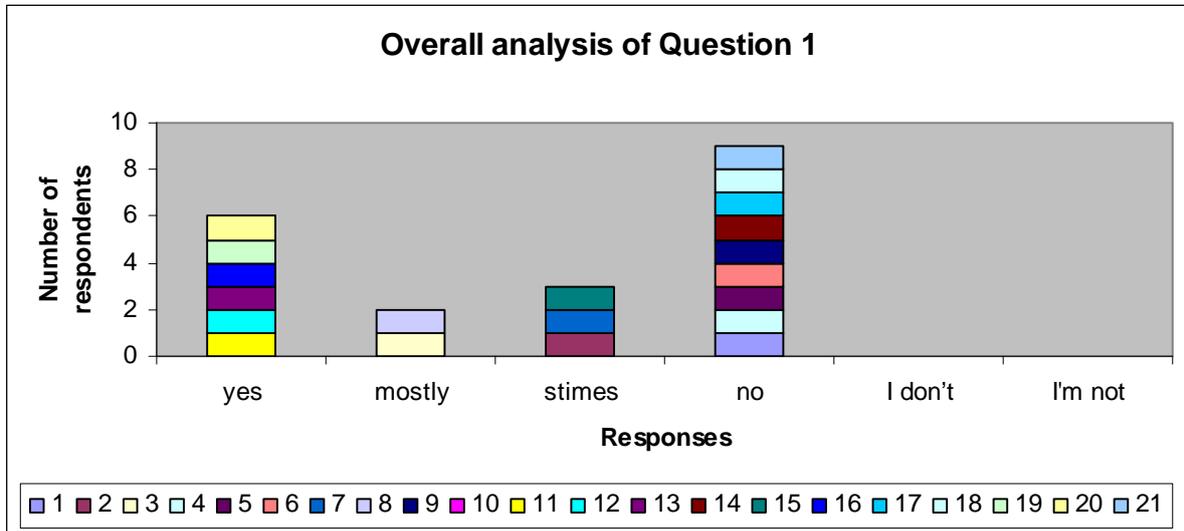
12/21 respondents selected 'no, this is not correct'

3/21 respondents selected 'mostly true but sometimes not'

4/21 respondents selected 'sometimes true but mostly not'

6/21 respondents selected 'yes, this is correct'

1/21 did not respond to this question

Question 2

There are sufficient skills in the department to perform deep (or super) searches on the web

Senior Managers (6)
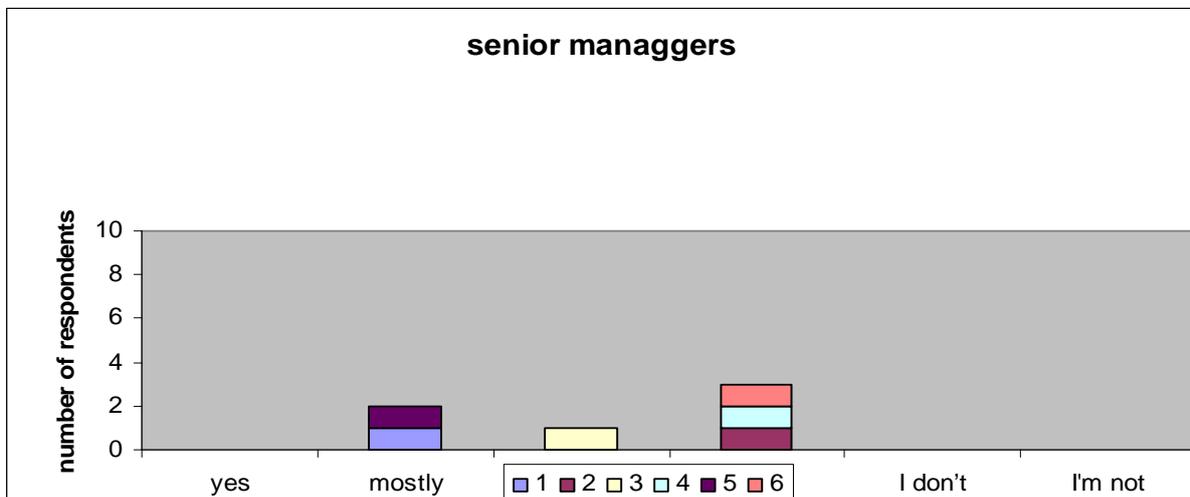
3/6 senior managers selected 'no, this is not correct'

2/6 senior managers selected 'mostly true but sometimes not'

1/6 senior managers selected 'sometimes true but mostly not'
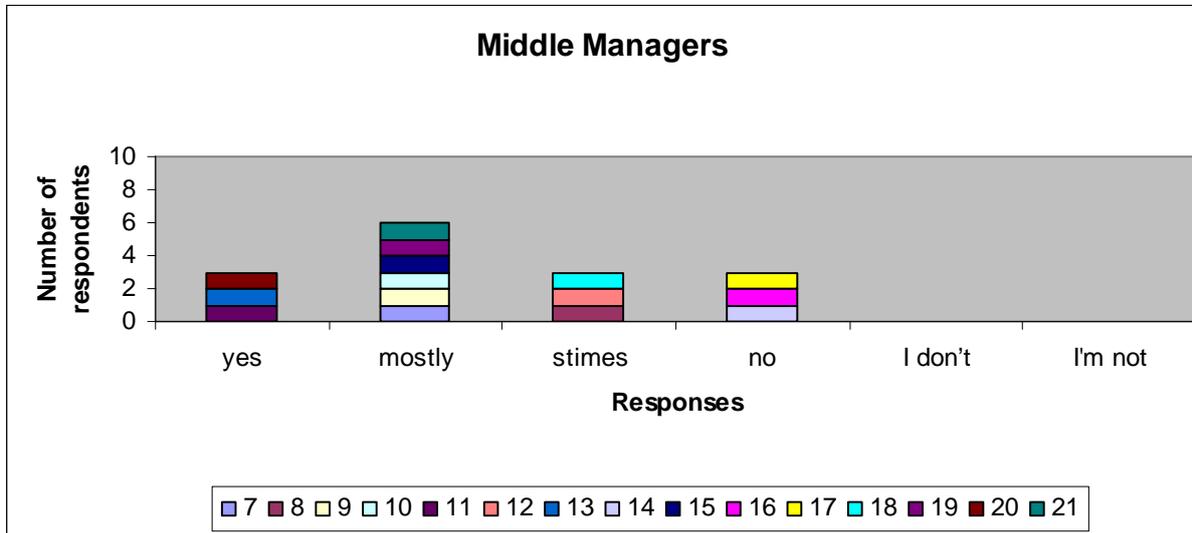
Middle managers:

To the statement: There are sufficient skills in my department to perform deep (or super) searches on the web:

3/15 middle managers selected 'no, this is not correct'.

5/15 middle managers selected 'mostly true but sometimes not'

4/15 middle managers selected 'sometimes true but mostly not'

3/15 middle managers selected 'yes, this is correct'

Overall results of Question 2:
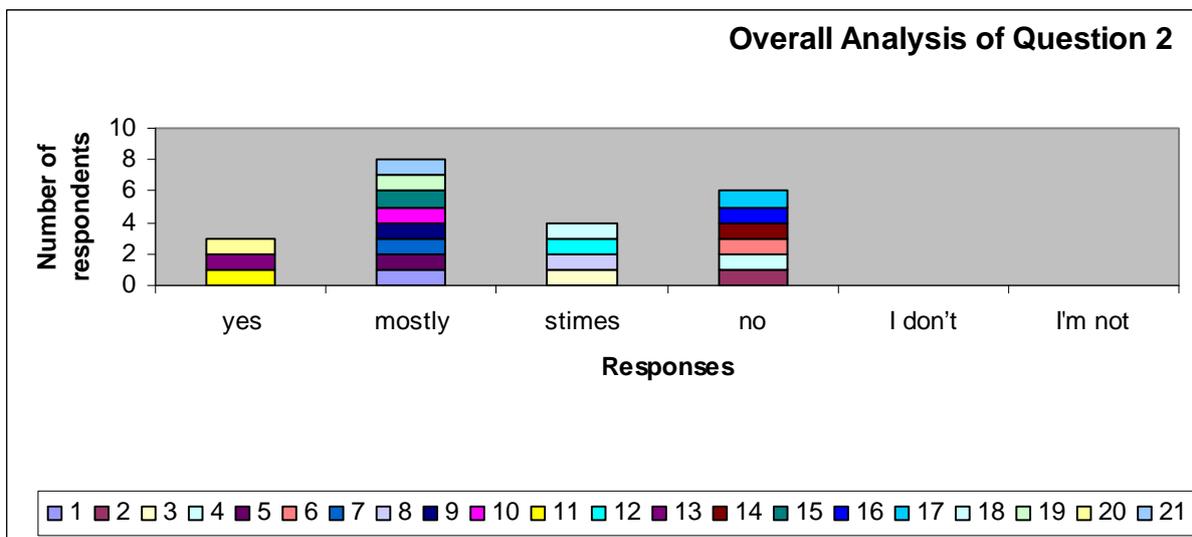
7/21 participants selected 'mostly true but sometimes not'

6/21 participants selected 'no, this is not correct'

5/21 participants selected 'sometimes true but mostly not'.

3/21 participants selected 'yes, this is correct'

Question 3

There is a sophisticated and regularly performed practice of data mining in the department

Senior Managers (6):

4/6 senior managers selected 'no, this is not correct'.

2/6 senior managers selected 'sometimes true but mostly not'.

Middle Managers (15):

2/15 middle managers did not respond to this question

5/15 middle managers selected 'no, this is not correct'

2/15 middle managers selected 'yes, this is correct'.

2/15 middle managers selected 'sometimes true but mostly not'.

2/15 middle managers selected 'I'm not informed enough to respond'.

1/15middle managers selected 'mostly true but sometimes not'

1/15 middle managers selected 'I don't understand the statement'

Overall results Question 3 (both senior and middle managers-21 in total):
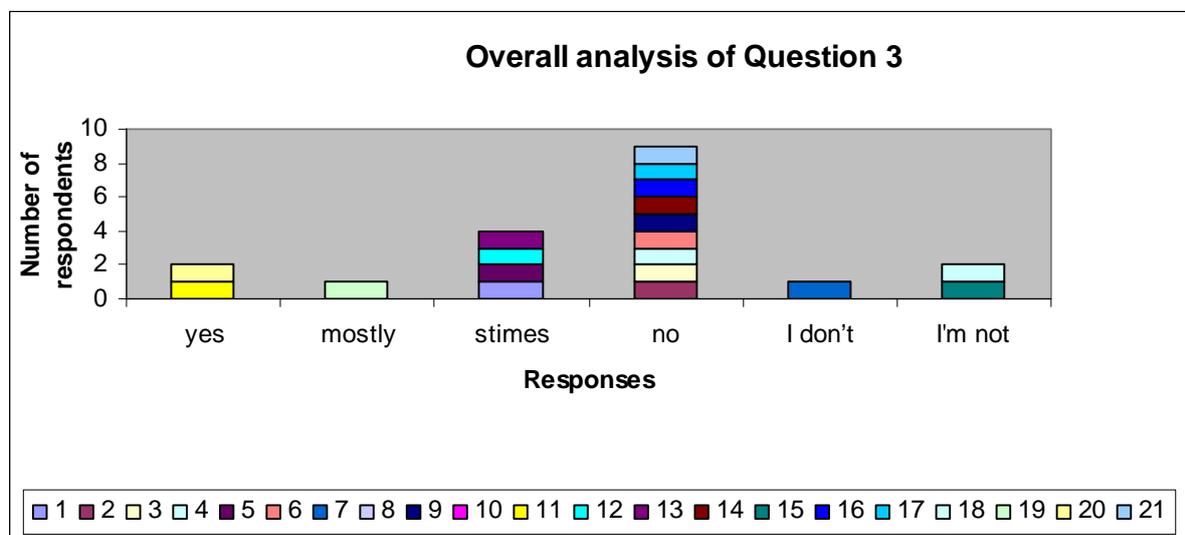
2/21 respondents did not respond to this question

9/21 respondents selected 'no, this is not correct'

4/21 respondents selected 'sometimes true but mostly not'

2/21 respondents selected 'yes-this is true'

2/21 respondents selected ' I'm not informed enough to respond'

1/21 respondents selected 'moslty true but sometimes not'

1/21 respondents selected 'I don't understand the statement'

Question 4

Data mining is practiced predominantly for predictive purposes:

Senior Managers (6):
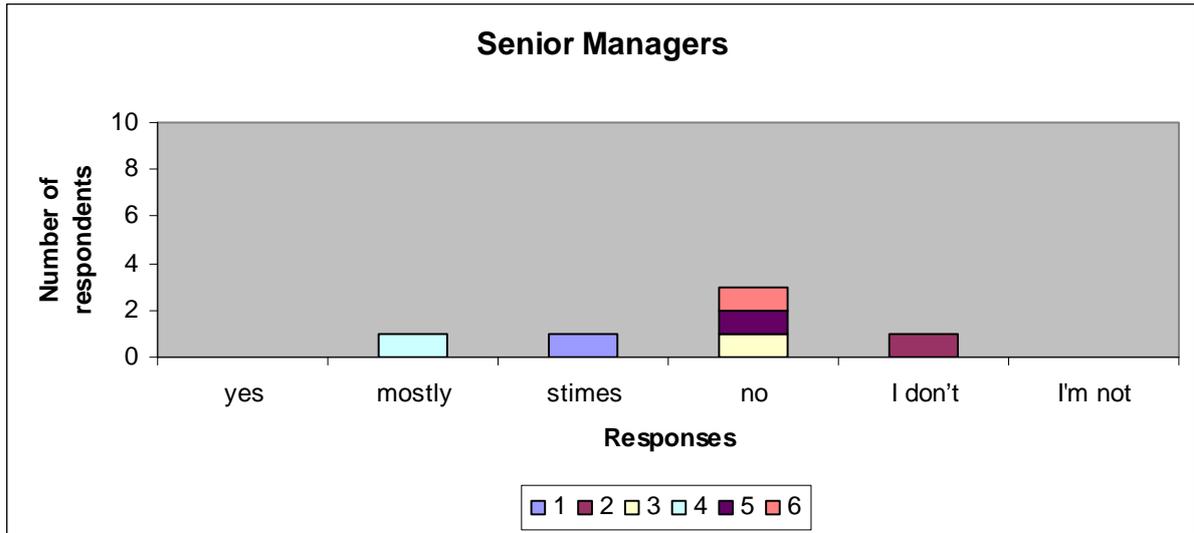
Senior Managers

3/6 senior managers selected 'no, this is not correct'

1/6 senior managers selected 'mostly true but sometimes not'

1/6 senior managers selected 'sometimes true but mostly not'

1/6 senior managers selected 'I don't understand the statement'

Middle Managers (15):
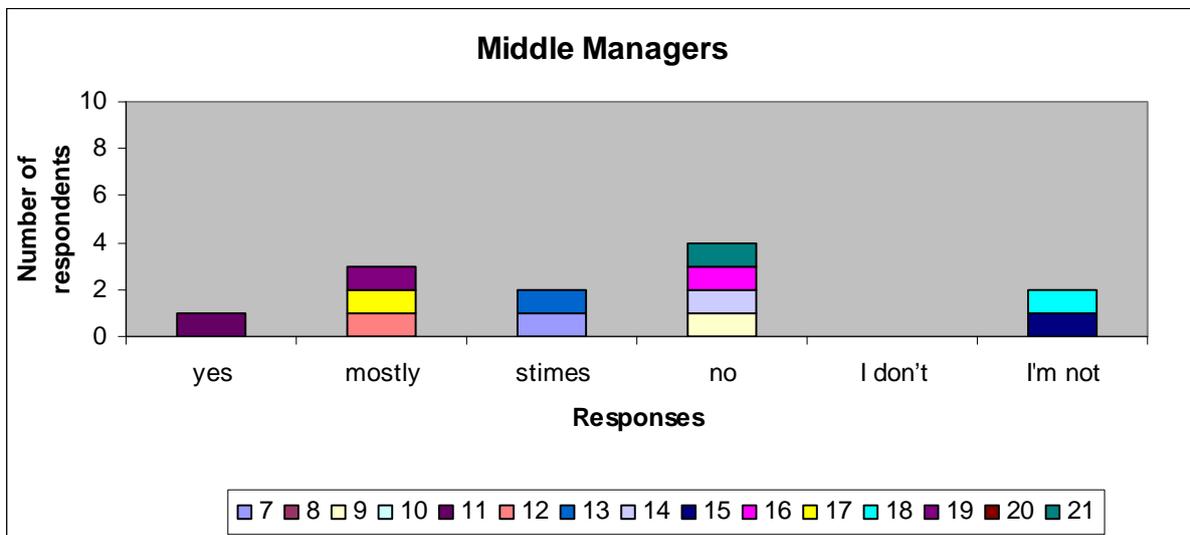
Middle Managers

2/15 middle managers did not respond to this question

4/15 middle managers selected 'no, this is not correct'.

3/15 middle managers selected 'mostly not, but sometimes true'.

2/15 middle managers selected 'sometimes not, but mostly true'

2/15 middle managers selected 'I'm not informed enough to respond'

1/15 middle managers selected 'I don't understand the question.'

Overall results of Question 4 (both senior and middle managers- 21 in total):
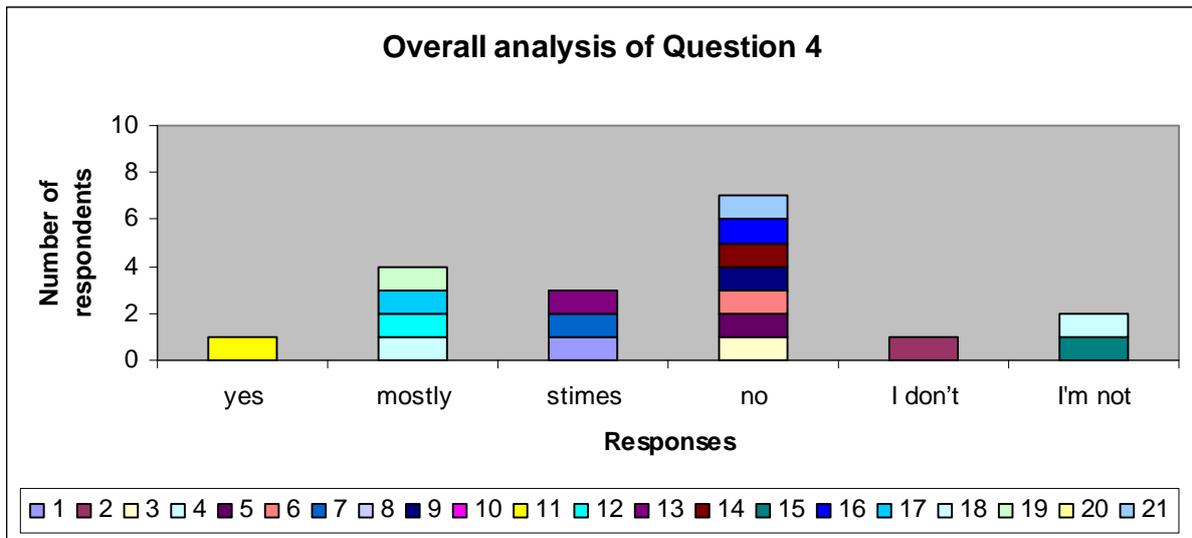
2/21 respondents did not respond to this question

7/21 respondents selected 'no, I don't understand the statement'

4/21 respondents selected 'Mostly not, but sometimes true'.

3/21 respondents selected 'sometimes true but mostly not'.

2/21 respondents selected 'I'm not informed enough to respond'

1/21 respondent selected 'yes'.

