INFORMATION SEARCHING BEHAVIOR AMONG UNDERGRADUATE STUDENT TOWARDS ONLINE DATABASE USAGE

BY

NUR HIDAYAH MOHAMMAD DAUD

A dissertation submitted in fulfillment of the requirement for the Master of Information Technology

Kulliyyah of Information Communication and Technology
International Islamic University Malaysia

NOVEMBER 2021

ABSTRACT

The underutilization of online database subscribed by International Islamic University Malaysia (IIUM) library causes a major loss to IIUM since it takes million per year to subscribe the online database. It has been admitted by a responsible authority of IIUM library that the usage of online database is decreasing. Thus, the aim of this study is to investigate the elements of information searching behavior (ISB) among IIUM undergraduate (UG) student when using online database subscribed by IIUM library, to discover the relationship between elements of ISB among IIUM UG student and the usage of online database and lastly, to develop a model based on the ISB elements of IIUM UG student and the usage of online database. This study proved that the elements of ISB among IIUM UG student are related to the usage of online database. The elements are identified as psychological perception, searching strategies and resources provided by IIUM library. At the end of this study, a model of ISB among IIUM UG student is developed based on the correlation and hypotheses tested between variables. Search engine developed from this model will be more student friendly. Hence, the use of online database will be increased. It may facilitate both IIUM UG and postgraduate student to publish the research papers and finding the right reference.

خلاصة البحث

يتسبب قلة استخدام قاعدة البيانات عبر الإنترنت التي تشترك فيها مكتبة الجامعة الإسلامية الدولية في ماليزيا (IIUM)في خسارة كبيرة لـ IIUM حيث يستغرق الاشتراك في قاعدة البيانات عبر الإنترنت مليوانا سنوايا. لقد أقرت مسؤولة من مكتبة IIUM أن استخدام قاعدة البيانات على الإنترنت أخذ في التناقص. وبالتالي ، فإن الهدف من هذه الدراسة هو التحقيق في عناصر سلوك البحث عن المعلومات ISB بين طلاب IIUM الجامعيين UG عند استخدام قاعدة البيانات عبر الإنترنت التي تشترك فيها مكتبة IIUM ، لاكتشاف العلاقة بين عناصر ISB بين طلاب IIUM UG والاستخدام لقاعدة البيانات عبر الإنترنت، وأخ ايرا ، لتطوير نموذج يعتمد على عناصر ISB لطالب IIUM UG واستخدام قاعدة البيانات عبر الإنترنت. أثبتت هذه الدراسة أن عناصر ISB بين طلاب IIUM UG مرتبطة باستخدام قاعدة البيانات عبر الإنترنت. يتم تحديد العناصر على أنها الإدراك النفسي ، واستراتيجيات البحث والموارد التي توفرها مكتبة IIUM. في نهاية هذه الدراسة ، تم تطوير نموذج ISB بين طلاب IIUM UG بناء على الارتباط والفرضيات التي تم اختبارها بين المتغيرات. سيكون محرك البحث الذي تم تطويره من هذا النموذج أكثر ملاءمة للطلاب. ومن ثم ، سيزداد استخدام قاعدة البيانات على الإنترنت. قد يسهل على كل من IIUM UG وطلاب الدراسات العليا نشر الأوراق البحثية وإيجاد المرجع الصحيح.

APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion, it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the Master's Degree of Information Technology

……..
Zahidah Zulkifli
Supervisor

……..
Husnayati Hussin
Co-Supervisor

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the Master's Degree of Information Technology.

……..
Zahidah Zulkifli
Internal Examiner

……..
Afidalina Tumian
Internal Examiner

This dissertation was submitted to the Department of Information System and is accepted as a fulfillment of the requirement for the Master's Degree of Information Technology

……..
Lili Marziana Bt. Abdullah
Head, Department of Information System

This dissertation was submitted to the Kulliyyah of Information Communication and Technology and is accepted as a fulfillment of the requirement for the Master's Degree of Information Technology

……..
Abd Rahman Ahlan
Dean, Kulliyyah of Information Communication and Technology

DECLARATION

I hereby declare that this dissertation is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

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ACKNOWLEDGEMENTS

All glory is due to *Allah*, the Almighty, whose Grace and Mercies have been with me throughout the duration of my programme. Although, it has been tasking, His Mercies and Blessings on me ease the herculean task of completing this thesis.