1/21 respondents selected 'I don't understand the statement'

Question 5

The department maintains a comprehensive web based Work Flow System

Senior Managers (6):
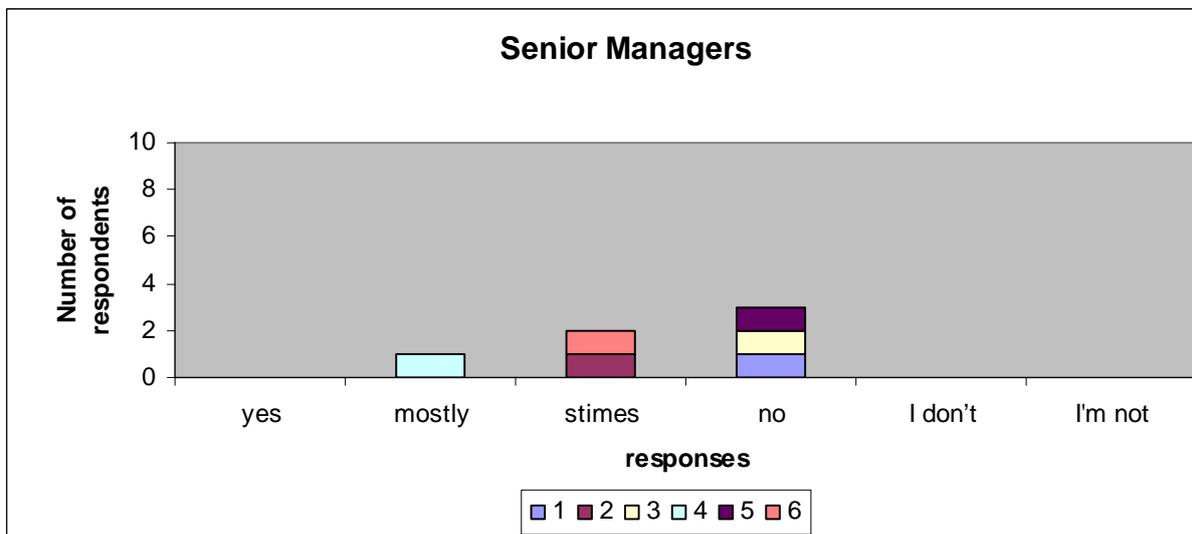
3/6 senior managers selected 'no, this is not correct'

2/6 senior managers selected 'sometimes true but mostly not'

1/6 senior managers selected 'mostly true but sometimes not'
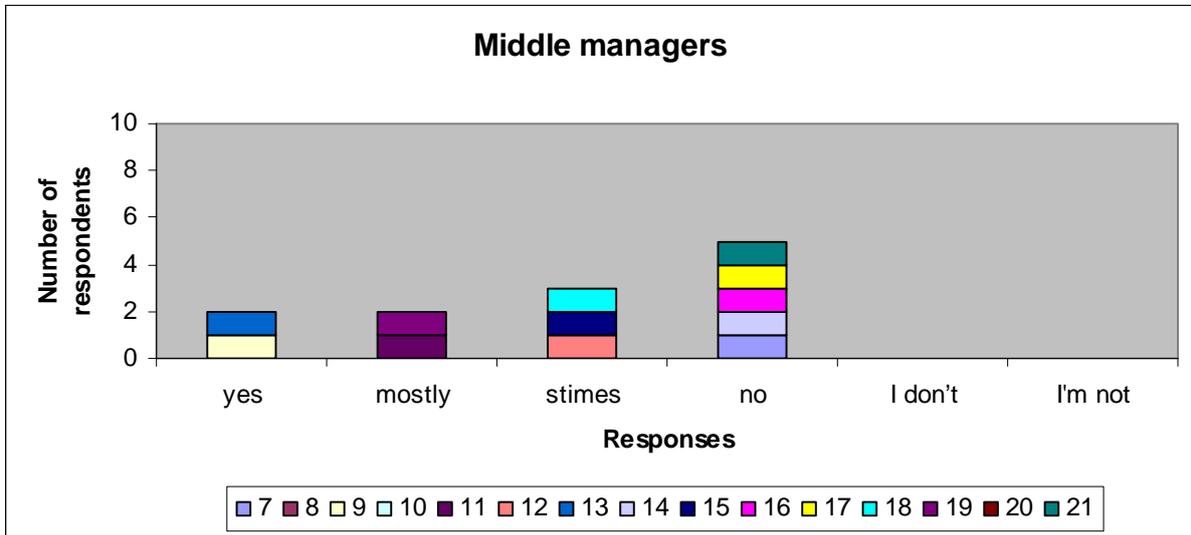
Middle Managers (15):

2/15 did not respond to this question

5/15 middle managers selected 'no, this is not correct'

2/15 middle managers selected 'mostly true but sometimes not'

2/15 middle managers selected 'sometimes true but mostly not'

2/15 middle managers selected 'yes,'

Overall results Question 5 (Both senior and middle managers- 21 in total):
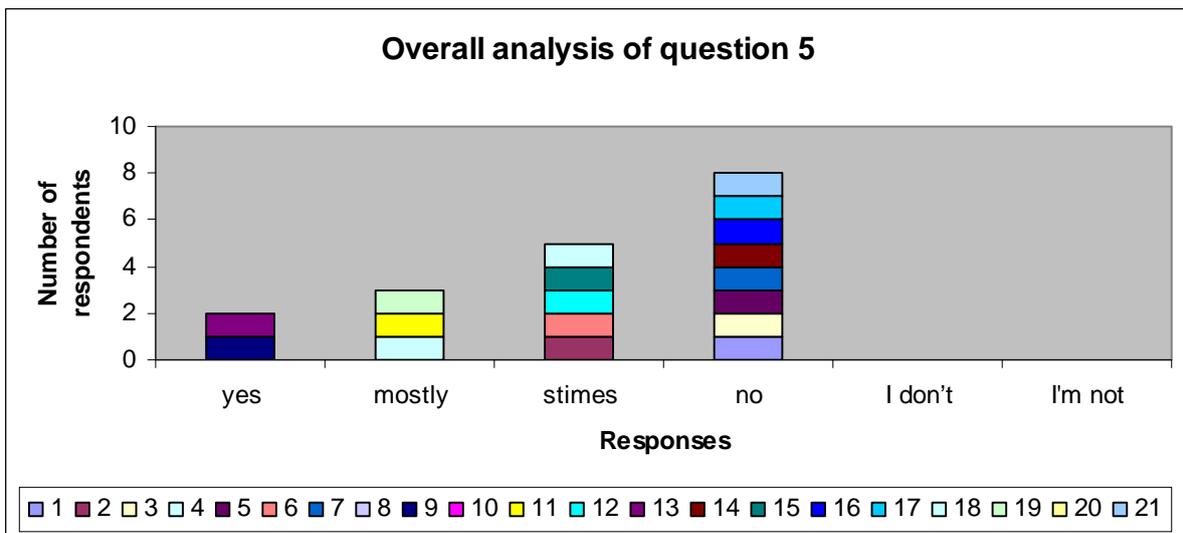
2/21 respondents did not respond to this question.

8/21 respondents selected 'no, this is not correct'.

4/21 respondents selected 'sometimes true but mostly not'

3/21 respondents selected 'mostly true but sometimes not'.

2/21 respondents selected 'yes'

Question 6

The department maintains a comprehensive web based Document Management System

Senior Managers (6):
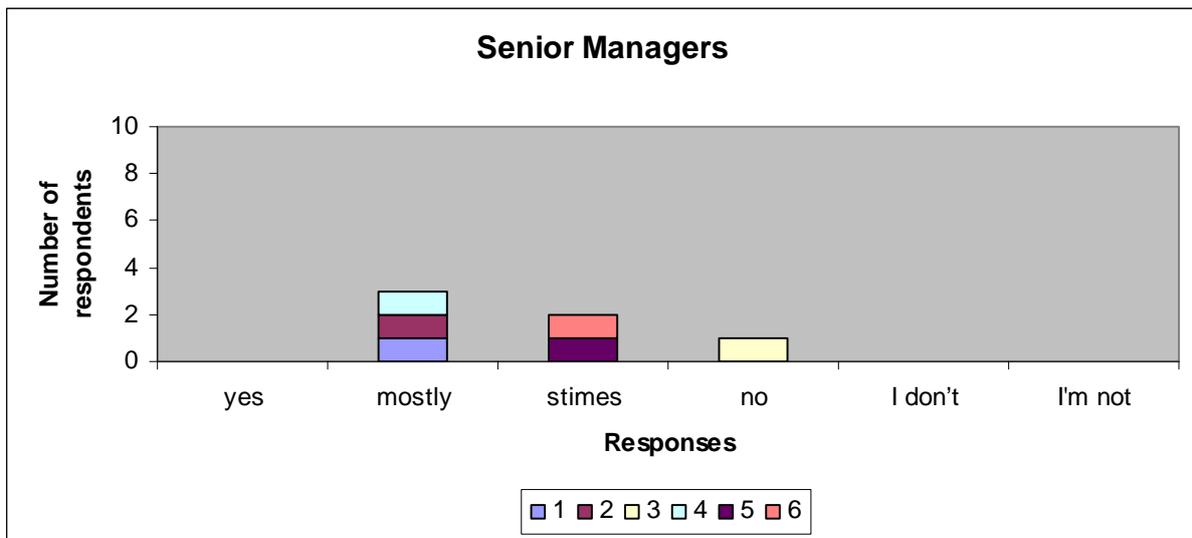
3/6 senior managers selected 'mostly true but sometimes not'

2/6 senior managers selected 'sometimes true but mostly not'.

1/6 senior managers selected 'no, this is not correct'

Middle Managers (15):
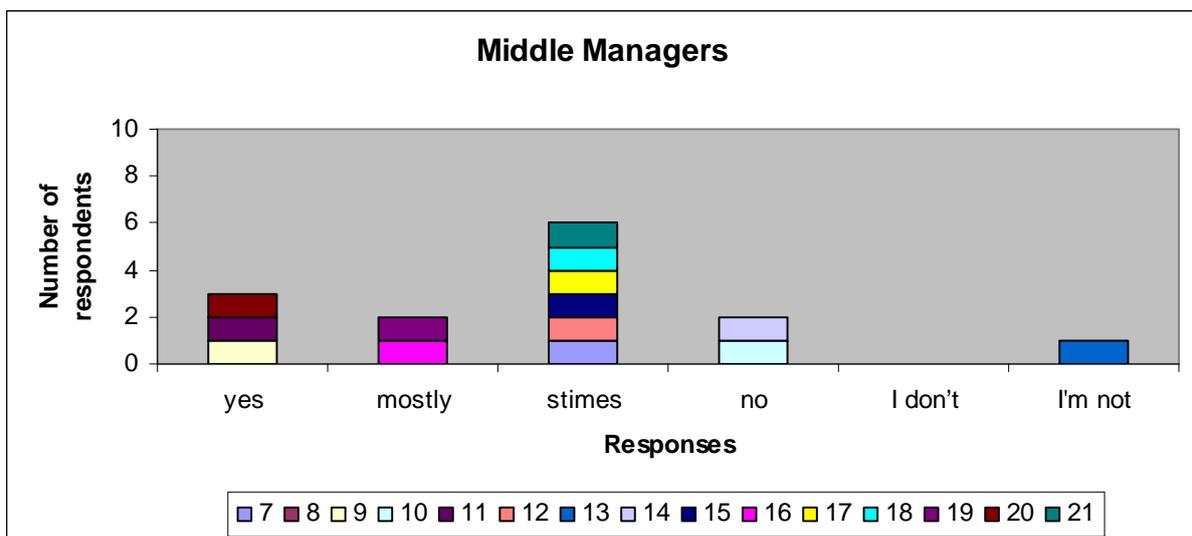
1/15 middle managers did not respond

6/15 middle managers selected 'Sometimes true but mostly not'.

3/15 middle managers selected 'yes, this is correct'.

2/15 middle managers selected 'no, this is not correct'

2/15 middle managers selected 'mostly true but sometimes not'.

1/15 middle managers selected 'I'm not informed enough to respond'.

Overall results of Question 6 (Both senior and middle managers -21 in total):
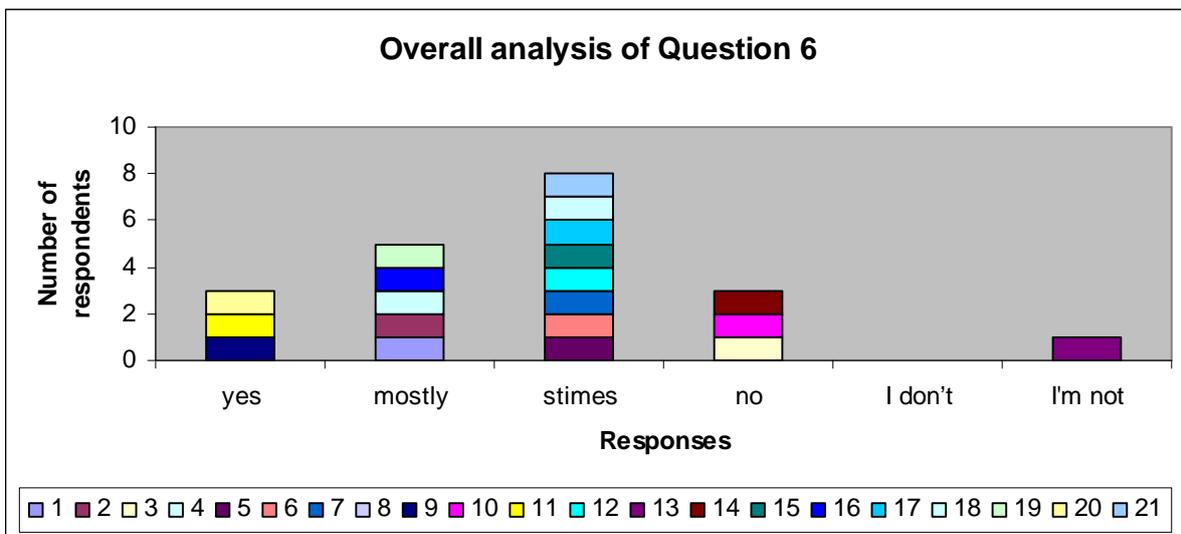
1/21 respondents did not respond to this question

8/21 respondents selected 'sometimes true but mostly not'

5/21 respondents selected 'mostly true but sometimes not'

3/21 respondents selected 'yes,'

3/21 respondents selected 'no, this is not correct'

1/21 respondents selected 'I am not informed enough to respond'.

Question 7

My department has the skills to develop neural network applications to support the processes of the department

Senior managers (6):
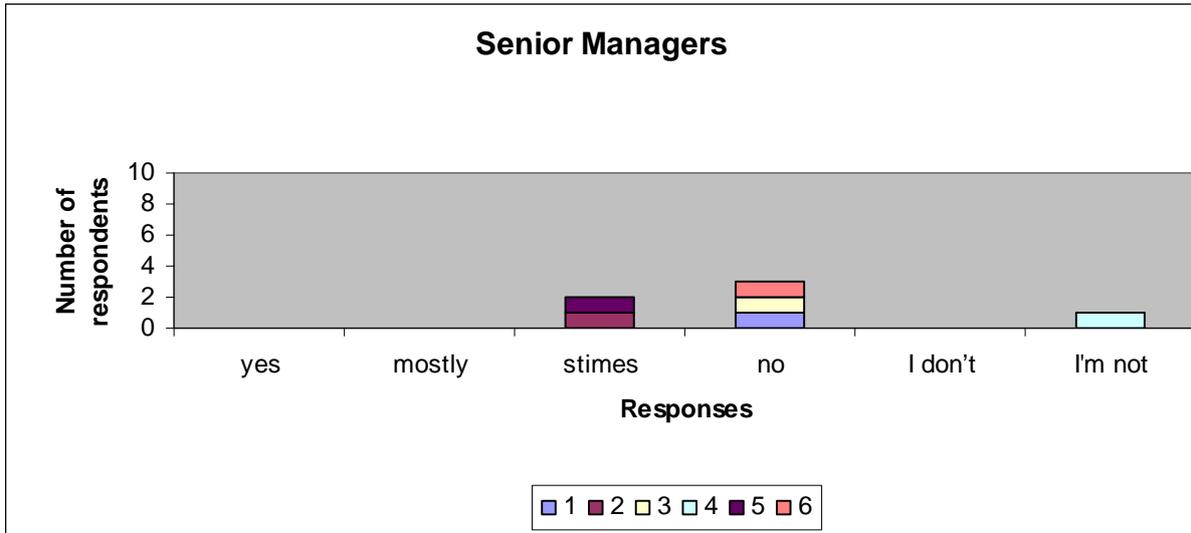
3/6 senior managers selected 'no, this is not correct'

2/6 senior managers selected 'sometimes true but mostly not'

1/6 senior managers selected 'I am not informed enough to respond'.
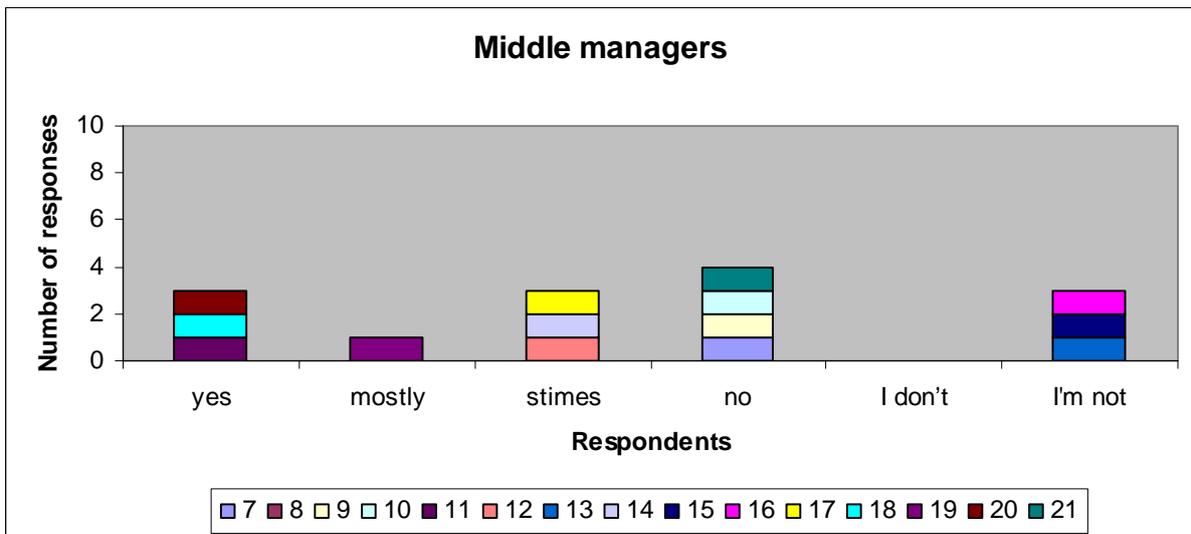
Middle Managers (15):

1/15 middle managers did not respond to this question

4/15 middle managers selected 'no, this is not correct'.

3/15 middle managers selected 'sometimes true but mostly not'

3/15 middle managers selected 'I'm not informed enough to respond'

3/15 middle managers selected 'yes,'

1/15 middle managers selected 'mostly true but sometimes not'

Overall results of Question 7 (Both senior and middle managers-21 in total):

Overall analysis of Question7
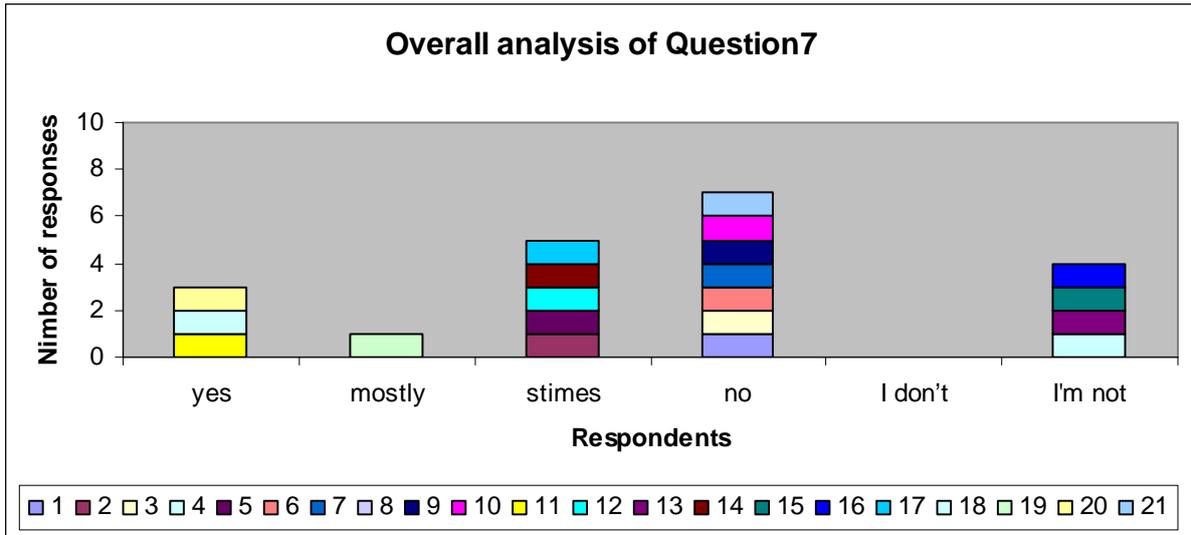
1/15 respondents did not respond to the question

7/21 respondents selected 'no, this is not correct'

5/21 respondents selected 'sometimes true but mostly not'.

4/21 respondents selected 'I'm not informed enough to respond'

3/21 respondents selected 'Yes'

1/21 respondents selected 'mostly true but sometimes not'

Question 8

There are sufficient skills in the department to develop kohonen self organising maps

Senior Managers (6):
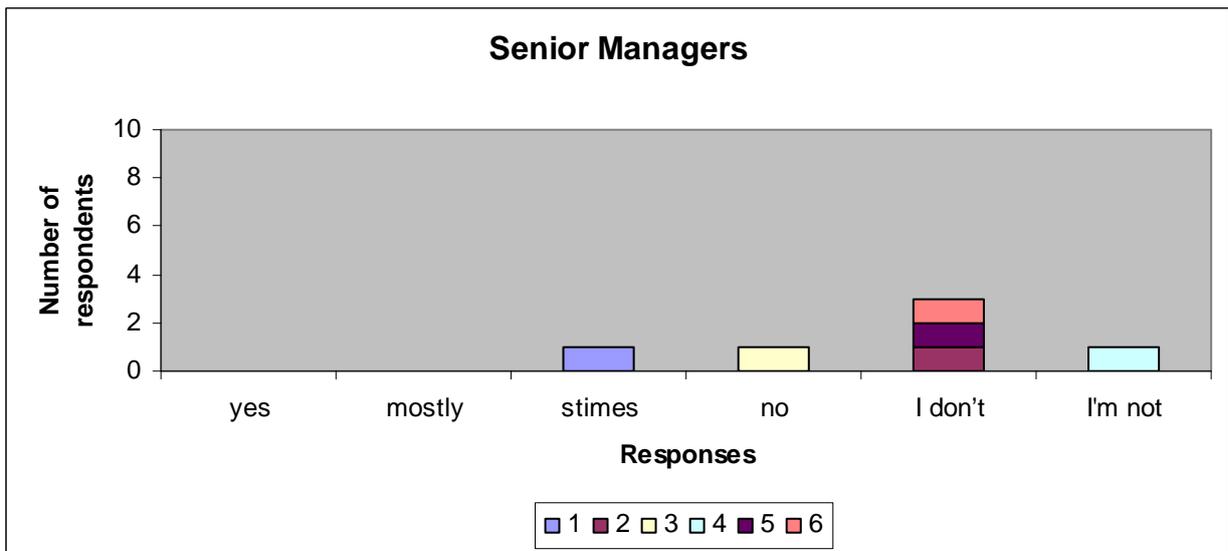
3/6 senior managers selected 'no, this is not correct'

1/6 senior managers selected 'sometimes true but mostly not'

1/6 senior managers selected 'I don't understand the statement'

1/6 senior managers selected 'I'm not informed enough to respond'
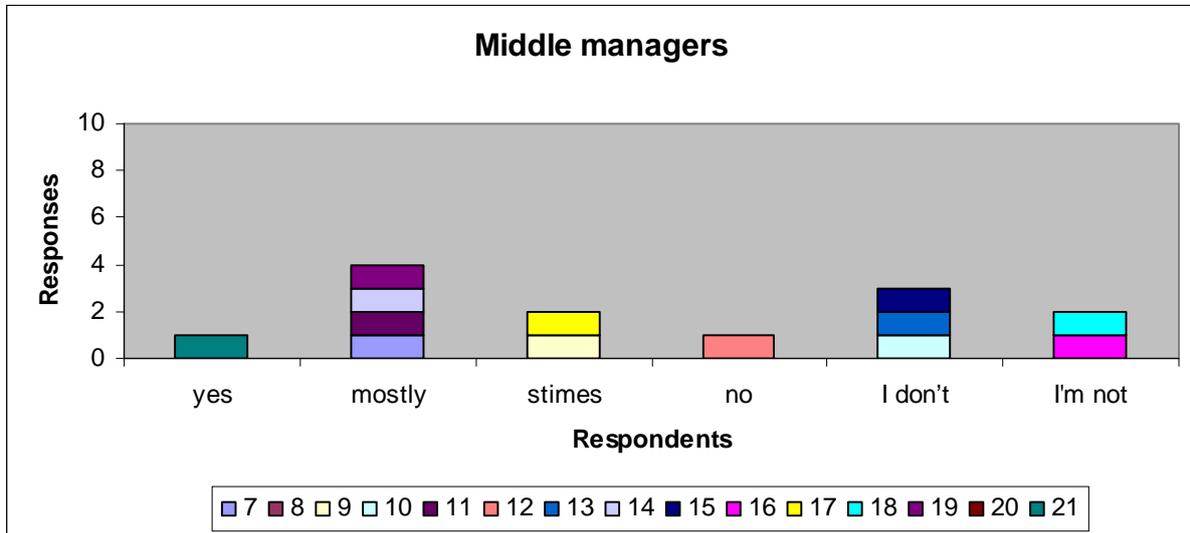
Middle Managers (15):

2/15 middle managers did not respond to this question

4/15 middle managers selected 'mostly true but sometimes not'

3/15 middle managers selected 'I don't understand the statement'

2/15 middle managers selected 'I'm not informed enough to respond'

1/15 middle managers selected 'sometimes true but mostly not'

1/15 middle managers selected 'no, this is not correct'.

1/15 middle managers selected 'yes

Overall results of Question 8 (both senior and middle managers-21 in total):

Overall Analysis of Question 8
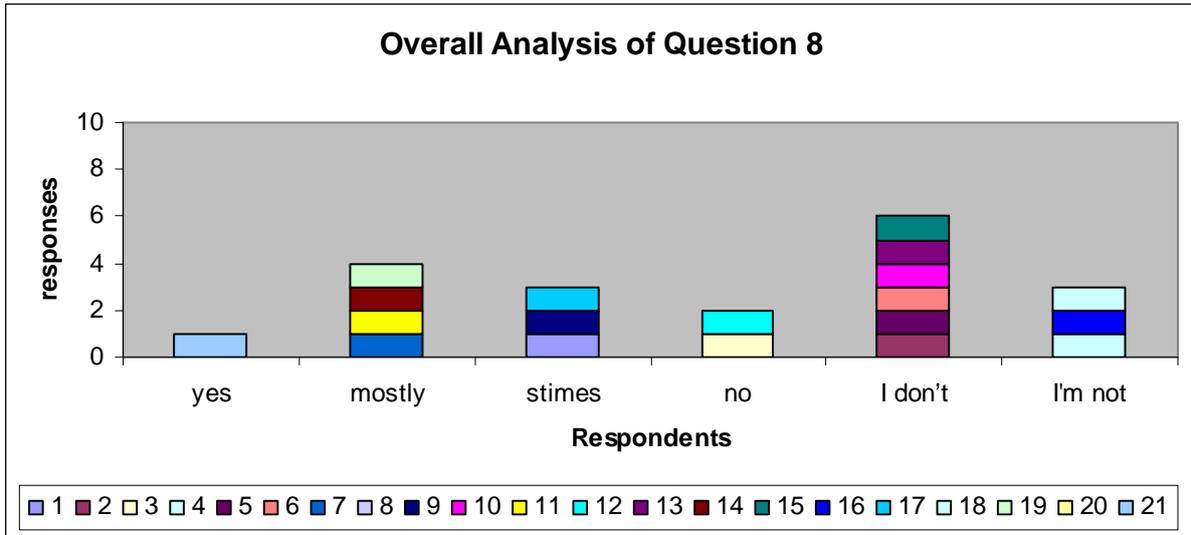
2/21 respondents did not respond to this question

4/21 respondents selected 'no, this is not correct'

4/21 respondents selected 'I don't understand the statement'

4/21 respondents selected 'mostly true but sometimes not'

3/21 respondents selected 'I'm not informed enough to respond'

2/21 respondents selected 'sometimes true but mostly not'.

1/21 respondents selected 'yes'

Question 9:

The department actively manages an expert locator system

Senior Managers (6):
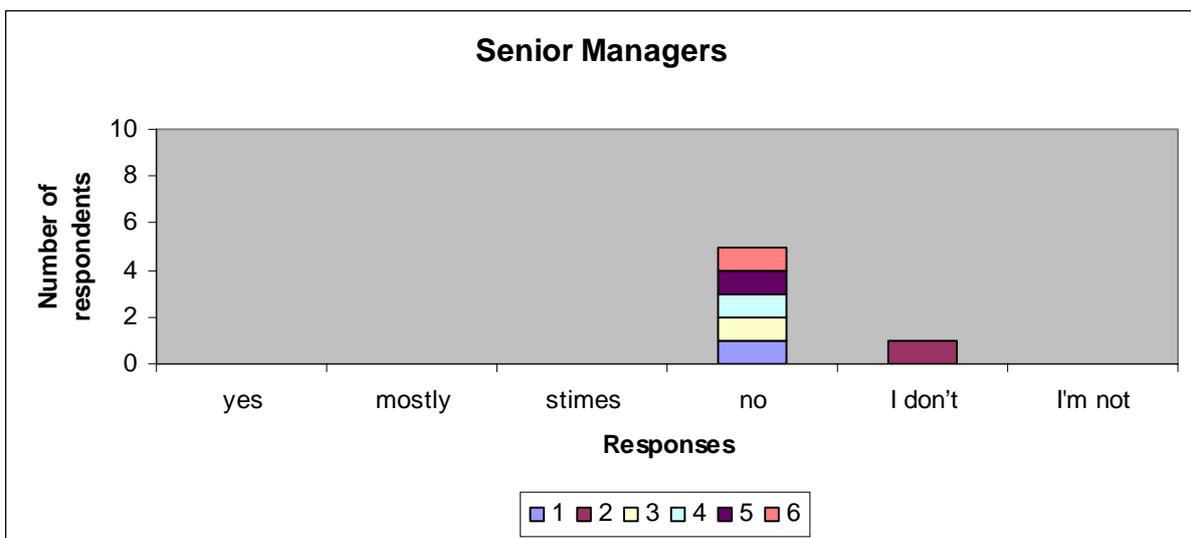
Senior Managers

5/6 senior managers selected 'no, this is incorrect'

1/6 senior managers selected 'I don't understand the statement'.

Middle Managers (15):

Middle Managers

2/15 middle managers did not respond to this question.

6/15 middle managers selected 'no, this is incorrect'

2/15 middle managers selected 'I don't understand the statement'

2/15 middle managers selected 'I'm not informed enough to respond'

1/15 middle managers selected 'yes'

1/15 middle managers selected 'mostly true but sometimes not'
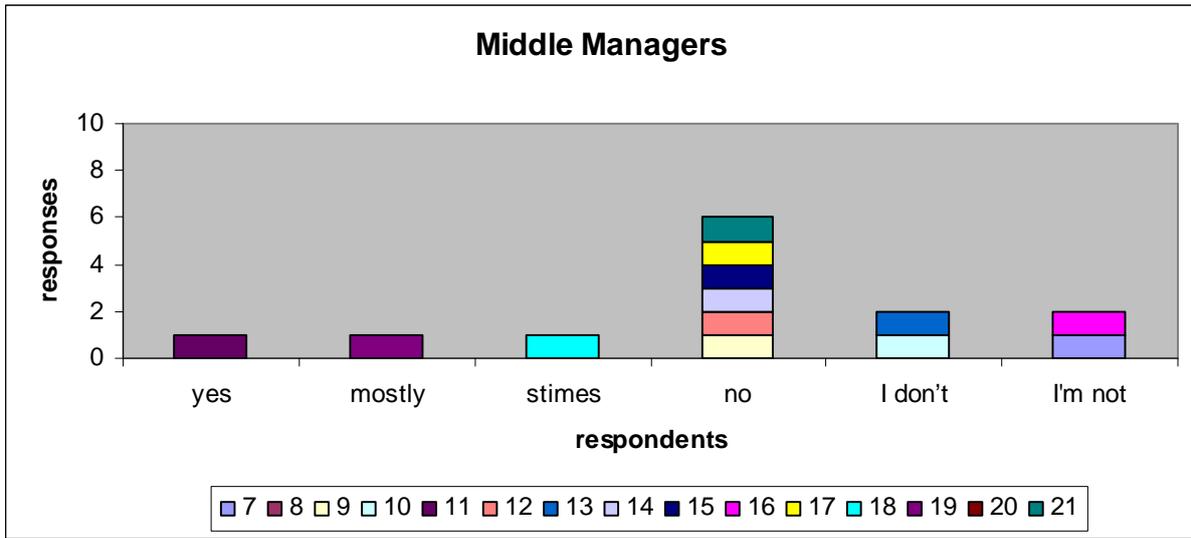
Overall results of Question 9 (both senior and middle managers- 21 in total):

Overall analysis of Question 9
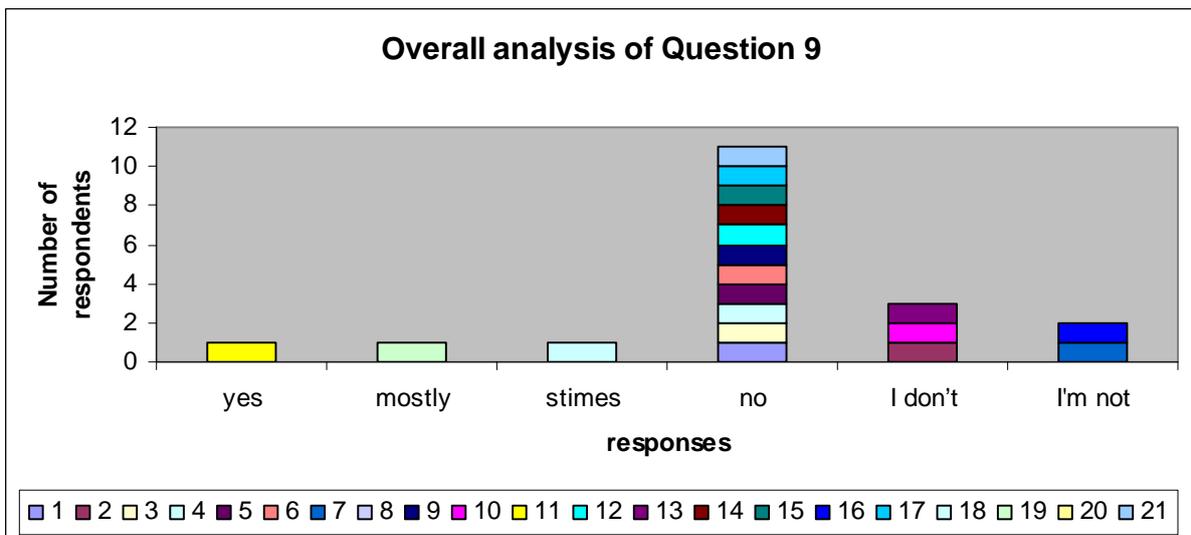
2/21 respondents did not respond to the question

11/21 respondents selected 'no, this is not correct'

3/21 respondents selected 'I don't understand the statement'

2/21 respondents selected 'I'm not informed enough to respond'

1/15 respondents selected 'yes'

1/21 respondents selected 'mostly true but sometimes not'

Question 10:

Non IT staff in the department has the operational skills to integrate e-mail with their personal data, time and document management activities.

Senior Managers (6):
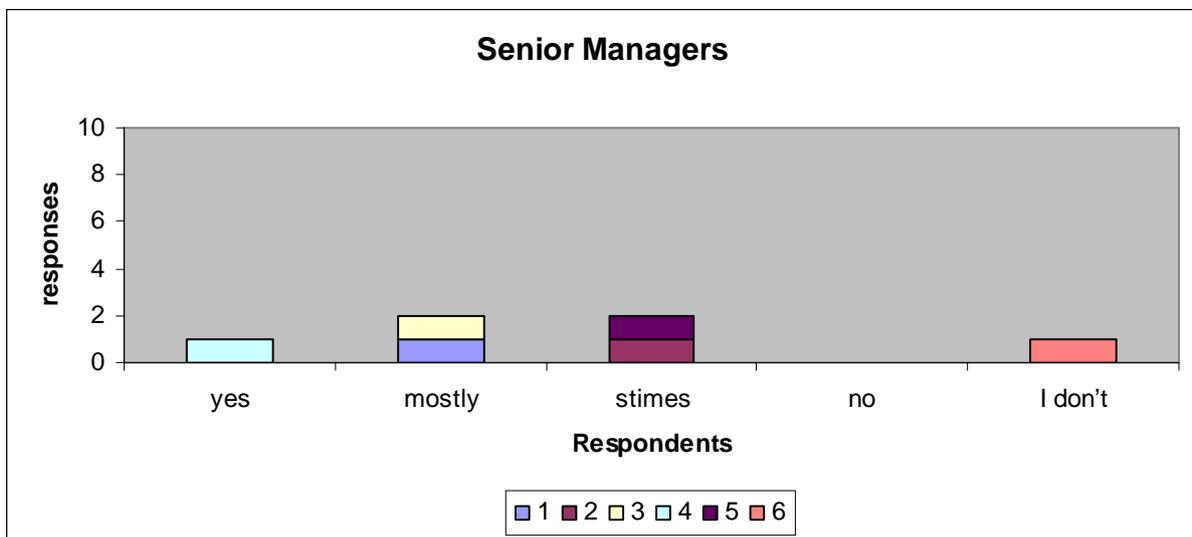
2/6 senior managers selected 'mostly true but sometimes not'

2/6 senior managers selected 'sometimes true but mostly not'

1/6 senior managers selected 'yes

1/6 senior managers selected 'I don't understand the statement'
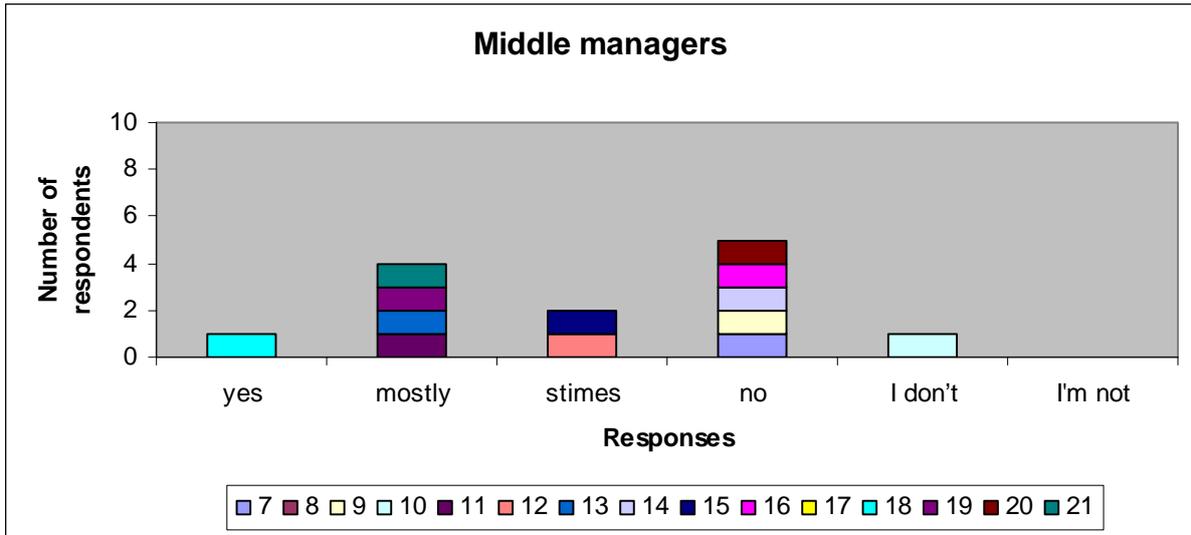
Middle Managers (15):

Middle managers

2/15 middle managers did not respond to this question.

5/15 middle managers selected 'no, this is not correct'

4/15 middle managers selected 'mostly true but sometimes not'

2/15middle managers selected 'sometimes true but mostly not'

1/15 middle managers selected 'I don't understand the statement'

1/15 middle managers selected 'yes,'

Overall results of Question 10 (both senior and middle manager-21 in total):

Overall analysis of Question 10
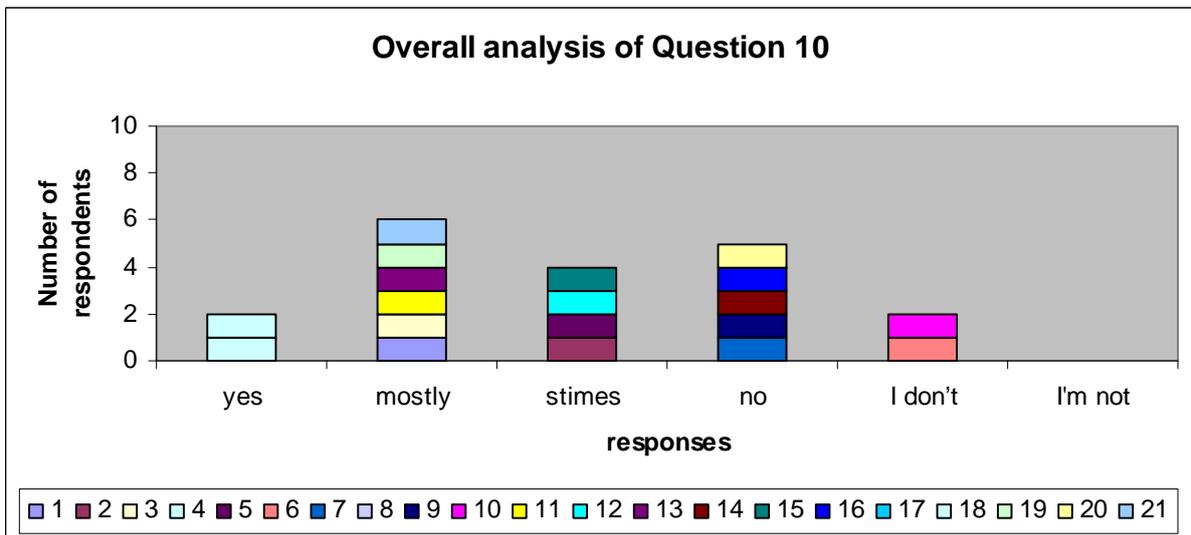
2/21 respondents did not respond to the statement

6/21 respondents selected 'mostly true but sometimes not'

5/21 respondents selected 'No, this is incorrect'

4/21 respondents selected 'sometimes true but mostly not'

2/21 respondents selected 'yes'

2/21 respondents selected 'I don't understand the statement'

Question 11

The department actively develops visualisation techniques to disseminate and internalise knowledge

**Senior Managers (6):**
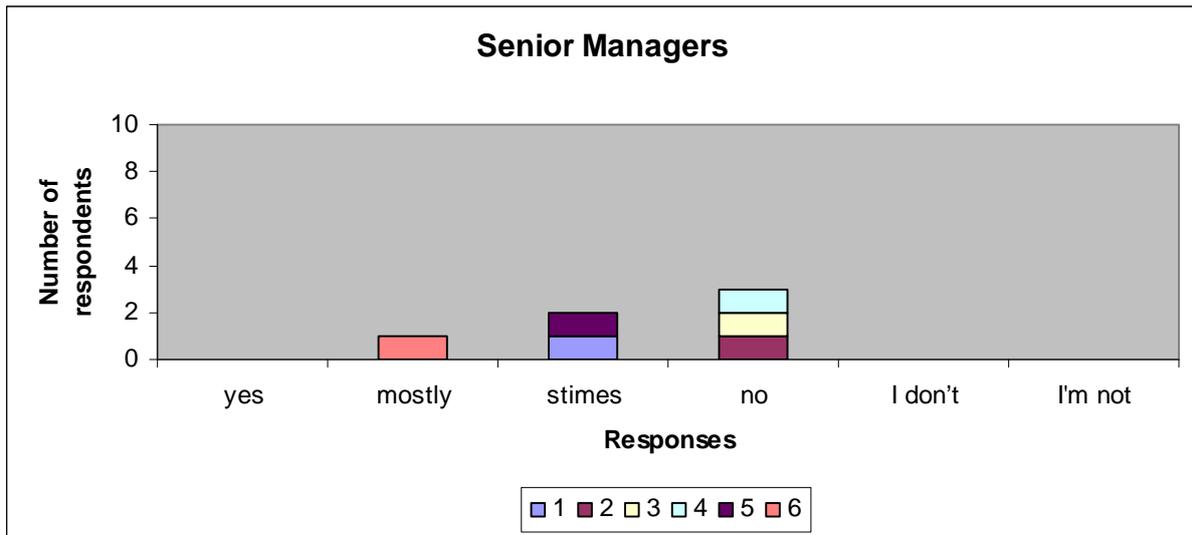
3/6 senior managers selected 'no, this is not correct'

2/6 senior managers selected 'sometimes true but mostly not'

1/6 senior managers selected 'mostly true but sometimes not'

Middle Managers (15):

2/15 middle managers did not respond to this question

4/15 middle managers selected 'mostly true but sometimes not'

4/15 middle managers selected 'no, this is not correct'

2/15 middle managers selected 'sometimes true but mostly not'

1/15 middle managers selected ''yes'

1/15 middle managers selected 'I am not informed enough to respond'

1/15 middle managers selected 'I don't understand the statement'

Overall results of Question 11 (Both senior and middle managers- 21 in total):
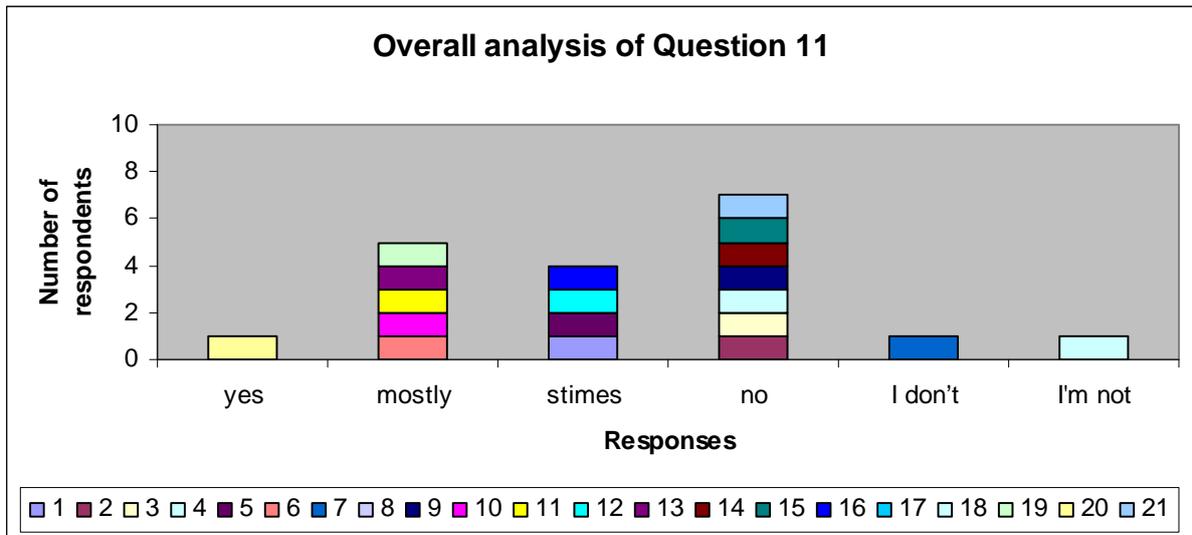
2/21 did not respond to this statement