Firstly, it is my utmost pleasure to dedicate this work to my dear parents and my family, who granted me the gift of their unwavering belief in my ability to accomplish this goal: thank you for your support and patience.

I wish to express my appreciation and thanks to those who provided their time, effort and support for this project. To the members of my dissertation committee, thank you for sticking with me.

Finally, a special thanks to Dr. Zahidah Zulkifli for her continuous support, encouragement and leadership, and for that, I will be forever grateful.

TABLE OF CONTENTS

Abstract ii
Abstract in Arabic iii
Approval page iv
Declaration v
Copyright Page vi
Acknowledgements vii
Table of contents viii
List of Tables x
List of Figures xii

CHAPTER ONE: INTRODUCTION 1
1.1 Background of the Study 1
1.2 Problem Statement 3
1.3 Research Question 3
1.4 Objective of Study 3
1.5 Significance of Study 4
1.5.1 Significance Towards System Developer 4
1.5.2 Significance towards IIUM UG Student 4
1.5.3 Significance towards IIUM Library and Librarian 5
1.6 Scope of Study 5
1.7 Definitions of Terms 6
1.8 Chapter Summary 7

CHAPTER TWO: LITERATURE REVIEW 8
2.1 Introduction 8
2.2 Conception of Information Searching Behaviour 8
2.2.1 Information Searching Behavior 8
2.2.2 Previous Research Related to ISB Among Students 10
2.2.3 ISB Theory and Model 11
2.2.3.1 Relevant Theories 11
2.2.3.2 Relevant Models 12
2.3 Conception of Online Database Usage 14
2.3.1 Online Database 14
2.3.2 Previous Research Related to Online Database Usage among Students 15
2.4 Integration of Theories and Models to Develop a Theoretical Framework 17
2.4.1 Theoretical Framework 18
2.5 Chapter Summary 19

CHAPTER FIVE: RESEARCH METHODOLOGY 21
3.1 Introduction 21
3.2 Research Model 21
3.3 Research Design 23
3.4 Sample Design 23

3.5 Research Instruments....24
3.5.1 Questionnaire Structure....25
3.6 Data Collection....27
3.7 Data Analysis....27
3.8 Chapter Summary....28

CHAPTER FOUR: DATA ANALYSIS....29
4.1 Introduction....29
4.2 Data Analysis Process....29
4.3 3.3 Demographic Information of Undergraduate Student in IIUM....29
4.4 Psychology Perception of IIUM Undergraduate Student Toward Online Database Provided by IIUM Library....31
4.5 Information Searching Strategy Among IIUM Undergraduate Student....32
4.6 Resources Provided by IIUM Library....33

CHAPTER FIVE: FINDINGS AND DISCUSSION....35
5.1 Introduction....35
5.2 Psychological Perception Among IIUM Undergraduate Student (Iv)....35
5.3 Information Searching Strategy Among Undergraduate Student in IIUM (iv)....36
5.4 Resources Provided by IIUM Library (iv)....38
5.5 Usage of Online Database (DV)....39
5.6 Hypothesis Test....39
5.6.1 Hypothesis 1....40
5.6.2 Hypothesis 2....45
5.6.3 Hypothesis 3....52
5.7 Summary of the Chapter....57

CHAPTER SIX: CONCLUSION....58
6.1 Introduction....58
6.2 Answering Research Question....58
6.2.1 Research Question 2: How the elements of ISB among undergraduate student give influence on the usage of online database?....59
6.2.2 Research Question 3: How to construct ISB model among IIUM undergraduate student on the usage of online database?....62
6.3 Recommendation....64
6.4 Summary of the Chapter....64