7/21 respondents selected 'no, this is not correct'

5/21 respondents selected 'mostly true but sometimes not'

4/21 respondents selected 'sometimes true but mostly not'

1/21 respondents selected 'yes, this I'

1/21 respondents selected 'I'm not informed enough to respond

1/21 respondents selected 'I don't understand the statement'

Question 12:

My department practices a formal system of sophisticated storytelling

Senior Managers (6):
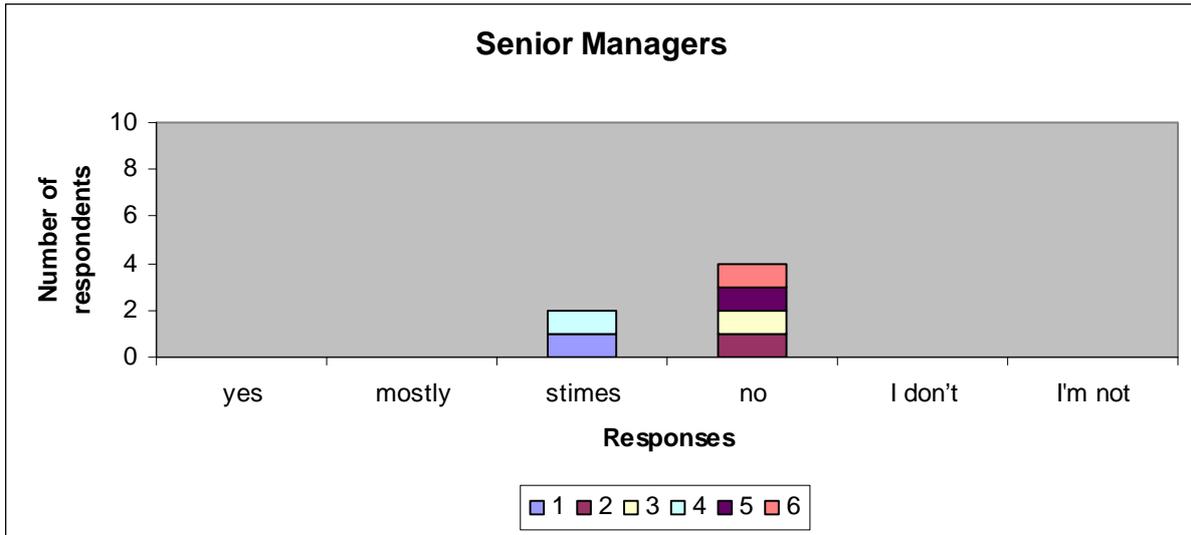
Senior Managers

4/6 senior managers selected 'no, this is not correct'

2/6 senior managers selected 'sometimes true but mostly not'

Middle Managers (15):
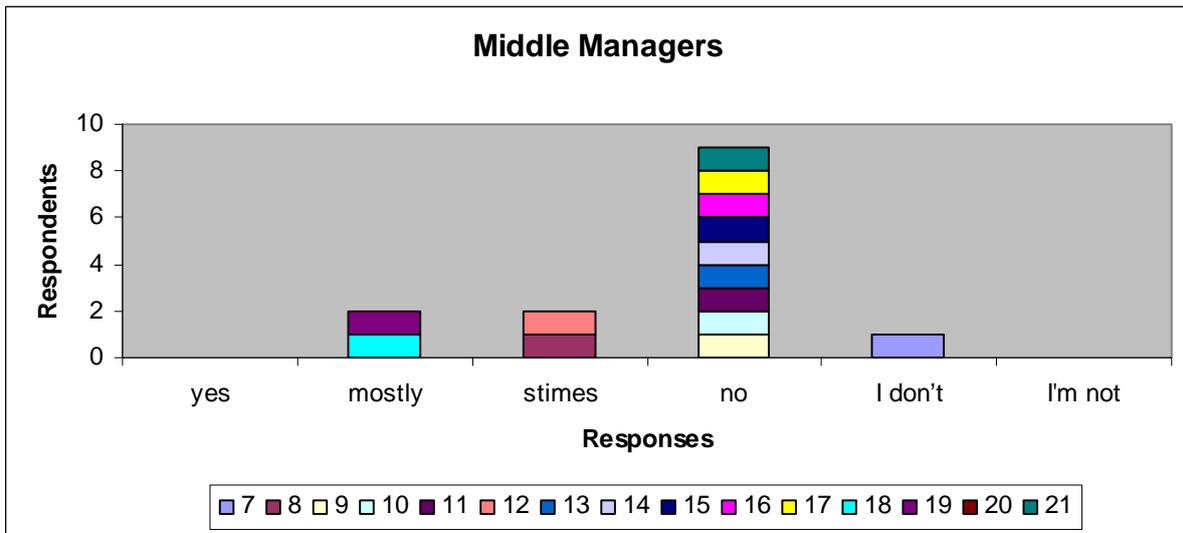
Middle Managers

1/15 middle managers did not respond to this question

9/15 middle managers selected 'no, this is incorrect'

2/15 middle managers selected 'mostly true but sometimes not'

2/15 middle managers selected 'sometimes true but mostly not'

1/15 middle managers selected 'I don't understand the statement'

Overall results of question 12 (both senior managers and middle managers- 21 in total):

Overall Analysis of Question 12
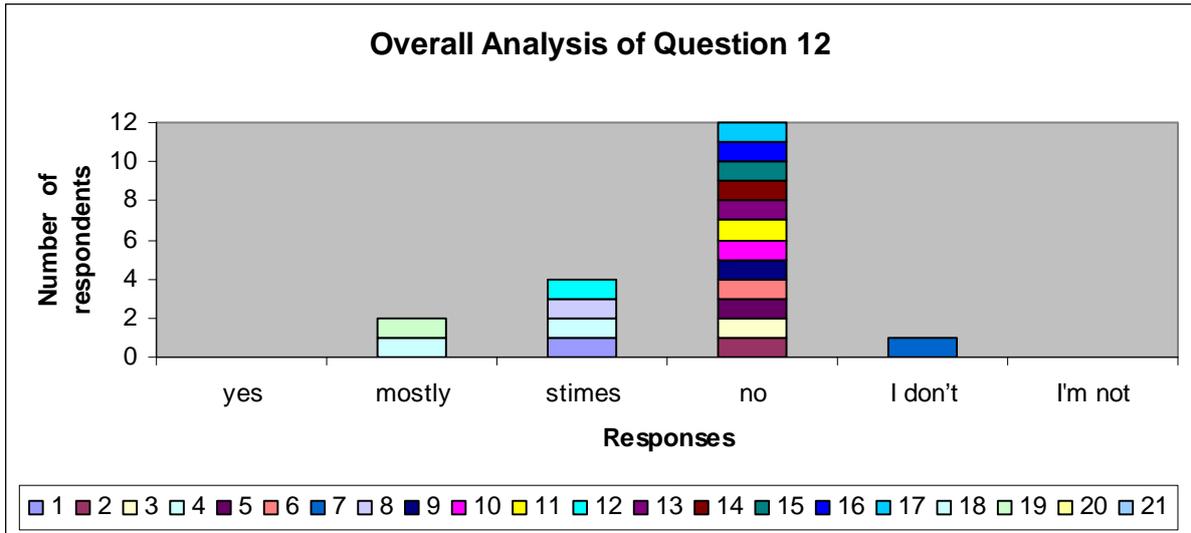
1/21 respondents did not respond to this statement'

13/21 respondents selected 'no, this is not correct'

4/21 respondents selected 'sometimes true but mostly not'

2/16 respondents selected 'mostly true but sometimes not'

1/21 respondents selected 'I don't understand the statement'

Question 13

User-friendly cognitive modelling tools such as C Map is routinely used in the department
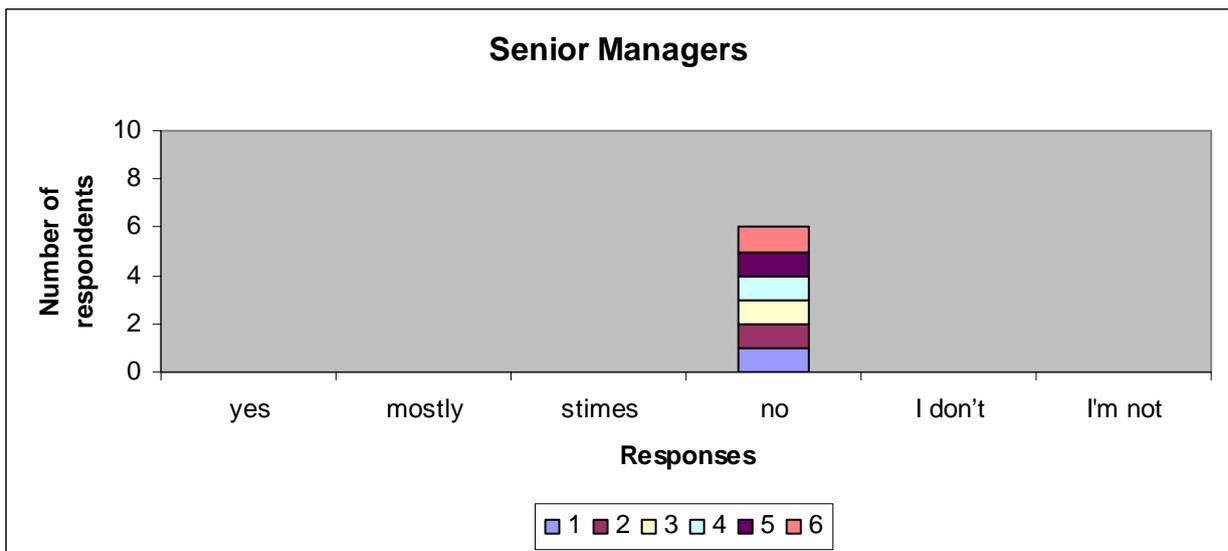
Senior Managers(6):

6/6senior managers selected 'No, this is incorrect'

Middle Managers (12):
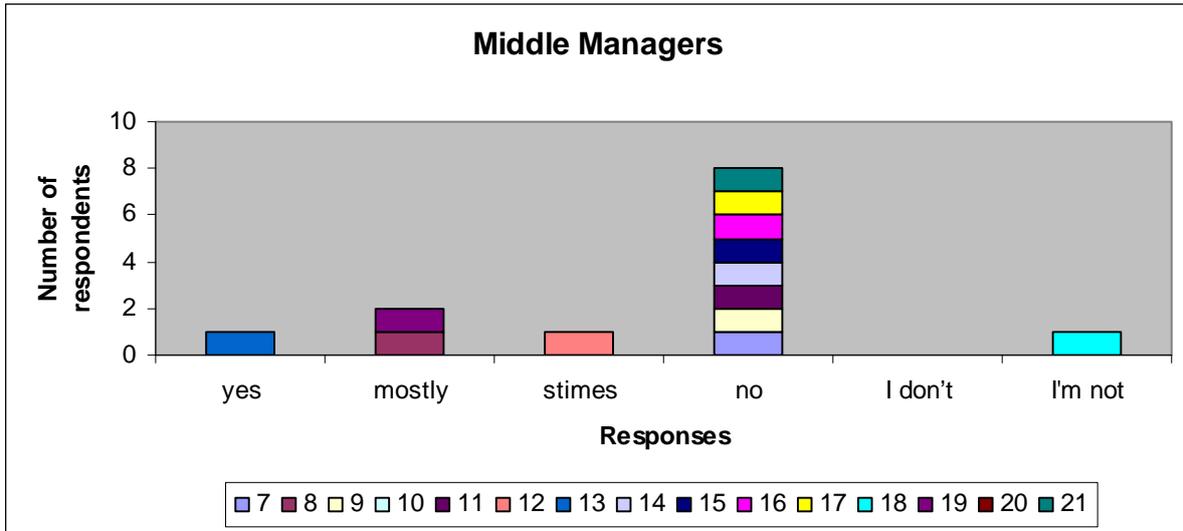
Middle Managers

2/15 middle managers did not respond to this question

8/15 middle managers selected 'no, this is not correct'

2/15 middle managers selected 'mostly true but sometimes not'

1/15 middle managers selected 'yes'

1/15 middle managers selected 'sometimes true but mostly not'

1/15 middle managers selected 'I'm not informed enough to respond'

Overall results of question 13 (Both senior managers and middle managers -21 in total)
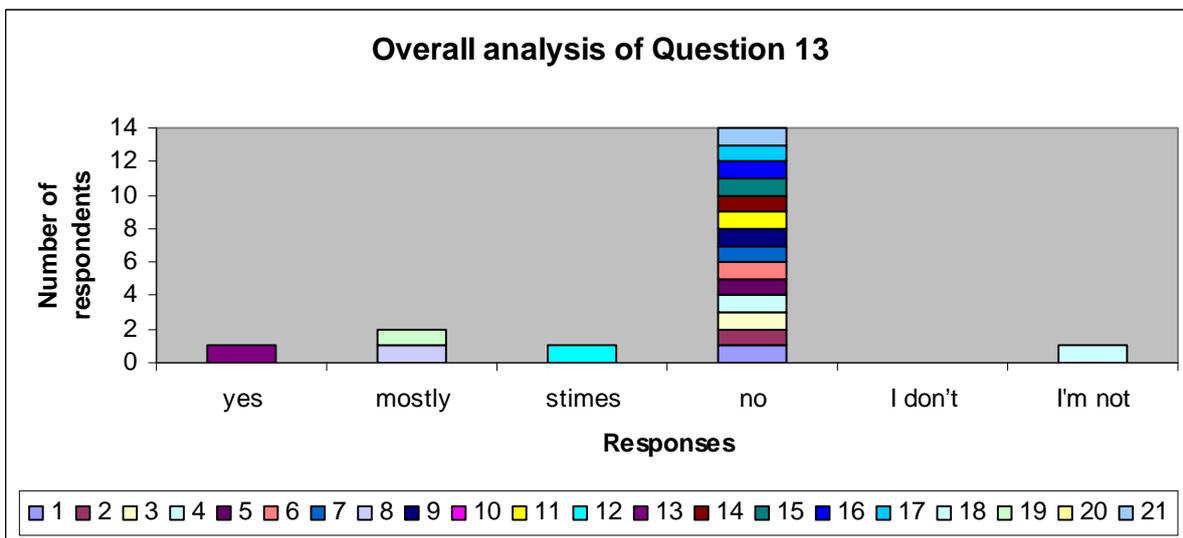
2/21 respondents did not respond to this question

14/21 respondents selected 'no, this is incorrect

2/21 respondents selected 'mostly true but sometimes not'

1/21 respondents selected 'yes'

1/21 respondents 'sometimes true but mostly not'

1/21 respondents selected 'I'm not informed enough to respond'

Question 14

A departmental wide programme of encouragement for all staff to grow their personal knowledge capacities is operational

Senior Managers (6):
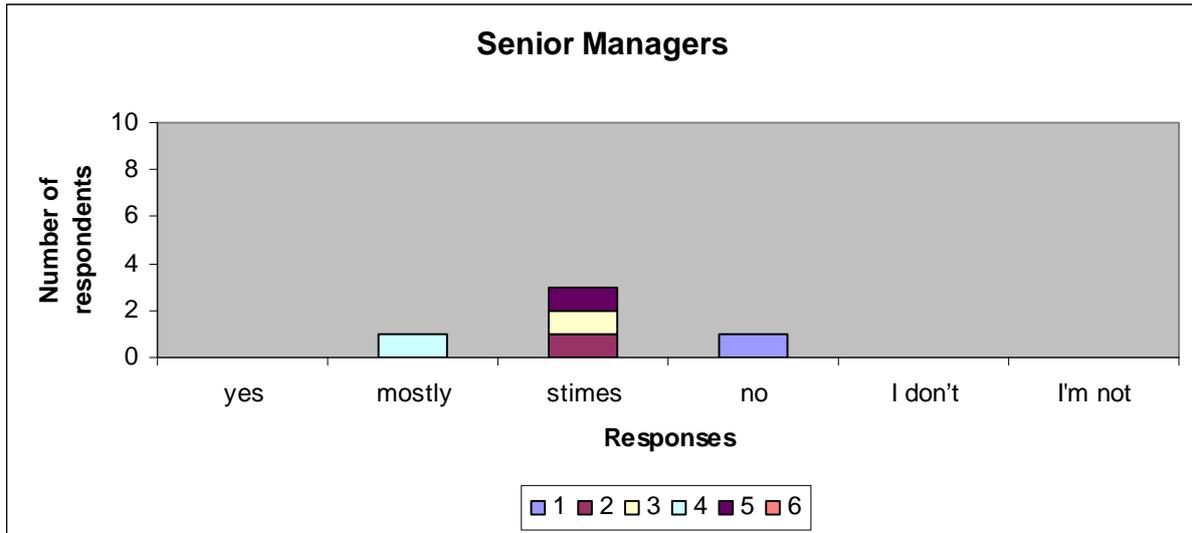
1/6 senior managers 'did not respond to this question'

3/6 senior managers selected 'sometimes true but mostly not'.

1/6 senior managers selected 'no, this is not correct'

1/6 senior managers selected 'mostly true but sometimes not'

Middle Managers (15):

1/15 middle managers did not respond to this question

5/15 middle managers selected 'sometimes true but mostly not'

3/15 middle managers selected 'mostly true but sometimes not'

3/15 middle managers selected 'yes'

1/15 middle managers selected 'no, this is not correct'

1/15 middle managers selected 'I don't understand the statement'
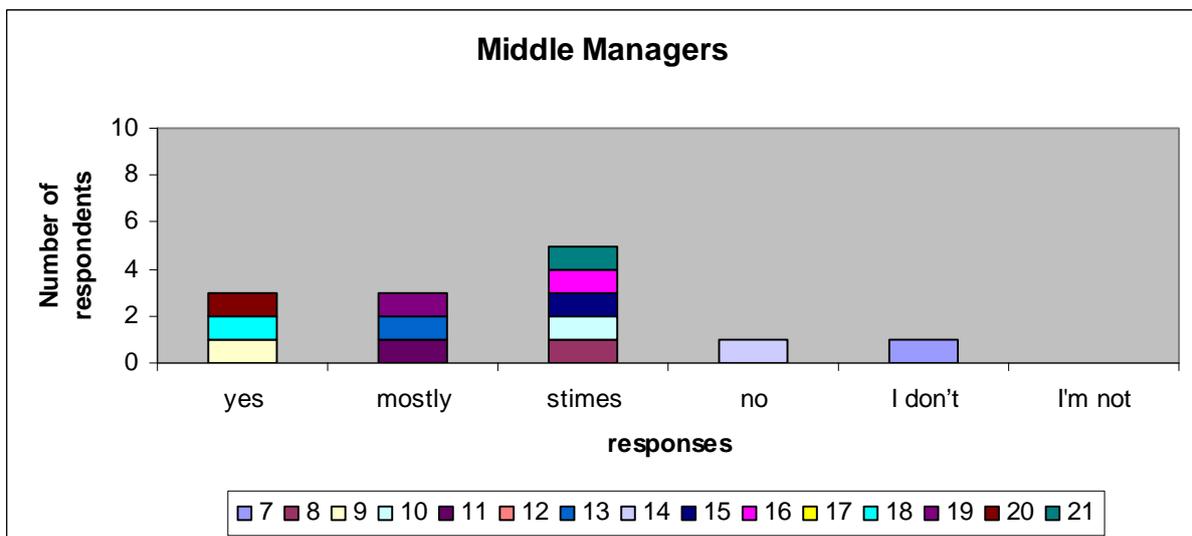
**Overall results of question 14 (Both senior managers and middle managers-21 in total):**
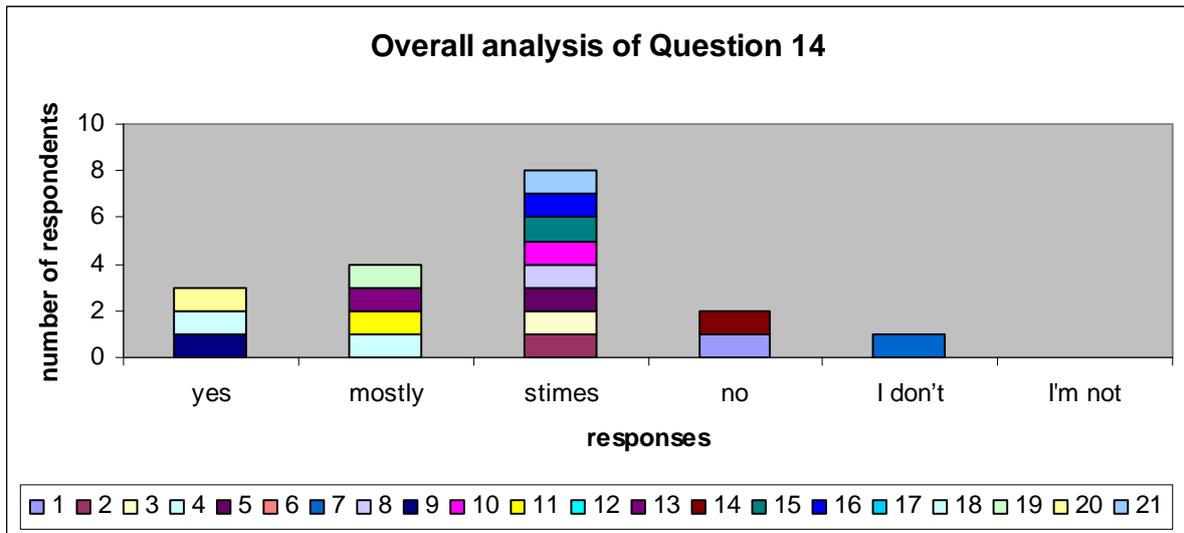
2/21 respondents did not respond to this question

8/21 respondents selected 'sometimes true but mostly not'

4/21 respondents selected 'mostly true but sometimes not'

3/21 respondents selected 'yes'

2/21 respondents selected 'no, this is not correct'

1/21 respondents selected 'I don't understand the statement'

Question 15

A solid Enterprise Management System is in operation

Senior Managers (6):
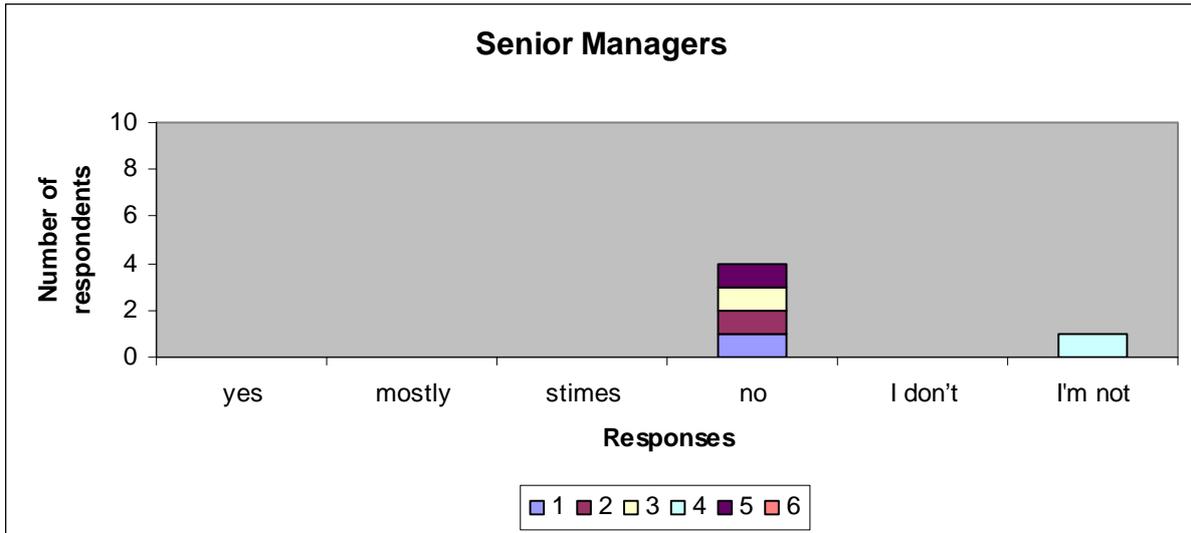
Senior Managers

1/6 senior managers did not respond to this question

4/6 senior managers selected 'no, this is not correct

1/6 senior managers selected 'I'm not informed enough to respond'

Middle Managers (15):

Middle Managers

1/15 middle managers did not respond to this question.

6/15 middle managers selected 'no, this is not correct'

3/15 middle managers selected 'sometimes true but mostly not'

2/15 middle managers selected 'mostly true but sometimes not'

2/15 middle managers selected 'yes'

1/15 middle managers selected 'I don't understand the statement'
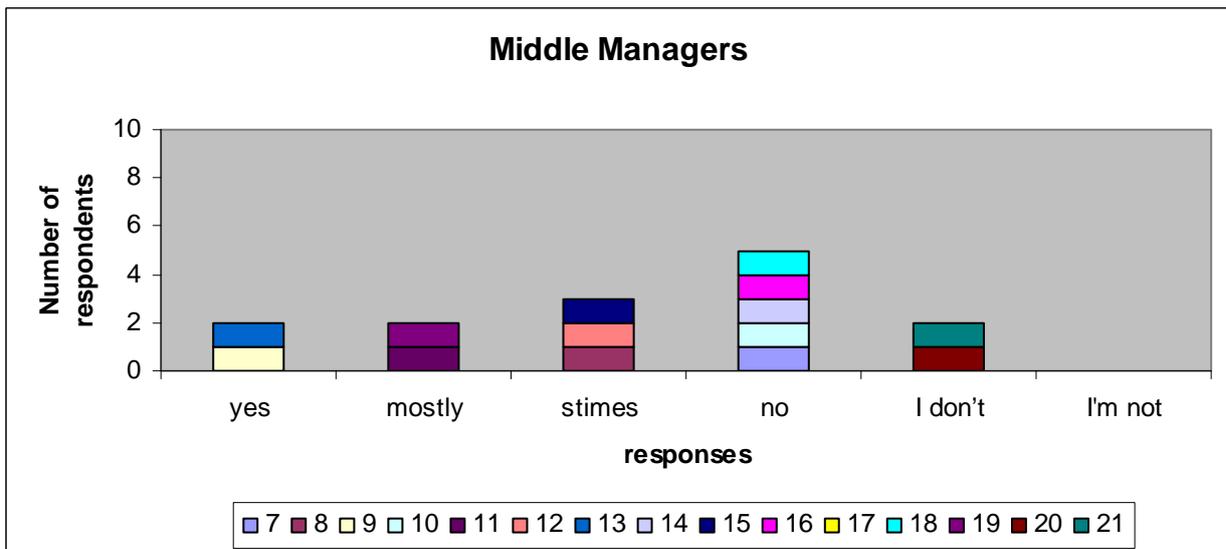
Overall results of Question 15 (Both senior managers and middle managers- 21 in total):

Overall analysis of Question 15
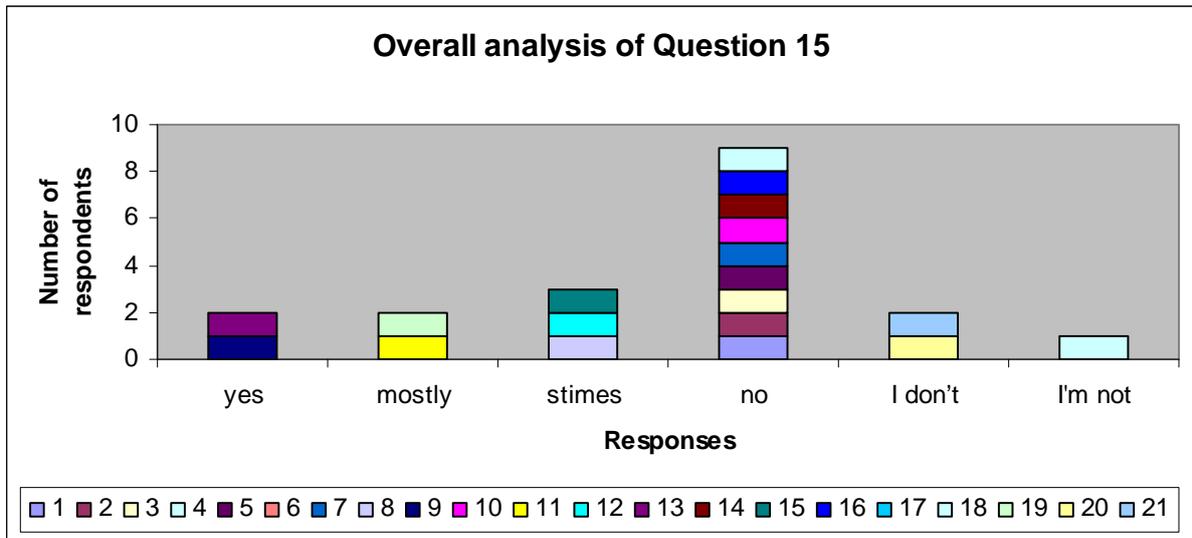
2/21 respondents did not respond to this question.

10/21 respondents selected 'no, this is not correct'

3/21 respondents selected 'sometimes true but mostly not'

2/21 respondents selected 'mostly true but sometimes not'

2/21 respondents selected 'yes'

1/21 respondents selected 'I don't understand the statement'

1/21 respondents selected 'I'm not informed enough to respond'.

Question16

The department has a dedicated working group of experts to develop artificial intelligence products for the department

Senior Managers (6):
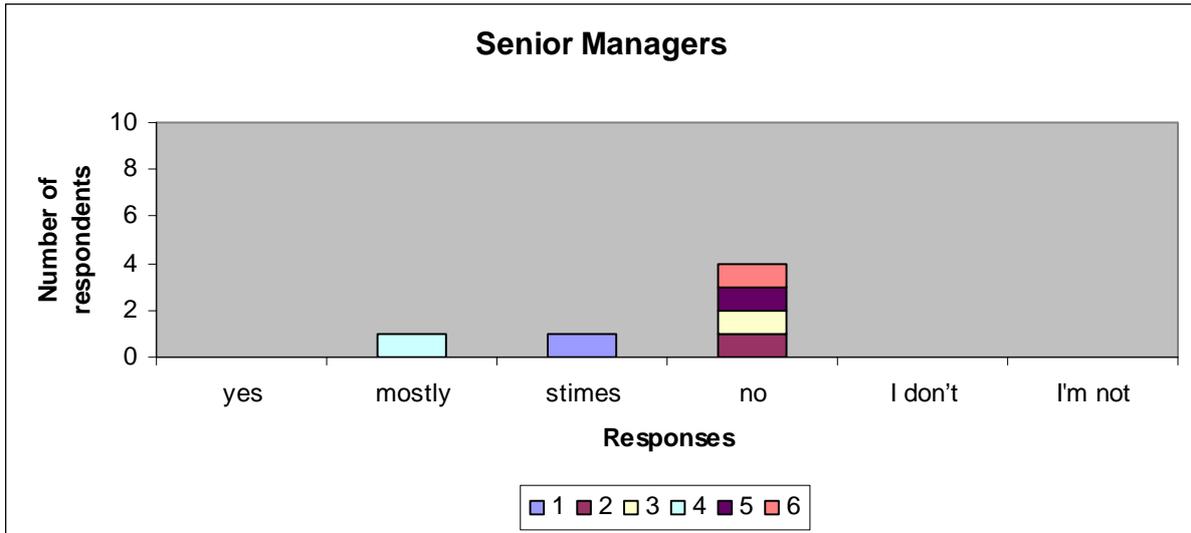
Senior Managers

4/6 senior managers selected 'no, this is not correct'

1/6 senior managers selected 'mostly true but sometimes not'

1/6 senior managers selected 'sometimes true but mostly not'
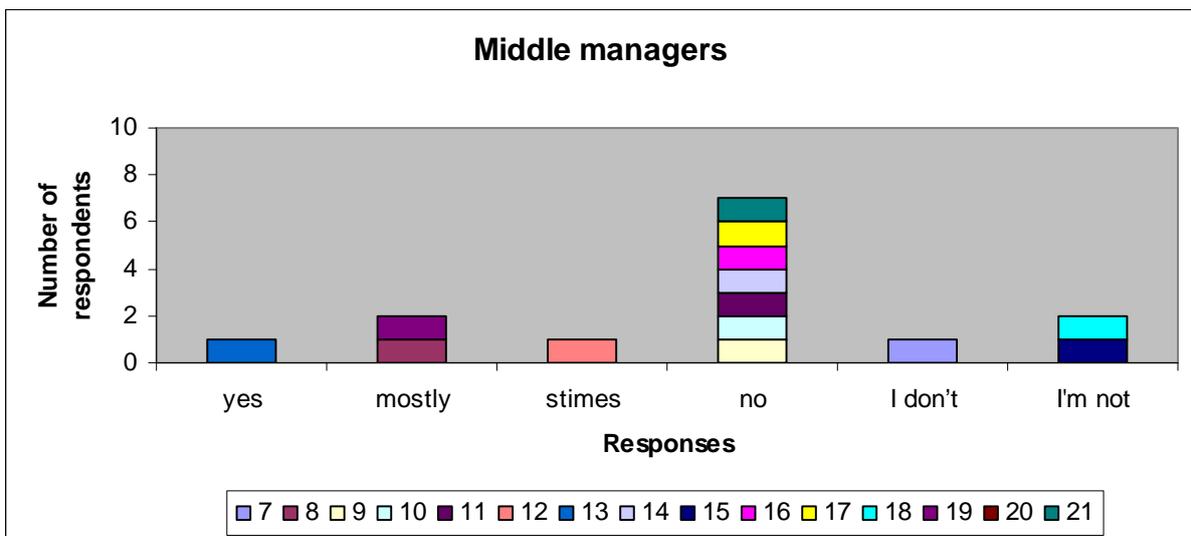
Middle Managers (15):

1/15 middle managers did not respond to this question

7/15 middle managers selected 'no, this is not correct'

2/15 middle managers selected 'mostly true but sometimes not'.

2/15 middle managers selected 'I'm not informed enough to respond'

1/15 middle managers selected 'Sometimes true but mostly not'

1/15 middle managers selected 'I don't understand the statement'

1/15 middle managers selected 'yes'

Overall results of Question 16 (both senior managers and middle managers- 21 in total):
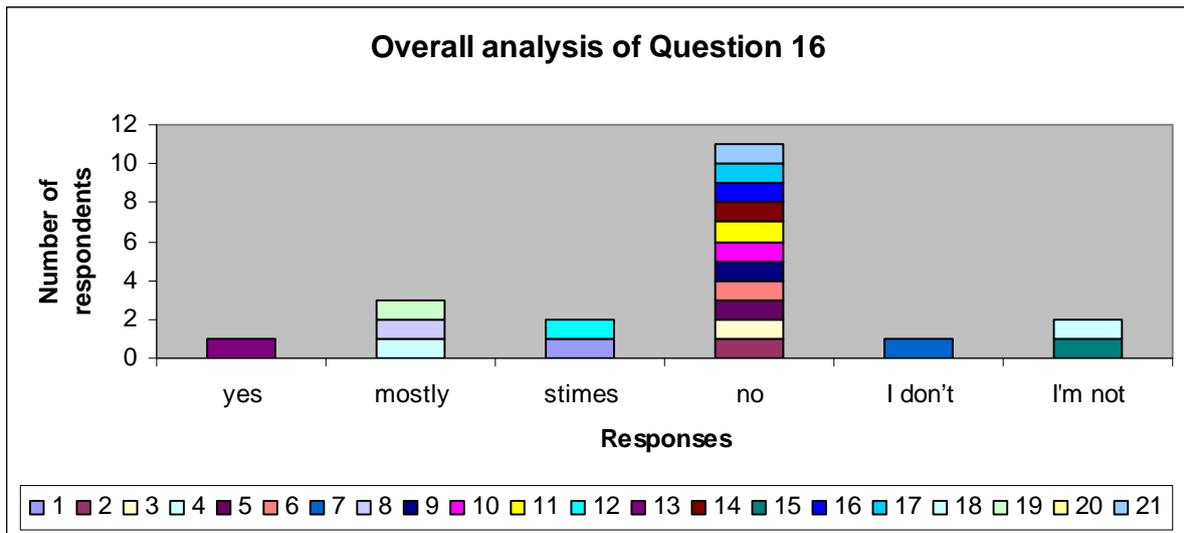
1/21 respondents did not respond to this question

11/21 respondents selected 'no, this is not correct'

3/21 respondents selected 'mostly true but sometimes not'.

2/21 respondents selected 'I'm not informed enough to respond'

2/21 respondents selected 'Sometimes true but mostly not'

1/21 respondents selected 'I don't understand the statement'

1/21 respondents selected 'yes'

Question 17

The department follows a broad based practice of learning through shadowing

Senior Managers (6):
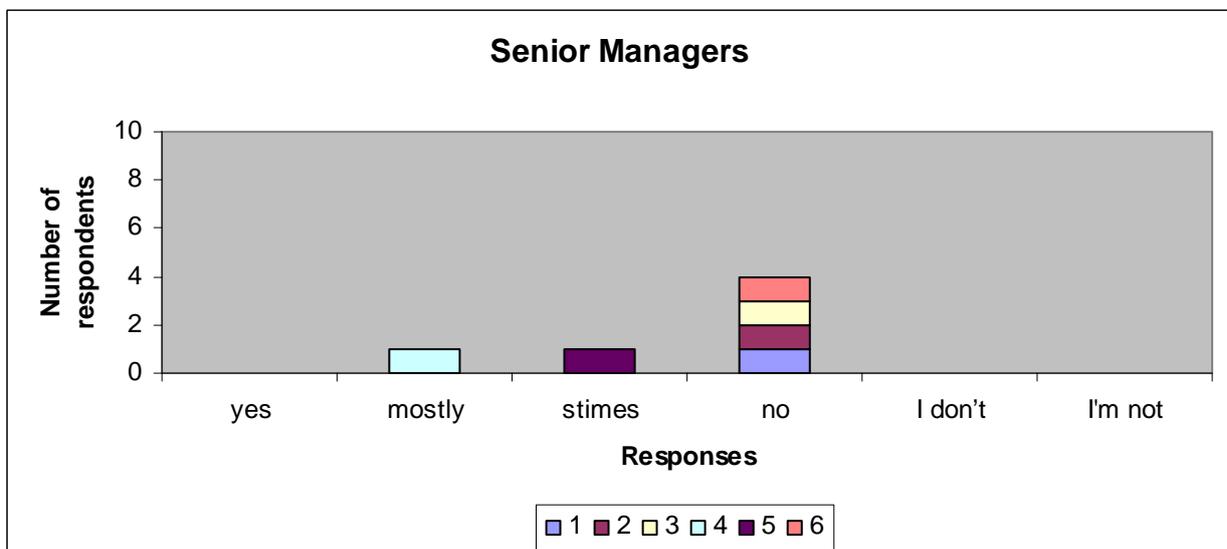
4/6 senior managers selected 'no, this is not correct

1/6 senior managers selected 'mostly true but sometimes not'

1/6 senior managers selected 'sometimes true but mostly not'.
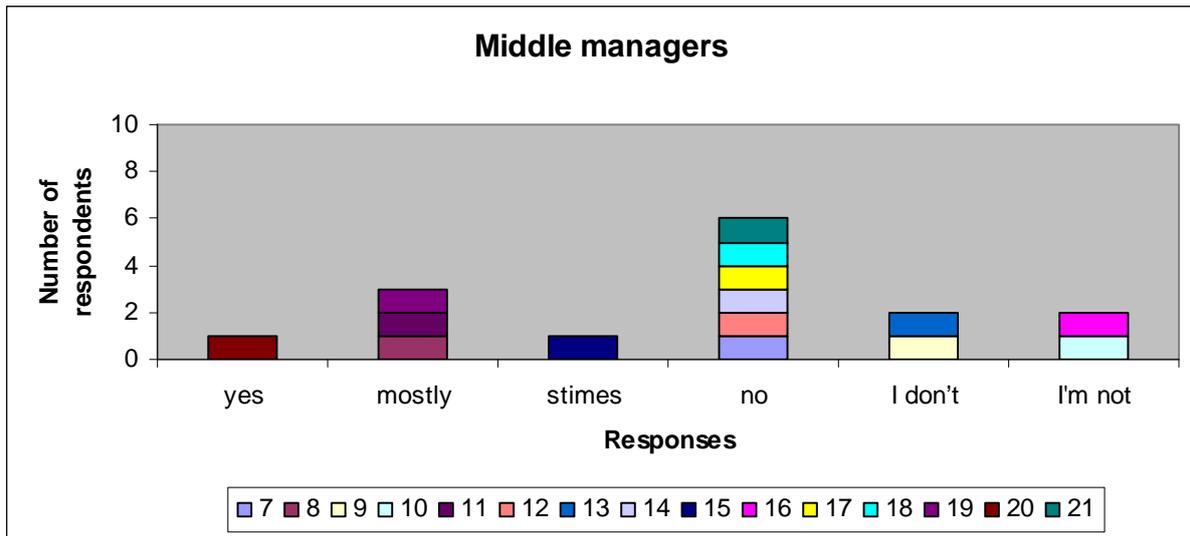
Middle Managers (15):

6/15 middle managers selected 'no, this is not correct

3/15 middle managers selected 'mostly true but sometimes not'.

2/15 middle managers selected 'I don't understand the statement'

2/15 middle managers selected' 'I'm not informed enough to respond'

1/15 middle managers selected 'yes'

1/15 middle managers selected 'sometimes true but mostly not'

Overall results of Question 17(Both senior and middle managers- 21 in total):
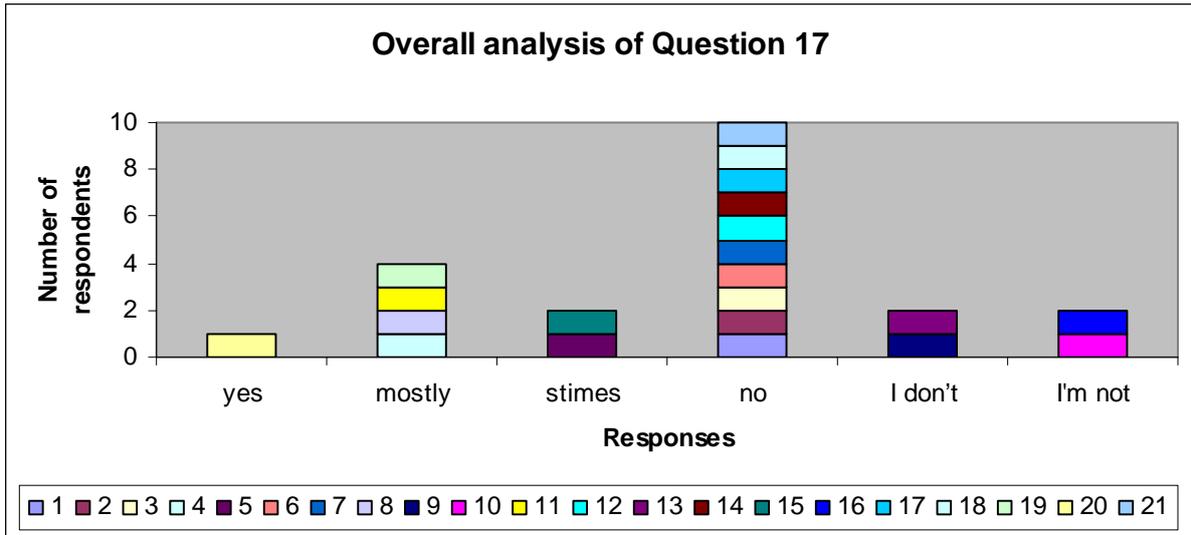
Overall analysis of Question 17

11/21 respondents selected 'no, this is not correct

4/21 respondents selected 'mostly true but sometimes not'.