REFERENCES....66

LIST OF TABLES

Table No.		Page No.
2.1	Frequency and Percentage of Search Engine Features (Malik, 2009)	10
2.2	Online Database Uses in Ankara University (Atilgan & Bayram, 2006)	16
2.3	Reason of Not Using Online Databases (Atilgan & Bayram, 2006)	16
2.4	Online Databases Monthly Access (Mbabu et al., 2013)	17
2.5	Theories and Models Used to Develop Theoretical Framework	18
2.6	Independent Variables Adapted to this Study	20
3.1	Adaptation of Quantitative Characteristic in Research Process	22
3.3	Demographic Information Detail	25
3.4	ISB Elements in Part 2	26
4.1	Demographic Information of Respondent (Frequency=118)	30
4.2	Psychology Perception of IIUM Undergraduate Student	31
4.3	Information Searching Strategy among IIUM Undergraduate Student	32
5.1	Classification of Mean (Mohammad Daud Johari, 2014)	35
5.2	Question in Psychological Perception Section	36
5.3	Question in Information Searching Strategy	37
5.4	Total Mean Score for Question 10-17	37
5.5	Question in Resources Section	38
5.6	Total Mean Score for Question 19-26	38
5.7	Question Referring to Usage of Online Database	39
5.8	Correlation Test for Hypothesis 1	40
5.9	Total Significant	44
5.10	Relation between Searching Strategy and Online Database Usage	45

5.11 Significant Test between Searching Strategies and Online Database Usage 50

5.12 Correlation Result between Resources and Online Database Usage 52

5.13 Significant Test between Resources and Online Database Usage 56

6.1 The Elements of ISB among IIUM Undergraduate Student 59

6.2 Correlation Result of ISB Elements and Online Database Usage 60

6.3 Highest Significant Correlation Value between Variables 62

LIST OF FIGURES

Figure No.		Page No.
2.1	Wilson's Nested Model (T.D. Wilson, 2000)	9
2.2	Wilson Model of Information Need and Seeking (T D Wilson, 2007)	12
2.3	Niu & Hemminger Model of Information Seeking Behavior	13
2.4	Information Retrieval Process Model by Saracevic	14
2.5	ISB and the Influence of Online Database Usage	18
2.6	Proposed Theoretical Framework	19
2.7	Proposed Theoretical Framework	20
3.1	Quantitative Characteristic in Research Process (Fischler, 2010)	22
3.2	Raosoft.com Calculator of Sample Size	24
6.1	Refined Model of ISB among IIUM Undergraduate Student	63

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Information searching behavior (ISB), known as information seeking behavior and information behavior, categorized as one of the sub-disciplines of Library and Information Science (LIS). It defines what is the need of people, how they seek, manage, give and use the information in different perspectives (Savolainen, 2007). According to Wilson (Thomas D Wilson, 2000), ISB is how people behave when interacting with the system such as online databases. Besides, it also encompasses the interaction of people with information processing and use.

Information can be resourceful and efficient, especially in academic, through the study of ISB. Furthermore, comprehensive understanding, characterization, and identification of ISB will assist people to find appropriate information that they need and the systems developed will be fully utilized.

This study focuses on ISB among undergraduate (UG) students towards the usage of online databases subscribed specifically in International Islamic University Malaysia (IIUM). Online databases contain only authentic and evaluated information from published works such as academic journals. Besides, the information is updated frequently and published by the experts. Thus, the information is reliable and very beneficial for the students.

Various studies of online databases usage and awareness in universities have been done to identify the behavior of the user in searching information as according to Levine (Levine, 2003), the price of online database subscription is increasing after year and budget constraint. Earlier in 1997, Abd. Majid (Abd. Majid, 1997) has conducted

research to investigate the factors influence information-seeking patterns and the behavior among graduate students in Kuwait University. Factors of online database underutilization gained from the study are the lack of awareness for what the library offers to the student such as online databases, lack of information literacy, negative perception of the library, limitation of research skills and only depends on search engines and web resources.

Seiden, Szymborski, & Norelli (Seiden et al., 2016) explore general ISB among 60 UG students at Skidmore College in a digital library environment. The research shows that students encountered variety problems in searching such as the online database selection, difficulties to select an appropriate search technique and search terms. Difficulties faced by UG student, lead to the underutilization of online databases subscribed by the university.

A study of information literacy perception: defining, attaining, and self-assessing skills at the College of Information at Florida State University by Gross & Latham (Gross & Latham, 2009) among UG students determined that knowledge-based and specific skills are needed to be a successful information searcher. Decreasing and underutilization of online databases subscribed by IIUM library has been admitted by a librarian in charge, in an interview held. The cost of online database subscription reached million Ringgit Malaysia annually. Underutilization of online databases among UG student causes a major loss to IIUM. Besides, it is necessary for the IIUM library to enhance the encouragement of online database usage among UG student by recognizing their ISB and difficulties when searching information in online databases subscribed.