2/21 respondents selected 'sometimes true but mostly not'

2/21 respondents selected 'I don't understand the statement'

2/21 respondents selected' 'I'm not informed enough to respond'

1/21 respondents selected 'yes'

Question 18

The work culture of the department allows for the spontaneous development of communities of practice

Senior Managers (6):
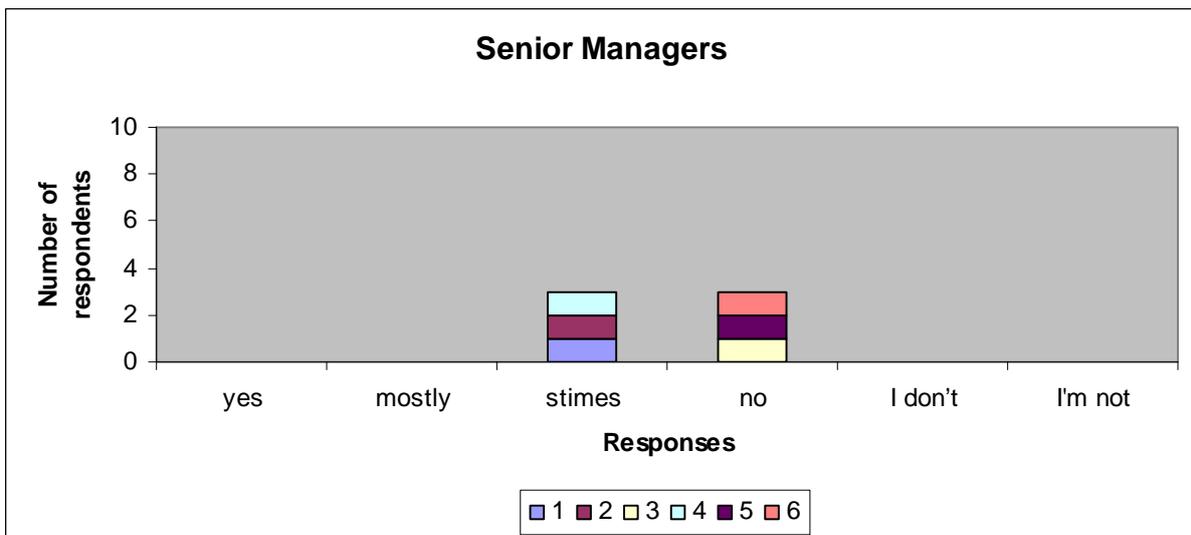
Senior Managers

3/6 senior managers selected 'no, this is not correct'

3/6 senior managers selected 'sometimes true but mostly not'
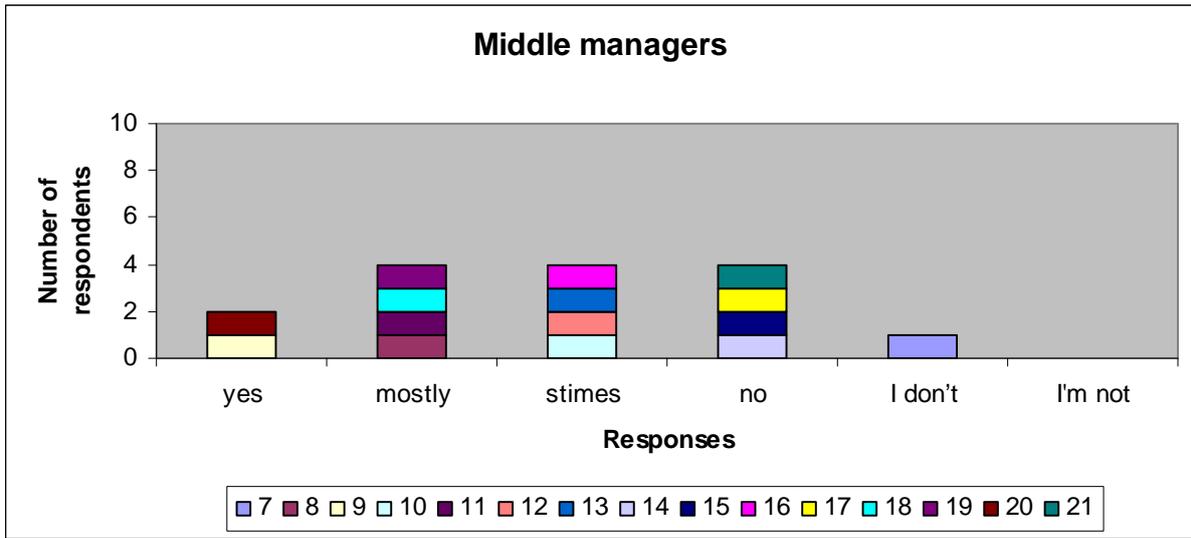
Middle Managers (15):

4/15 middle managers selected 'no, this is not correct'

4/15 middle managers selected 'sometimes true but mostly not'

4/15 middle managers selected 'mostly true but sometimes not'

2/15 middle managers selected 'yes'

1/15 middle managers selected 'I don't understand the statement'

Overall results of Question 18 (Both senior managers and middle managers- 21 in total):
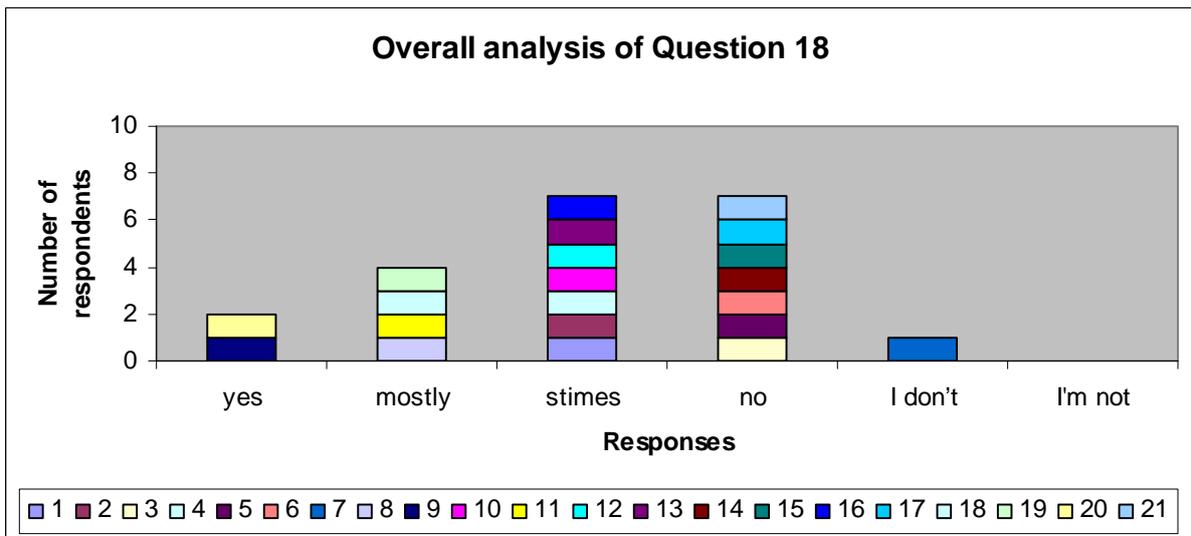
7/21 respondents selected 'no, this is not correct'

7/21 respondents selected 'sometimes true but mostly not'

4/21 respondents 'mostly true but sometimes not'

2/21 respondents selected 'yes'

1/21 respondents selected 'I don't understand the statement.

Question 19.

The work ethic in the department is such that spontaneous communities of practice emerge regularly

Senior Managers (6):
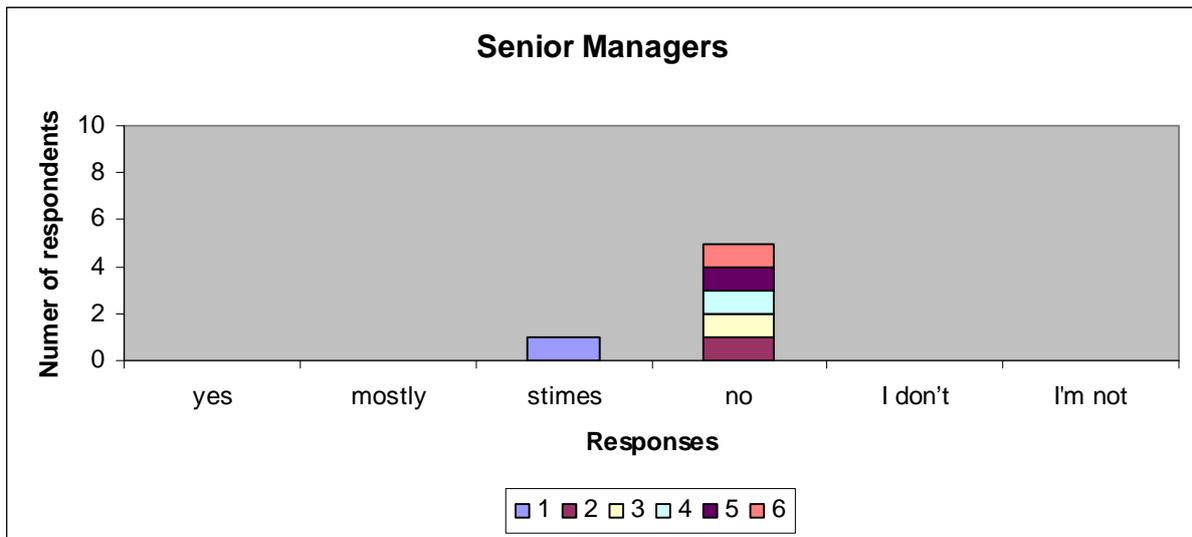
5/6 senior managers selected 'no, this is not correct'

1/6 senior managers selected 'sometimes true but mostly not'
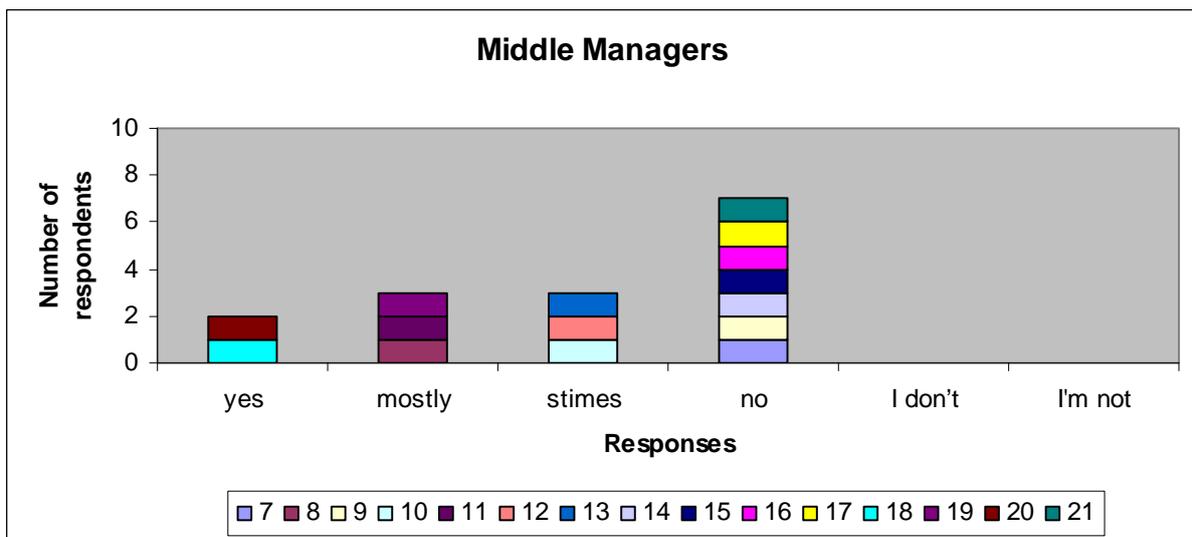
Middle Managers (15):

7/15 middle managers selected 'no, this is not correct

3/15 middle managers selected 'sometimes true but mostly not'

3/15 middle managers selected 'mostly true but sometimes not'

2/15 middle managers selected 'yes'

Overall results of Question 19 (Both senior managers and middle managers- 21 in total):
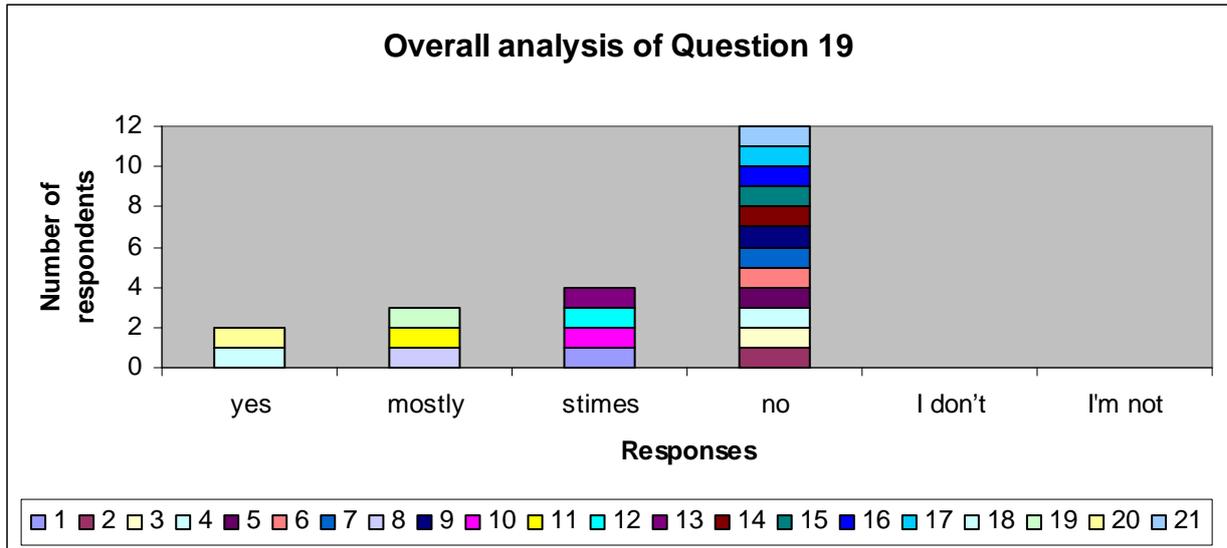
12/21 respondents selected 'no, this is not correct

4/21 respondents selected 'sometimes true but mostly not'

3/21 respondents selected 'mostly true but sometimes not'

2/21 respondents selected 'yes'

Question 20:

In my opinion, in order to establish KM in the department, a knowledge based system/Expert system is a prerequisite

Senior Managers (6):
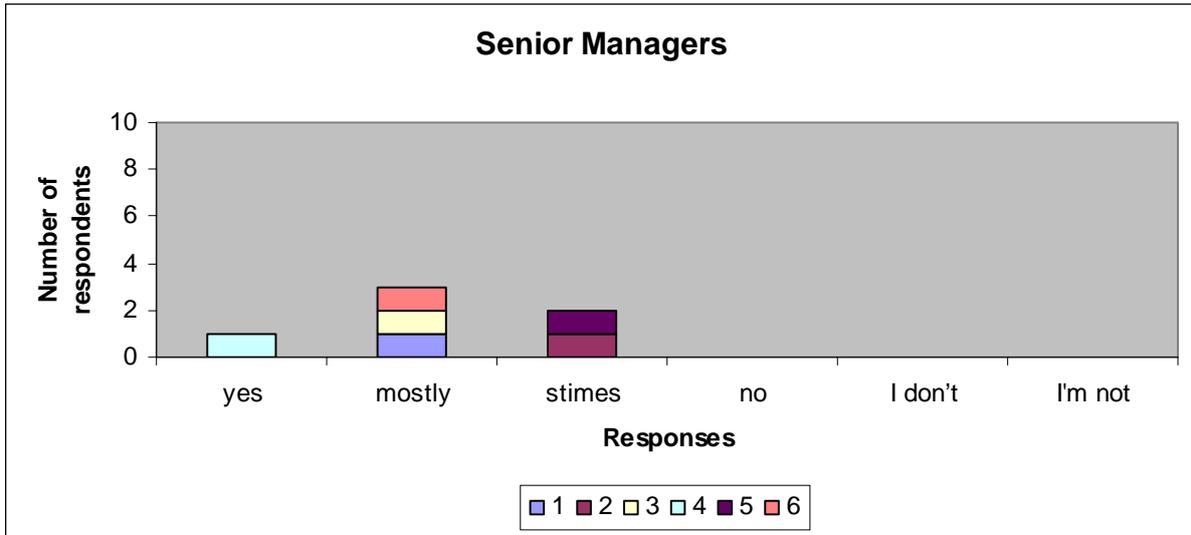
3/6 senior managers selected 'mostly true but sometimes not'

2/6 senior managers selected 'sometimes true but mostly not'

1/6 senior managers selected 'yes'

Middle Managers (15):
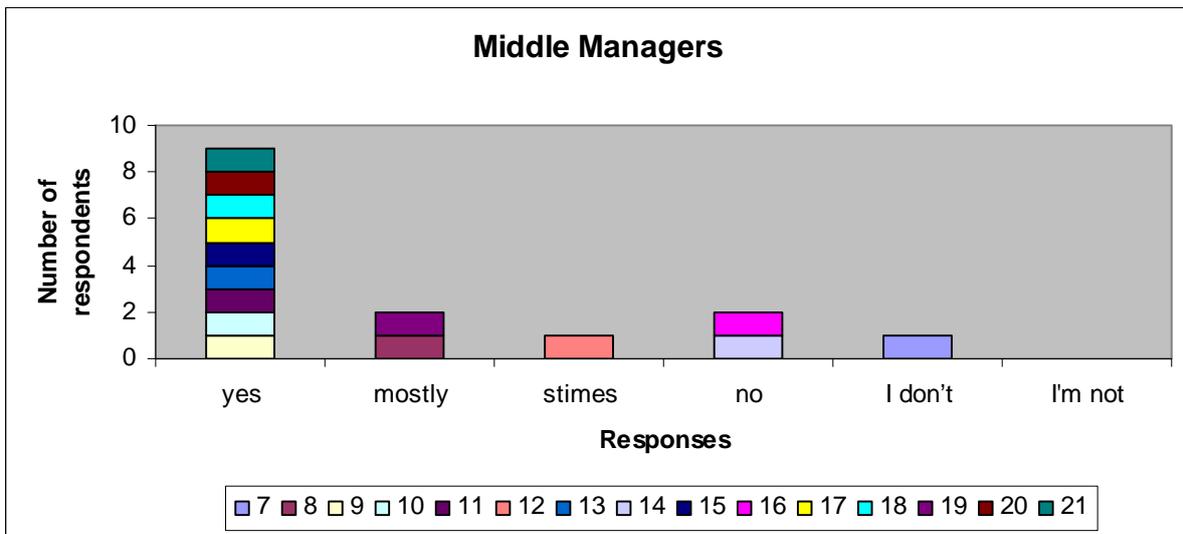
9/15 middle managers selected 'yes'

2/15 middle managers 'selected mostly true but sometimes not'

2/15 middle managers selected 'no, this is not correct'

1/15 middle managers selected 'sometimes true but mostly not'

1/15 middle managers selected' I don't understand the statement'

Overall results of question 20 (Both senior managers and middle managers- 21 in total):
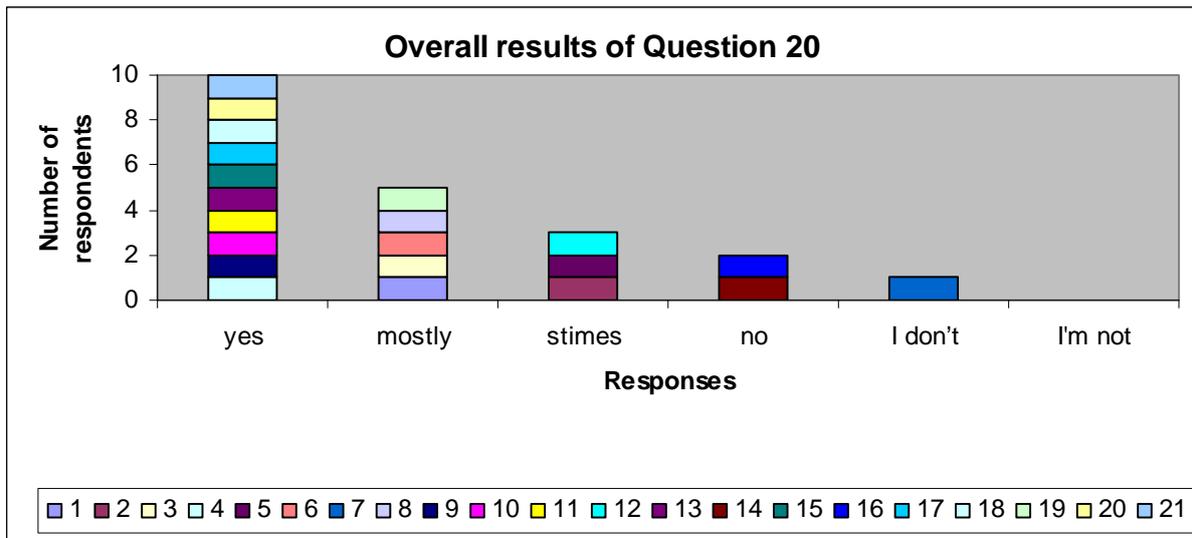
10/21 respondents selected 'yes'

5/21 respondents 'selected mostly true but sometimes not'

2/15 middle managers selected 'no, this is not correct'

3/21 respondents selected 'sometimes true but mostly not'

1/21 respondents selected' I don't understand the statement'

Question 21

A commercial knowledge based system/ expert system is already in operation in the department
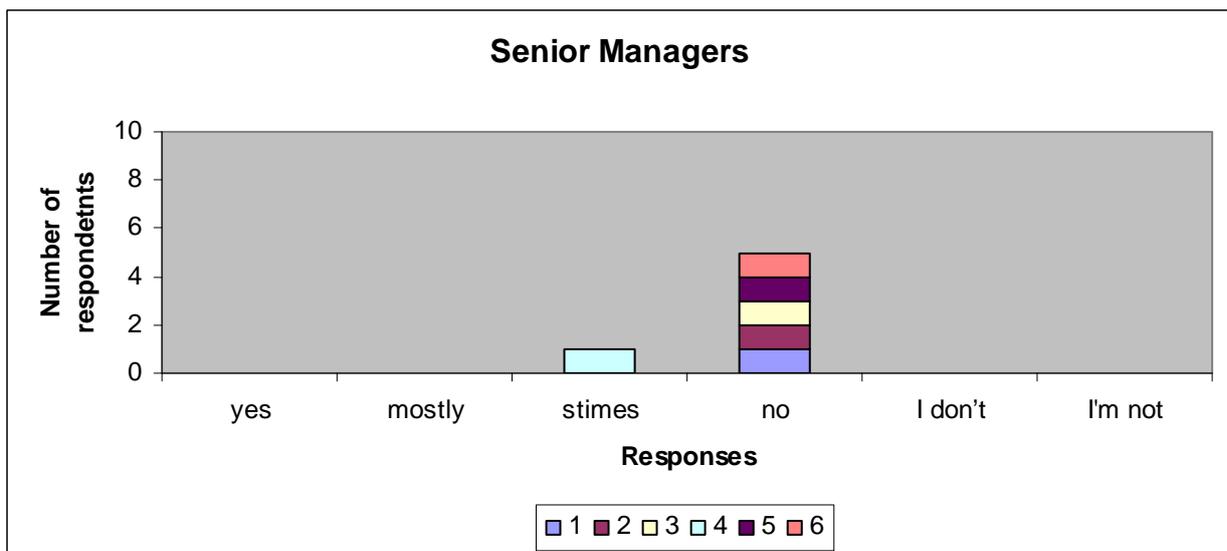
Senior Managers (6):