1.2 PROBLEM STATEMENT

IIUM library enables several online database accesses via annual subscription and allows about 15,625 UG students to use them.

However, according to the librarian who is responsible for online database subscription, up to the year 2015, 10 out of 53 online databases terminated from the subscription due to the decreasing and underutilized usage of online databases in IIUM library.

A model of relationship between ISB and the usage of online database will be developed as the result of the study.

1.3 RESEARCH QUESTION

The research questions for this study are;

1. What are the elements of ISB among IIUM undergraduate student?
2. How the elements of ISB among undergraduate student influence to the usage of online database?
3. How to construct ISB model among IIUM undergraduate student on the usage of online database?

1.4 OBJECTIVE OF STUDY

The study aimed to achieve the following objectives:

1. To investigate the elements of ISB among IIUM UG student when using online database subscribed by IIUM library.
2. To discover the relationship between elements of ISB among IIUM UG student and the usage of online database.

3. To develop a model based on the ISB elements of IIUM UG student and the usage of online database.

The study will be conducted transparently to get a very solid result and it can be shared by other researchers in the future.

1.5 SIGNIFICANCE OF STUDY

This study will be beneficial towards the system developer, IIUM UG student, IIUM library and the librarians.

1.5.1 Significance Towards System Developer

The system developer in the IIUM IT Division can be guided by the ISB model for IIUM UG students when developing any systems related to information retrieval and searching to gain successful application among UG student. Besides, the enhancement of the related systems can be done by the developer in IT Division in order to encourage IIUM UG student to take full advantage of the facility appropriately.

1.5.2 Significance towards IIUM UG Student

ISB model of IIUM UG student will assist IIUM UG student in solving problems and evaluate the right information they need. Besides having information literacy skill, IIUM UG students will expose to the research environment and they would not rely solely on notes given or textbook. The critical thinking among IIUM UG student can be developed when they know how to retrieve the information needed independently in an online database. On the other hand, IIUM UG students will be more aware and alert of the facilities provided by IIUM library and use it adequately.

1.5.3 Significance towards IIUM Library and Librarian

IIUM Library is an important role in this study since librarian should take an initiative to educate IIUM UG student in demonstrating the technique of information searching to search the right information in the online database. The ISB model resulted from this study is beneficial to the librarian in order to recognize IIUM UG undergraduate behaviour when communicating with the online database. Thus, the potential of misunderstanding during teaching and learning between librarian and IIUM UG student will be lower than before.

Decision-making in the online database subscription is not an issue anymore as the model can be used as the librarians' guideline to organize IIUM library system interface to place the list of online databases subscribed. Besides, IIUM library can easily attract IIUM UG student in promoting maximization of online database utilization.

1.6 SCOPE OF STUDY

The scope of the study mainly focuses on the IIUM UG student. IIUM UG student is divided by foundation level and bachelor's degree level. The campus of foundation student is located in Petaling Jaya and Gombak placed the student of bachelor's degree. Respondents are from various Kulliyyahs and year of studies. 118 respondents gathered to represent approximately 15,625 UG students in IIUM.

The attributes in ISB of IIUM UG student will be identified to illustrate a model in order to overcome the issue of online database underutilization. The explanation of findings will be explained more in chapter 4 where the details of relationships between ISB of UG student and the use of online databases subscribed by IIUM library are tested quantitatively.

Reliable information related to online database usage and subscription is collected by short interviews with the librarian and staff in charge at IIUM library.

1.7 DEFINITIONS OF TERMS

Before the details of the terms discussed in chapter 2, below is the brief explanation of undergraduate student, information need, information literacy, Information seeking and information searching behaviour and online database.

Undergraduate Student

The undergraduate level consists of all the academic programs, after high school, up to the level of a bachelor's degree and before the postgraduate education.

Therefore, in this study, undergraduate student includes foundation and bachelor's degree student in IIUM.

Information Seeking and Information Searching Behaviour

Information seeking behaviour is the action of seeking information in any mediums, whether, in the library, books or technology while the definition of information searching is how a user searches relevant and useful information that they need by interacting with information retrieval systems such as search engine.