5/6 senior managers selected 'no, this is incorrect'

1/6 senior managers selected 'sometimes true but mostly not'
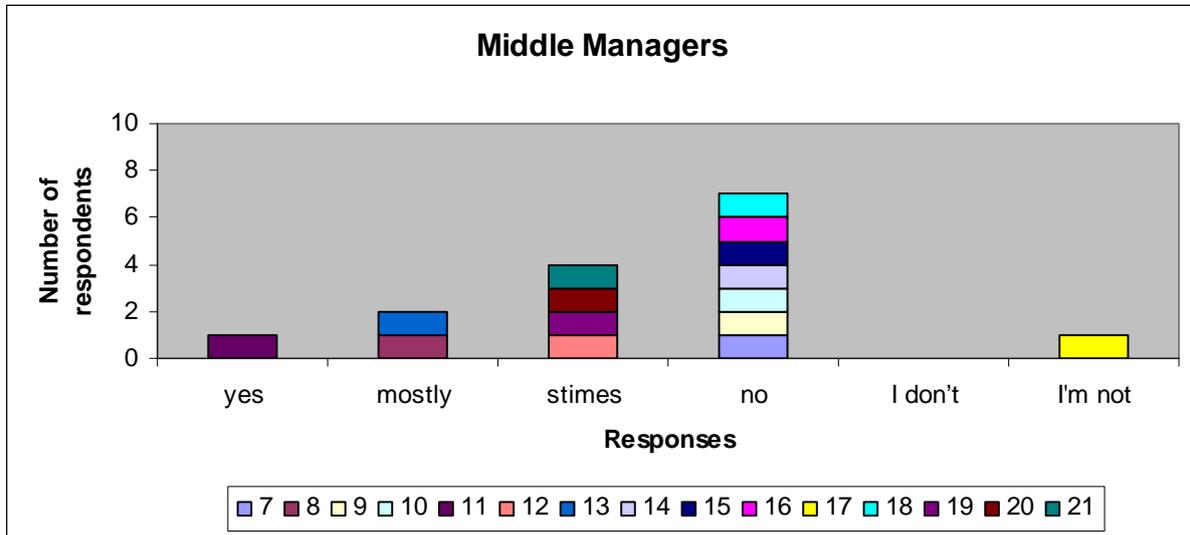
Middle Managers (15):

8/15 middle managers selected 'no, this is not correct'

3/15 middle managers selected 'sometimes true but mostly not'

2/15 middle managers selected 'mostly true but sometimes not'

1/15 middle managers selected 'yes'

1/15 middle managers selected 'I'm not informed to respond to this statement'

Overall results of Question 21 (Both senior managers and middle managers- 21 in total):
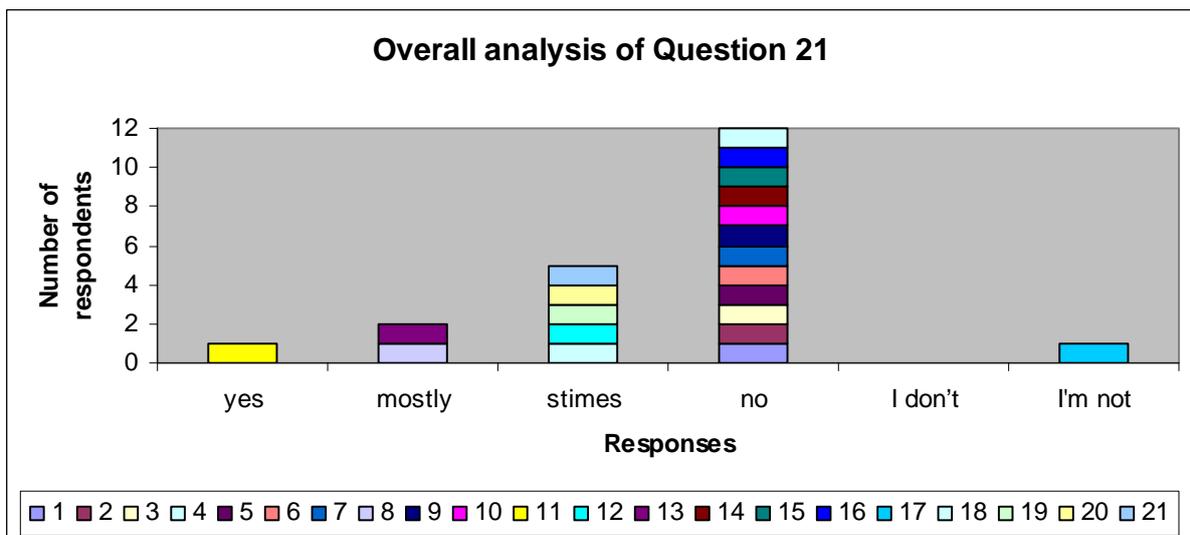
13/21 respondents selected 'no, this is not correct'

4/21 respondents selected 'sometimes true but mostly not'

2/21 respondents selected 'mostly true but sometimes not'

1/21 respondents selected 'yes'

1/21 respondents selected 'I'm not informed to respond to this statement'

Question 22

**We have developed our own Knowledge based/expert system in our department**

Senior Managers (6):
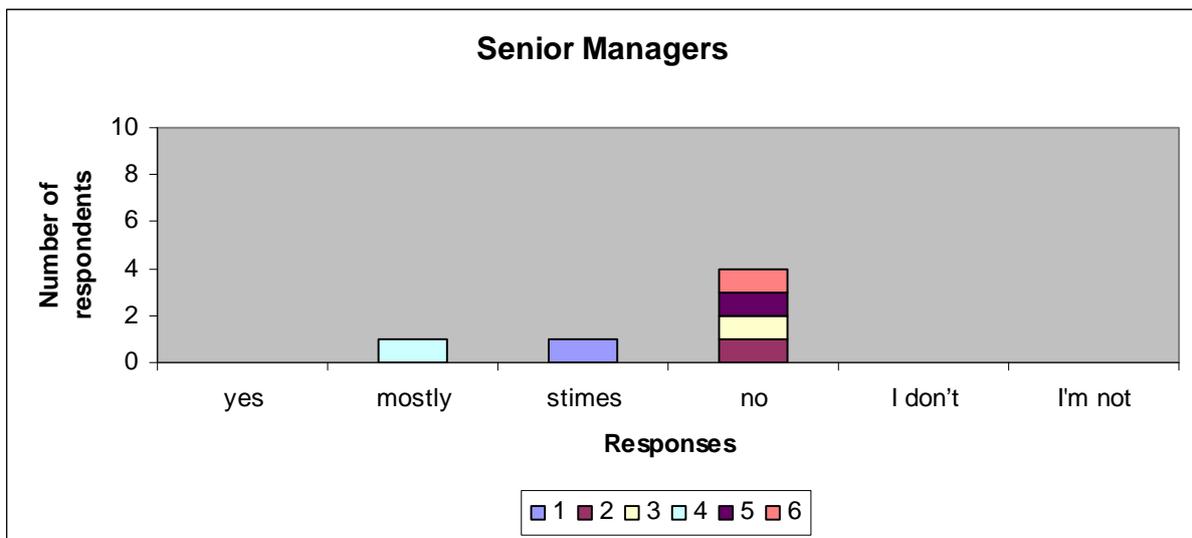
4/6 senior managers selected 'no, this is not correct'

1/6 senior managers selected 'mostly true but sometimes not'

1/6senior managers selected 'sometimes true but mostly not'

Middle Managers (15):

11/21 respondents selected 'no, this is incorrect'

4/21 respondents selected mostly true but sometimes not'

3/21 respondents selected 'sometimes true but mostly not'

1/21 respondents selected 'yes'

1/21 respondents selected 'I don't understand the statement'.

1/21 respondents selected 'I'm not informed enough to respond'
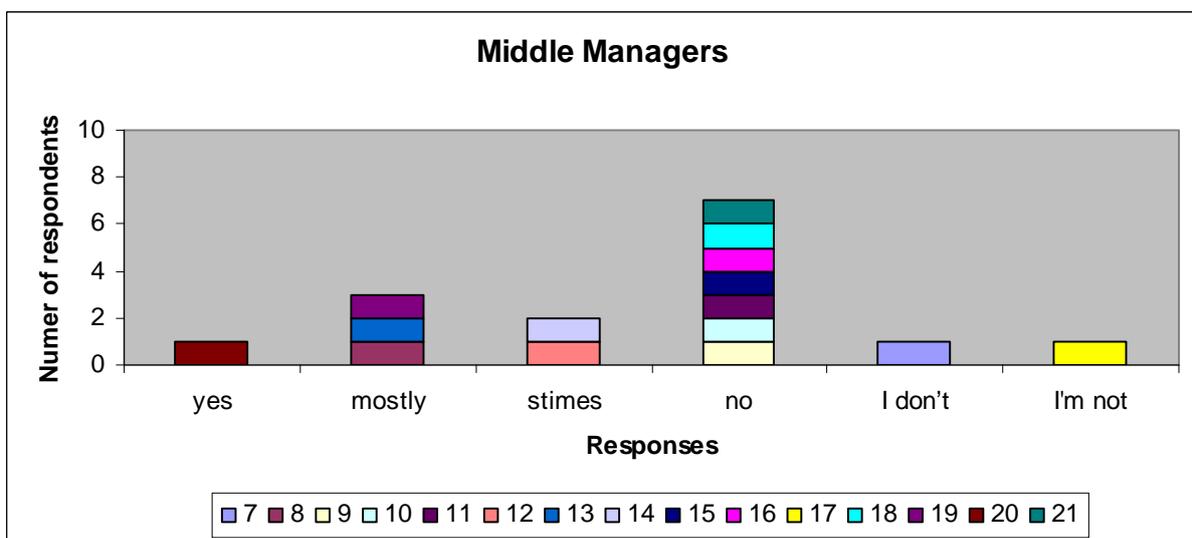
Overall results of Question 22 (Both senior managers and middle managers- 21 in total).
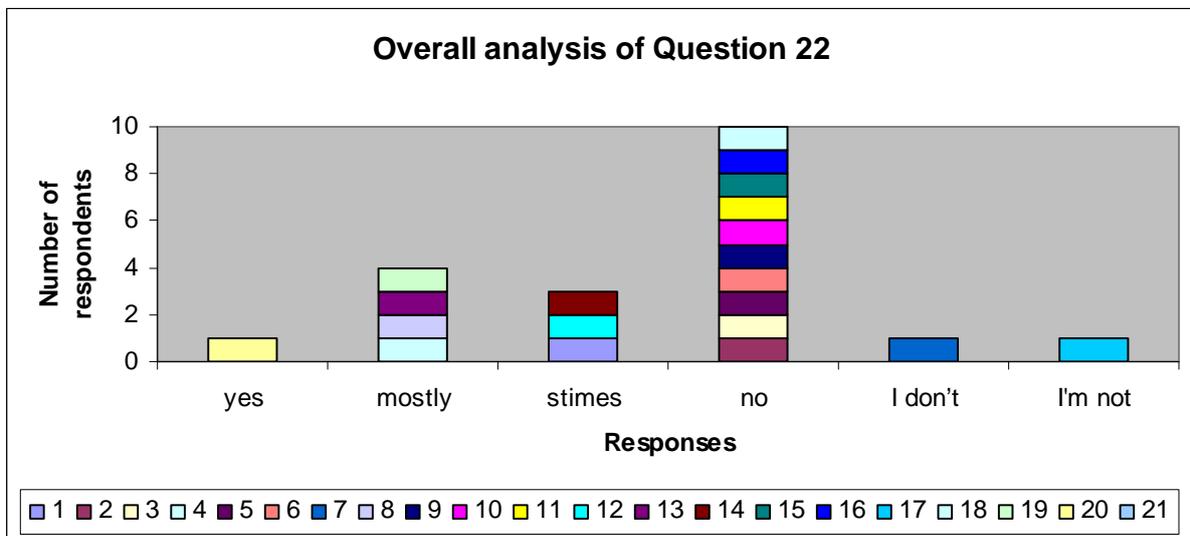
7/15 middle managers selected 'no, this is incorrect'

3/15 middle managers selected mostly true but sometimes not'

2/15 middle managers selected 'sometimes true but mostly not'

1/15 middle managers selected 'yes'

1/15 middle managers selected 'I don't understand the statement'.

1/15 middle managers selected 'I'm not informed enough to respond'

Question 23

The department has the skills to develop and maintain sophisticated Open Source software

Senior Managers (6):
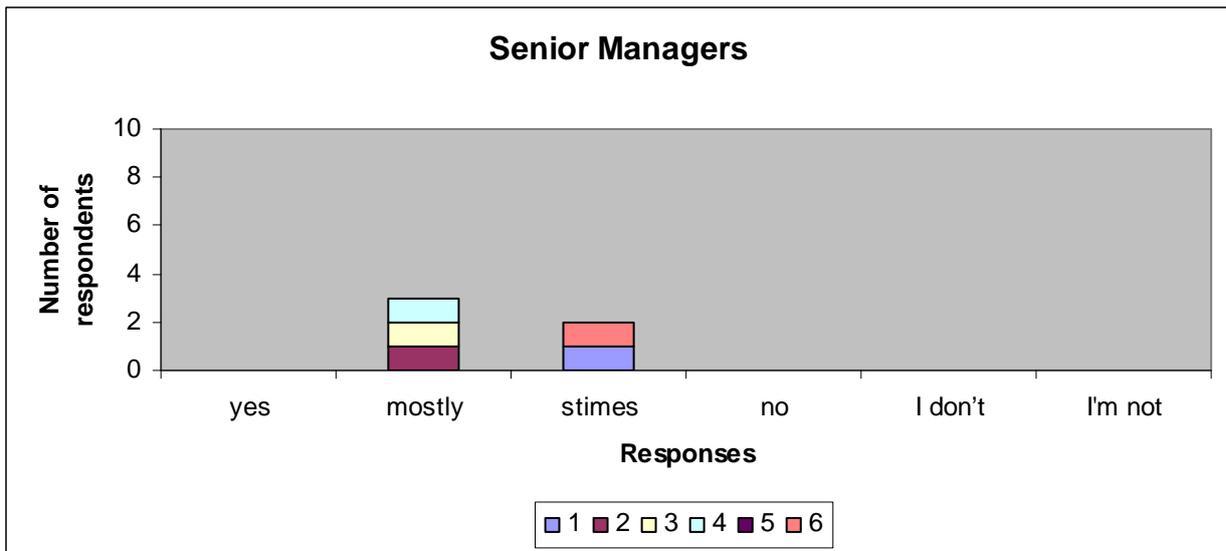
1/6 senior managers did not respond to this question

3/6 senior managers selected 'mostly true but sometimes not'

2/6 senior managers selected 'sometimes true but mostly not'
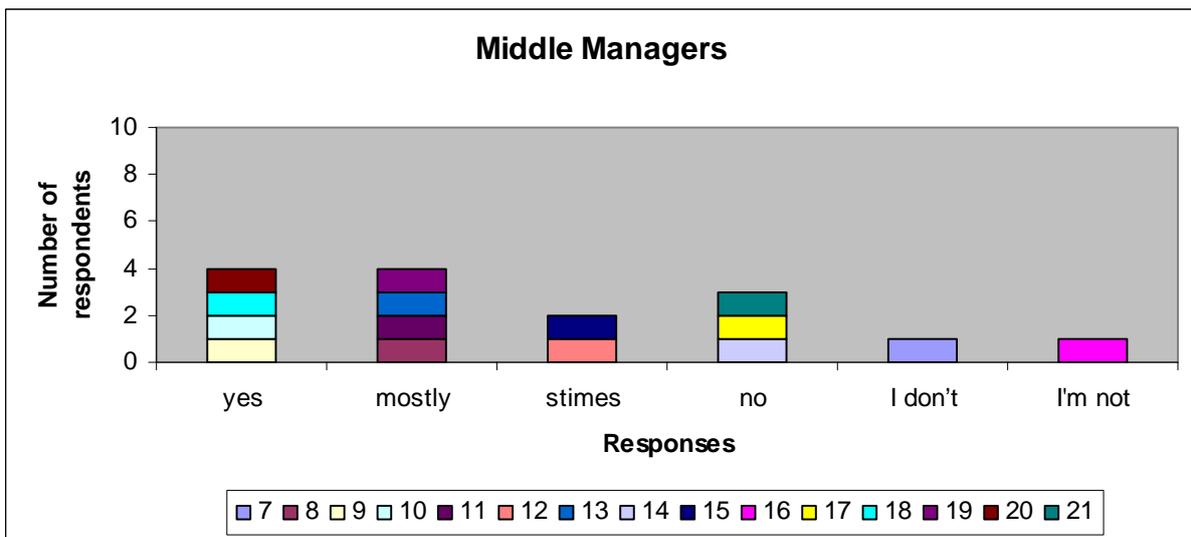
Middle Managers (12):

4/15 middle managers selected 'yes'

4/15 middle managers selected 'mostly true but sometimes not'

3/15 middle managers selected 'no, this is incorrect'

2/15 middle managers selected 'sometimes true but mostly not'

1/15 middle managers selected 'I'm not informed enough to respond'

1/15 middle managers selected 'I don't understand the statement'

Overall results of Question 23 (both senior managers and middle managers- 21 in total):
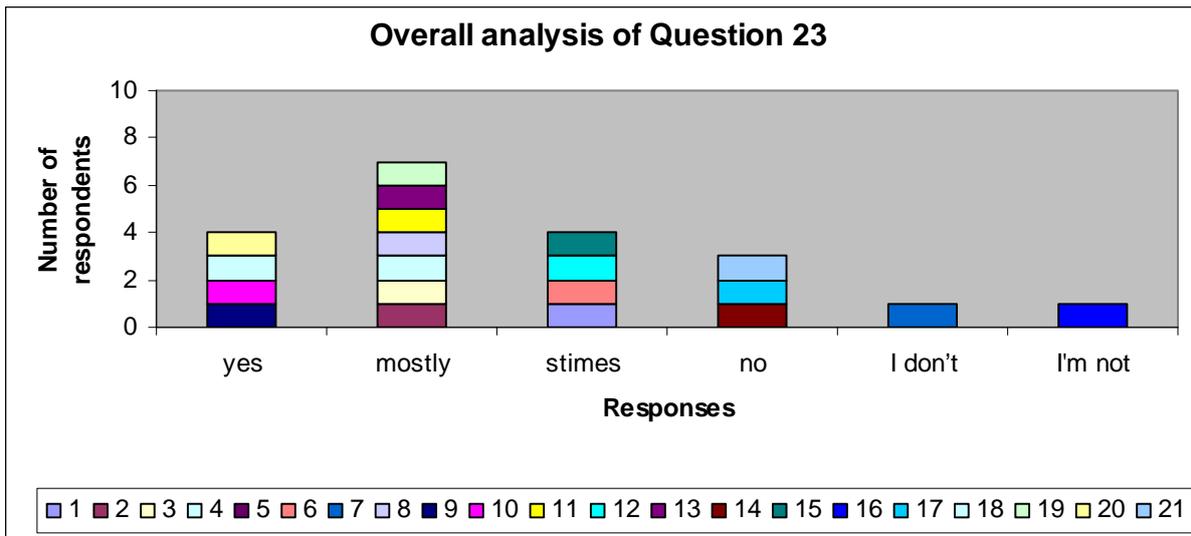
Overall analysis of Question 23

1/21 respondents did not respond to this question.

7/21 respondents selected 'mostly true but sometimes not'

4/21 respondents selected 'yes'

4/21 respondents selected 'sometimes true but mostly not'

3/21 respondents selected 'no, this is incorrect'

1/21 respondents selected 'I'm not informed enough to respond'

1/21 respondents selected 'I don't understand the statement'

Question 24

We are experimenting with Artificial Intelligence (such as evolutionary algorithms, fuzzy logic, model based reasoning) to enhance the decision making capacity of the department as a whole.