Online Database

The online database can be defined as data storage that connected to a network and consists of a collection of resources such as articles and journals. It contains organized information and acts as a medium where the user interacts with it and connected to the computer housing the file.

1.8 CHAPTER SUMMARY

This chapter discussed the background of the study. It explained the importance to study ISB of IIUM UG student and the relation with the utilization of online database subscribed by IIUM library. Research questions and objectives are presented in this chapter. The significance of the study followed by the explanation of terms used in this study has been discussed in this chapter. The details of the terms, theoretical framework and the previous study in the same area of information behavior will be discussed in the next chapter, Literature Review.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

The first section of this chapter will study the conceptions of information searching behaviour (ISB), conception of online database usage followed by the integration of theories and model to develop a theoretical framework and the conceptual framework of the study.

2.2 CONCEPTION OF INFORMATION SEARCHING BEHAVIOUR

This section discusses on the ISB which started by discussing the concept of ISB followed by the previous study related to ISB among undergraduate students.

2.2.1 Information Searching Behavior

ISB can be defined as purposive behavior of user to find useful information using systems (Xie, 2011). Besides, the urge of information needs to gain the knowledge resulted the behavior of information search. The medium of information searching is through automated technologies such as World Wide Web and online database (T.D. Wilson, 2000). Figure 2.1 shows the Wilson's nested model (T.D. Wilson, 2000) to explain the field of information search.

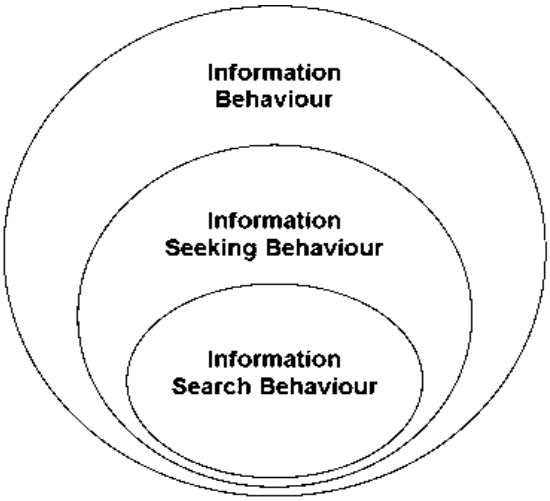

Figure 2.1 Wilson's Nested Model (T.D. Wilson, 2000)

Wilson (T.D. Wilson, 2000) defines information behavior as the total of human behavior that relates to sources and channels of information. ISB is the subset of information behavior Wilson's nested model and consists of all the interactions with the system that includes human computer interaction level such as the use of the mouse and clicks on links, and intellectual level such as adopting a Boolean search strategy or determining the criteria for deciding which of two books selected from adjacent places on a library shelf is most useful. Besides, ISB involves mental acts, such as judging the relevance of data or information retrieved.

Xie (2011) mentions that information searching behavior is related to the information retrieval where the strategy to search and information collection are included. Xie characterized it into levels that include tactics; user method when searching information in system, strategies and usage patterns; query formulation and reformulation based on analysis of transaction logs submitted to search engines.

Therefore, ISB is the behavior of user to search the information needed through the automated technologies such as online database. The behavior can be narrowed to the user method and strategy when searching the information.

2.2.2 Previous Research Related to ISB Among Students

Education required the student to search and gather information related as much as possible to study a course. Belkin et al. (Belkin, Cool, Stein, & Thiel, 1995) have mention that the information is used as a method used to solve problems. The urge to search information among student is normal in order to solve the problems in academic or to complete any tasks given by the lecturer as cited by Hjørland (Hjørland, 2013).

Shakeel & Vinayagamoorthy (Shakeel & Vinayagamoorthy, 2013) conducted a study of ISB among student at Business School in Academic City, Dubai. They find out that the student always looks to the sources or channels that are time and cost effective and allows them to quickly copy paste the information and easily do the printing.

A case study at University of the Punjab by Malik (Malik, 2009) identified the features of search engines and the percentage of the student to use it. Table 2.1 shows the frequency and percentage features of search engine that include ease of use, relevance, reliability, speed, accuracy, familiarity, easy interface, language, durability and currency by the student at University of the Punjab. The top features of search engines are ease of use, relevancy and reliability.