Senior Managers (6):
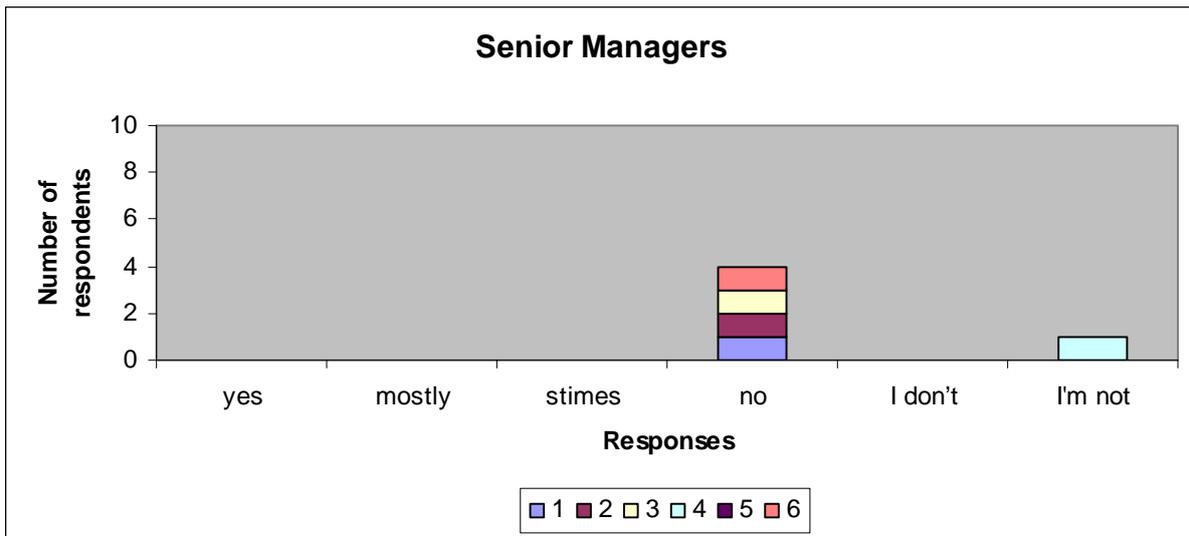
Senior Managers

1/6 senior manager did not respond to this question

4/6 Senior managers selected 'no, this is not correct'

1/6 senior managers selected' I'm not informed enough to respond'

Middle Managers (12):
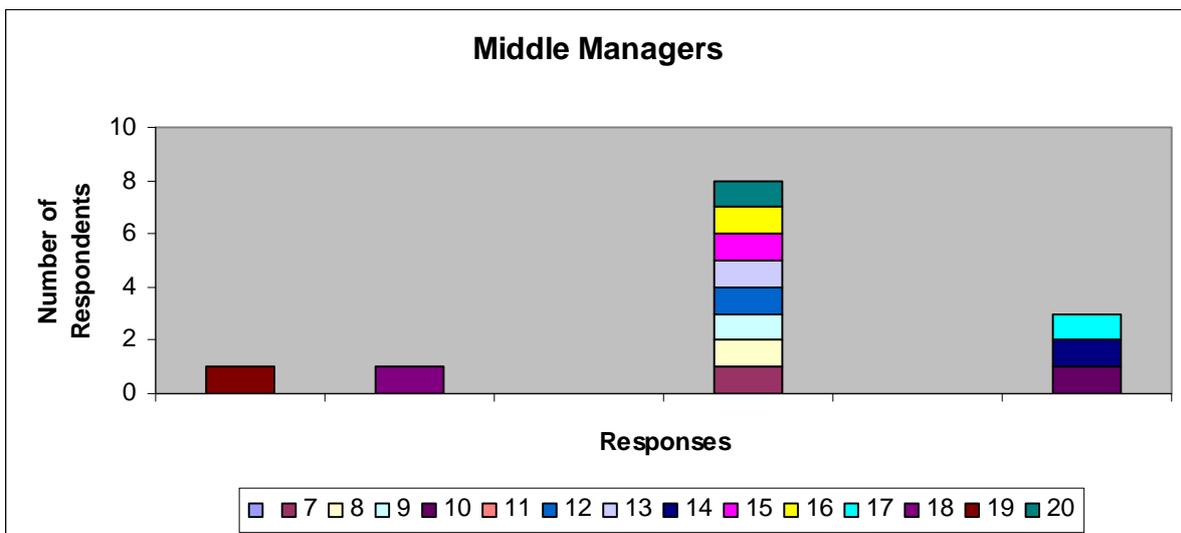
Middle Managers

7/15 middle managers selected 'no, this is incorrect'

3/15 middle managers selected 'I'm not informed enough to respond'

2/15 middle managers selected 'mostly true but sometimes not'

1/15 middle managers selected 'yes'

1/15 middle managers selected I don't understand the statement

1/15 middle managers selected 'sometimes true but mostly not'

Overall results of Question 24 (Both senior managers and middle managers- 21 in total):
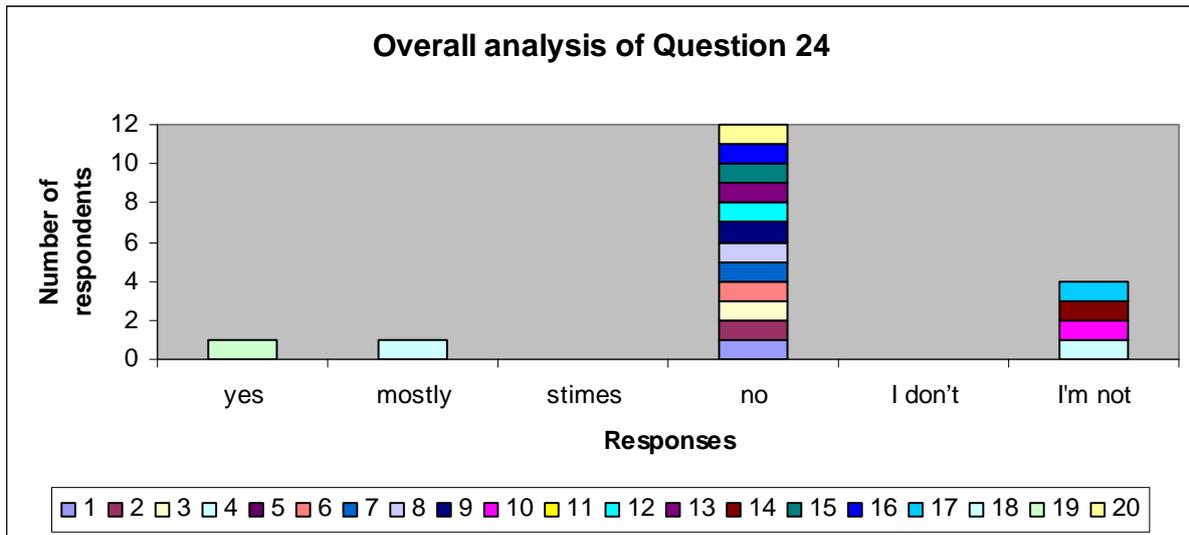
Overall analysis of Question 24

1/21 respondents did not respond to this question'

11/21 respondents selected 'no, this is incorrect'

4/21 respondents selected 'I'm not informed enough to respond'

2/21 respondents selected 'mostly true but sometimes not'

1/21 respondents selected 'yes'

1/21 respondents selected I don't understand the statement

1/21 respondents selected 'sometimes true but mostly not'

4.4 Discussion of results:

The following discussion will be based on the format of the questionnaire and the categories of the participants:

Generally, participants were able to respond to almost all questions. The senior managers and middle managers are all qualified according to the requirements set out in the job advertisements as they appears on the public services vacancy circular.

The questions in Section A are mainly about the participants' understanding of KM. Senior managers' responses are consistently in sync throughout the study. This can however be because the senior managers are fewer in number so there is little variety of responses. There is evidence that a need for KM has been identified. There is also a marked discrepancy between the way both the senior managers and middle managers define concepts and view KM. For example, the majority of senior managers associate KM with continuous

organisational learning while the majority of middle managers associate KM with organisational transformation of information flows and access. This could be because communication between policy makers and policy implementers is not as frequent as it should be.

Almost all the participants agree that KM evaluation is not systematic and structured and therefore it is not easy to determine whether evaluation has been successful or not. The responses about KM evaluation are evidence that without systematic and structural evaluation very little progress will be observed and deviations will also not be easy to identify and rectify in time.

In section B, the questions about KM systems and tools seem to elicit a response that borders on the fact that most KM tools and systems are not in use in many departments. Responses to questions on modelling tools and knowledge base systems elicited almost the same response from senior managers. This is very important because senior managers are decision makers and their response is valuable in determining how far KM is being implemented.

On the other hand, one would expect all departments to practice story telling as it is the easiest KM practice and very popular in the South African culture. However, a lukewarm response was obtained. The same can be said of communities of practice which are rife in any KM institution. This brings forth the culture of a lack of communication and the existence of silos in public sector departments. Most middle managers gave the response 'not informed enough to respond' which brings forth the issue of lack of clear communication in departments.

It should however be noted that PALAMA has introduced management development courses in which KM is a module. Judges by some of the responses, this cannot be deemed to be enough.

Chapter 5

Overall Interpretation

5.1 DISCUSSION OF RESULTS

Bearing in mind that the public sector is in its nature a knowledge management institution, it can be concluded that the South African public sector has taken an initiative in consciously introducing and implementing KM. This is evident in the agreement signed by the DPSA and the DoC in 2002 which was followed by a number of road shows and workshops spearheaded by the DPSA. The subsequent gradual increase in the numbers of advertised positions in both the national departments and provincial governments, mainly in middle management positions, which is the level where policies are implemented is another indication that KM implementation is being prioritised by a number of departments in the SA public sector. However, not all national and provincial departments have put KM on top of their priority list.

It can also be concluded that KM implementation gained momentum that finally led to the formation of the Knowledge Management Working Group by the GITOC in 2003. Participation in this study by policy formulators and implementers together with data collected from the study also confirms that practitioners and managers do support KM initiatives and to some level there is implementation.

However the following challenges have been noted in this study:

1. Most KM appointments are at the middle management level (Deputy Director) downwards which is good for policy implementation but it could be frustrating where the policy is formulated by an IT practitioner and not necessarily a KM champion. One also wonders if this is because KM in the SA public sector is not highly rated and therefore it is relegated to

middle management. It can also be argued that at this initial stage, Departments are not employing KM practitioners at senior management (Director-level upwards). However, this is a level that is most influential and can advocate at executive management gatherings. They can have a major influence at committees like departmental executive committees and executive boards[96] where middle managers are normally not welcome.

2. The general staff turnover in the SA public sector is high and the KM division is also affected, probably because it is still new. This is further exacerbated by the fact that, in the public sector, the position for Manager KM appears at two different levels, namely, level 11 and level 12. For example, the Manager, KM at the DoC is at level 12 whilst the Manager, KM at DPSA is at level 11. The manager at level 12 earns more than the manager at level 11 but they are doing the same job and hold the same title. As a result, a lot of time is wasted by the search for 'greener pastures' as employees move to Departments where the position is at a higher level, which takes more priority than organisational and professional goals

3. The public sector's silo mentality was identified as the strongest negative force affecting KM[97]. There seems to be very little coordination and cooperation between the National departments and the related provincial departments. Some national departments have KM champions/practitioners and provincial governments do not have and vice versa. This leads to frustrations especially in cases where the KM practitioner in the provincial department needs to submit information to the national department, contact and continuity is therefore not encouraged.

4. In departments where there is implementation of KM, there appears to be no definite way of communicating best practices frequently as the road shows (organised by DPSA) take place once or twice a year and they involve a large group of people who are mostly at different stages of implementation. There is no definite way for KM departments to share best practices in smaller communities and besides the initiatives by the DPSA, KM practitioners in different departments don't know one another and do not meet in between the huge national initiatives.

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[96] Usually attended monthly or quarterly by Directors, Chief Directors, Deputy Director General and the Director General in different departments to plan and report on different functions

[97] GITOC. 2004. Developing a Government Knowledge and Information Management (KIM) Strategy. July Document 1.2 p.13

5. There seems to be very little or no structured way of monitoring and evaluating progress on the three stages of KM implementation, namely, introduction, implementation, and completion of process which makes it difficult for departments to easily identify gaps and deviations. This is also difficult as policy makers and top managers cannot get a systematic feedback. This may be attributed to the fact that KM is not easy to define nor is it easy to measure because of its intangible nature.

5.2 RECOMMEDATIONS

From the findings of this study, it is recommended that all public servants be educated on and about KM. This was evident because in collecting data, the researcher was often referred to people who had no idea what KM is and who the practitioner is in their specific departments. In most departments, the researcher had to talk to many people (at least three) before they ultimately got to the right person. South African public servants should take ownership of KM processes. This can be enforced by senior management at the executive level of government. Chong and Chong say that management should realise that KM only works if the culture of their organisations promotes it. It should however be noted that PALAMA has introduced management development courses in which KM is a module. Judging by some of the responses, this cannot be deemed to be enough.

Bearing in mind that government departments vary in their KM practices, it is recommended that Senior KM Managers[98] be employed at least at national departments. This is supported by Chong and Chong[99] who says 'As many major firms in the world already have Chief Knowledge Officers (CKO) to oversee their KM programs, it is timely for other organisations to consider this. It has been noted that few government departments have employed directors in this position[100].

Some of the Senior Manager's duties and functions should be to represent KM at executive management gatherings that middle managers/ policy implementers are usually excluded

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[98] It should be noted that the DPSA had a Chief Director: Learning, Research and KM and the DoC had a Director: KM whose positions were terminated between 2007 and 2008. Ironically, the Department of Public Works (DPW) and The Public Administration Leadership and Management Academy (PALAMA) advertised positions of Director: KM and Research and Director: KM and Resource Centre Management respectively in July and August 2009.

[99] Chong & Chong, (2009)

[100] The DoC and DPSA had Directors/senior managers but withdrew the positions later. National treasury have advertised the position early 2009.

from. The senior manager could therefore be the hub that coordinates KM activities with the sister provincial departments who will serve as nodes. This will in turn ensure cooperation and uniformity in all provinces. This person will ensure that best practices at provincial level reach national level and are ultimately shared among the entire public service in time.

This way, monitoring and evaluation will also be conducted formally and timelines met on time to ensure that the policies and aims of KM are realised as scheduled and uniformity in both the provincial and national departments can be ensured.

The National CKOs would therefore ensure that smaller communities of practice are created by KM practitioners at their different sister departments based on their stages of implementation and their specific challenges and practices. These communities should therefore be able to meet more frequently to discourage working in silos[101]. KM practitioners will therefore be able to identify each other and share best practices on a more frequent and manageable base than it already is at the present moment. This will save time and will make the larger gatherings which are usually organised by the national coordinator (DPSA) less foreign and intimidating to delegates.

Monitoring and evaluation of Knowledge Management should be formalised and be systematic. This should also form part of the duties of CKOs/ senior managers who should report to the DPSA and KIM workgroup. The CKOs/Senior managers should have a list of all KM practitioners/champions in their sister departments and submit progress report quarterly. The national Coordinator and GITOC KIM workgroup should ensure that KM is monitored and a good feedback system is established. This information should be recorded and made available to other practitioners to refer to and identify deviations and corrective measures introduced.

OECD[102] recommends reward for knowledge and information sharing. It is believed that knowledge sharing should be part of employees' performance agreements. If knowledge sharing is part of performance reviews and rewarded and acknowledged, then more people will be encouraged. This will help in formalising KM in all departments. Rewards should

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[101]Chong and Chong have identified KM teamwork as one of the critical factors for successful KM implementation.

[102] OECD.2003.The learning government: Introduction and draft results of the survey of knowledge management practices in ministries/departments/agencies of central government. Unclassified OECD report. p.27. OECD says this remains limited in its study

however not only be monetary but can also be informal, in terms of staff recognition and any other informal encouragement.

In conclusion, we answer the research questions posed on page 5 of this study:

1. **What are the current KM practices in the South African Public sector?**

KM was introduced less than 10 years ago in the South African public sector with the government lending support through the DPSA and GITOC. The different national departments are at different stages of implementation with others doing much better, whilst some departments have not even started with KM.

2. **What gaps could be observed from the KM practices?**

KM is in its infancy in the SA public sector, some departments have not even made an effort to introduce KM. Despite the effort by government to organise road shows, publish case studies and GITOC's KIM workgroup, there seems to be very little knowledge of KM in some departments. It is still not clear and not known how many departments have or are implementing KM.

In departments that have introduced and implemented KM, there is no structured or systematic monitoring and evaluation therefore it is very difficult for one to determine the success or actual failures of KM.

3. **What lessons can be learnt by other public sector institutions and agencies?**

KM is here to stay and departments must get more information about it. KM is also not an individual person's problem but the whole department's duty. Senior managers (policy makers) and middle managers (policy implementers) must work together to implement KM that is informed by the needs of their specific departments.

A contingency view of KM should be borne in mind seeing that every department has its own needs and structure. In conducting this study, the researcher discovered that there are many departments (even more after May 2009), and KM practitioners with different titles and different descriptions. What works for one department may not necessarily work for others.

4. **What is the dominant perception/ definition of KM in the South African public sector?**

This question is asked again in the questionnaire. Question 1-3 where a definition of KM and the significance and priorities of KM are sought from respondents.

The majority of respondents think that there is a strong conviction that KM is needed in their departments. The majority of respondents also think that top management in their departments will associate KM with establishing a culture of continuous organisation. It is also associated with organisational transformation of information flow and access.

It can therefore be concluded that, although the different departments are using different dimensions of approaching and implementing KM, those that have introduced KM recognise the need and importance of KM in improving their work/ service delivery and getting support from the most senior members of government cannot be over emphasised. Riley says that when a president, prime minister or other important cabinet minister champions KM, more concerted implementations are likely to occur.

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ADDENDUM – *Questionnaire*

THE MODEL FROM BECERRA-FERNANDEZ, ET AL. (Page 47)
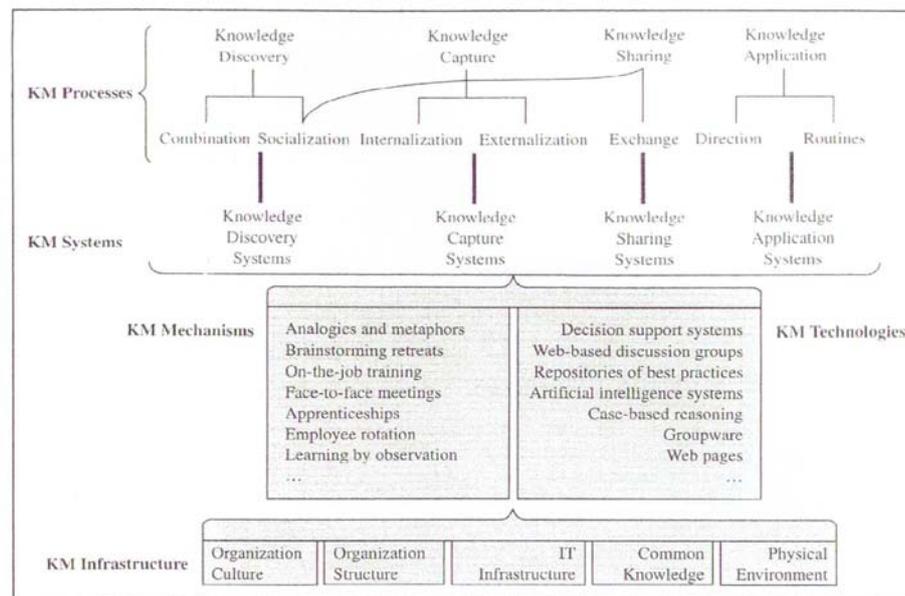
◇ ◇ ◇ FIGURE 3-3 Detailed View of Knowledge Management Solutions

INTRODUCTION

IN THIS SECTION PLEASE HELP US TO UNDERSTAND YOUR FUNCTION IN THE DEPARTMENT.

1) What is your official job title?

2) What are the three main functions in this job?

3) How long have you occupied this position?

4) Since when do you work in the Public Service?

5) What formal qualifications do you hold in the field of *academia*?

6) What formal qualifications do you hold in the field of *technology*?

7) What *Public Service qualifications* do you hold?

8) How much influence does your position allow you to exert on *policy formulation* with regard to KM?

9) How much influence does your position allow you to exert on *policy implementation* with regard to KM

10) How much influence does your position allow you to exert on *financial expending on* KM systems and activities?

In case the Researcher needs to clarify some aspects of the research with you, and you are available to talk to her, please fill in your name and contact details here: NAME

E-mail   Contact Number

SECTION A

Please tick the box(es) as requested. All along Knowledge Management is abbreviated as KM.

Q 1

Even if people do not really know what KM means, which ONE of the following describes the situation in your department best?:

- a) There is a strong conviction that KM is needed
- b) There is a kneejerk approach
- c) There is indifference
- d) Very few of the staff have heard of KM

Q 2

With reference to the *top management* of the department, which (ONE OR MORE) of the following statements *in your opinion*, will they associate with KM?

- e) KM is about the upgrade of library and archiving systems and procedures
- f) KM is about extracting tacit knowledge and codifying it
- g) KM is about establishing a culture of continuous organisational learning
- h) KM is about the organisational transformation of information flows and access

- i) KM is about the transformation of organisational decisionmaking
- j) KM is about investing in artificial intelligence and integrating it with the departmental strategies
- k) KM is about knowledge creation and innovation
- l) KM is about the nurturing and mobilisation of individual expert knowledge
- m) KM is the opposite of rigid and bureaucratic organisation which operates along circumscribed line functions

Q 3

In your opinion, please rank the following KM dimensions in *order of significance* for your department (1 = most significant/ 5 = least significant)

- n) To increase the pool of knowledge and understanding
- o) To capture existing knowledge into documents (text, video, sound tracks, etc)
- p) To disseminate existing knowledge to as broad an audience in the department as possible
- q) To apply the existing knowledge better to the processes of the department
- r) To generate knowledge which will allow the department to create entirely new processes and change the way it deals with the public and government

Q 4

Organisational Learning is a very important aspect of KM in any enterprise. Which (ONE OR MORE) of the following are used in your department to support learning?

- s) Frequent cross functional group discussions about pertinent cases and experiences
- t) Podcasting as a means of dissemination of experiences and insights
- u) Expert talks
- v) "Out of the box" thinking exercises
- w) Skills broadening through job shadowing
- x) Open cast project debriefings
- y) Department-wide creative brainstorming (at least once a year)
- z) Continuous up skilling of ICT proficiency of all staff

Q5

When higher level staff is recruited and appointments made, how high on the specifications list is the *knowledge assets* the candidate brings to the department? (Choose only ONE of the following)

- aa) Proven *expert* knowledge capacity is always the primary criterion
- bb) Some sort of knowledge capacity (but not proven expertise) is always sought
- cc) Knowledge capacity is only one of the factors taken into account
- dd) Knowledge capacity plays no effective role

Q 6

In your *personal opinion*, in your department the success of KM applications is

- ee) High
- ff) We have noticed some success
- gg) Little
- hh) Not at all

Q 7

In respect of *measuring* the extent and impact of KM in your department, do you know of

- ii) Extensive and structured attempts to measure
- jj) Ad hoc attempts to measure
- kk) Thumb suck attempts to measure
- ll) None at all

SECTION B

Below are a number of statements. Please evaluate them according to the options presented. Please tick only ONE box per statement. All along Knowledge Management is abbreviated as KM.

	Yes – always true	Mostly true but sometimes not	Sometimes true but mostly not	No, this is incorrect	I don't understand the statement	I'm not informed enough to respond
The department maintains a sophisticated 24/7 *online access to core databases* of the department – for everyone's use						
There are sufficient skills in the department to perform *deep (or super) searches* on the web						
There is a sophisticated and regularly performed practice of *data mining* in the department						
Data mining is practised *predominantly for predictive* purposes						
The department maintains a comprehensive web based *Work Flow System*						
The department maintains a comprehensive *Document Management System*						
My department has the skills to develop *neural network applications* to support the processes of the department						
There are sufficient skills in the department to develop *Kohonen self organising maps*						
The department actively manages an *expert locator system*						
Non IT staff in the department have the operational skills to integrate e-mail with their personal data, time and document management activities						
The department actively develops *visualisation techniques* to disseminate and internalise knowledge						

My department practices a formal system of sophisticated *storytelling*

User friendly *cognitive modelling tools* - such as CMap - is routinely used in the department

A departmental wide *programme of encouragement* for all staff to grow their personal knowledge capacities is operational

A solid *Enterprise Management Systems* is in operation

The department has a dedicated working group of *experts to develop artificial intelligence products* for the department

The department follows a broad based practise of *learning through shadowing*

The *work culture* of the department allows for the *spontaneous* development of communities of practice

The *work ethic* in the department is such that *spontaneous communities of practice* emerge regularly

In my opinion, in order to establish serious KM in the department, a Knowledge Based System/Expert System is a prerequisite

A commercial Knowledge Based System/Expert System is already in operation in the department

We have developed our own Knowledge Based System/Expert System in the department

The department has the *skills to develop and maintain* sophisticated Open Source Software

We are experimenting with *Artificial Intelligence* (such as evolutionary algorithms, fuzzy logic, model based reasoning, etc) *to enhance the decisonmaking capacity* of the department as a whole