Table 2.1 Frequency and Percentage of Search Engine Features (Malik, 2009)

Features of Search Engine	Frequency	Percent
Ease of use	144	72.0
Relevancy	120	60.0
Reliability	113	56.5
Speed	107	53.5
Accuracy	98	49.0
Familiarity	91	45.5
Easy Interface	71	35.5
Language	73	36.5
Durability	32	16.0
Currency	25	12.5

Therefore, previous studies shows that the search strategies, demographic information and ease of use are highly important aspects for the student. Besides the appearance of system is important too in order to attract the student to use online database provided by the university. Knowledge to retrieve the information needs to be taught as well.

2.2.3 ISB Theory and Model

2.2.3.1 Relevant Theories

Human interaction and the method of seeking and utilizing information acquired is known as information behavior (Bates, 2010). The behavior of information search hence can be define as the act or how human search information through information retrieval technology or system such as online database. The search query is usually affected by search behavior (Yamin & Ramayah, 2011). Various information can be retrieved through a single search in the system (Henry, 2005). Therefore, the theory of having sufficient skills and strategies to search information needed is relevant to this study.

Hoffman (Hoffman, 1998) suggested that the most important things that can influence the use of internet are resources provided and the skills of the user. Therefore, resources can be one of the factors influencing information searching behavior among undergraduate student in IIUM.

It can be concluded that from the theories discussed, having skills and strategies to search the information and sufficient resources provided can be used in this study to construct the model at the end of this study.

2.2.3.2 Relevant Models

2.2.3.2.1 Wilson Model

Wilson Model shown in figure 2.2 is the evolution of Wilson's general model where the intervening variables and information seeking behavior are identified. The variables identified are psychological, demographic, role-related, environmental and source characteristic.

The behavior of the seeker is observed and divided into four types which are passive attention, passive search, active search and ongoing search. The information seeking behavior will affect the process and use of information, and to the user's need of information as shown in the loop of the model.

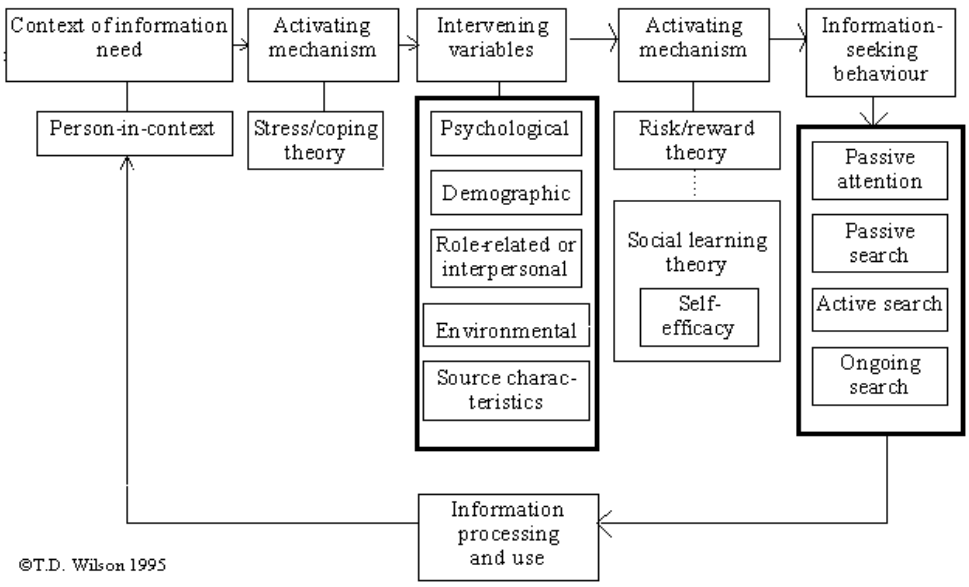

Figure 2.2 Wilson Model of Information Need and Seeking (T D Wilson, 2007)

Besides, this model can be useful to system designer as well since the activating mechanism element is included. As the result, any information retrieval systems designed will be with less failure risk and the user's sense of self-efficacy is increased if the designer understand the theory of risk/reward stated in the model.