A HUMAN-COMPUTER INTERFACE AS WINDOWS FOR THE MIND: A STUDY OF THE COGNITIVE AND EMOTIONAL FACTORS THAT INFLUENCE THE USER EXPERIENCE

by

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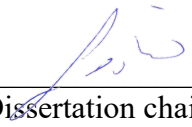

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DEDICATION

This Thesis is dedicated to my family and friends and to all my University Lecturers that provided support and guidance along the way.

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Special thanks to Dr. Vijayakumar Varadarajan for his guidance and to Dr. Anna Provodnikova for her advice.

DISCLAIMER

Although repeated reference is made of the Microsoft Windows Operating System and to the Windows Logo as well as to the Microsoft Office Suite, this is only for conceptualisation purposes to illustrate points made throughout this Thesis.

This thesis is a direct follow-on from my Master's Thesis submitted in 2017 for my Masters in Business Administration Degree through Roehampton University. This thesis was proof of concept. Much of the explanation has been kept and revised to the level of Doctorate along with added research increasing the page count from 40 to 140 pages.

ABSTRACT

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Hypothesis: The Microsoft Office Suite of Applications can be used to achieve Tacit Knowledge Elicitation to create content across the entire suite to affect Knowledge Management Practice within Business Administration.

Problematization: There is no Knowledge Base providing guidance to the User of Windows in the creation of Content across the entire Microsoft Office Suite of Applications. We do not know the full extent of the Microsoft Office Suite, the order and sequence in which to place the applications and the type of knowledge each

application is to elicit from the User and the knowledge input, throughput, and output to be achieved across all the Applications.

Research Question: Can the Microsoft Office Suite of Applications be applied to affect Tacit Knowledge Elicitation by the User for the purpose of Knowledge Management within Business Administration?

Current Theory: The Knowledge Management Process is not unified, and each researcher is putting forward their own process. So too the Microsoft Office Suite of Applications is not unified, which applications are to be provided to an employee is very subjective to the organisation the employee works for and the type of license agreement the organisation takes out for each employee respectively.

Research: (1) To identify a Unified Knowledge Management Process to Tacit Knowledge Elicitation within Knowledge Management Processes. **(2)** To identify the Microsoft Office Suite of Applications. **(3)** To Map the Suite to the appropriate Knowledge Management Process step. **(4)** To identify what each application is eliciting from the Tacit Knowledge Base of the User. **(5)** To provide the input, throughput, and output of each application throughout the process. (**6**) To achieve Enlightenment for the User through the Application of the Microsoft Office Suite.

Outcome: To create an Ontology-Based Knowledge Management Model for the Microsoft Office Suite of Applications as an Expert System to elicit Tacit Knowledge from the User all within a Windows Framework.

Key Words: Abstraction, Elicitation, Knowledge Lifecycle, Knowledge Management.

To Open a Window is to Open an Application.
Not only for the Computer but also for the Mind.

Garth Green 2025

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CHAPTER I

INTRODUCTION

1.1 Introduction

As there is *Windows for the Computer*, can there not be *Windows for the Mind*? After all, both 'compute' and since *Windows for the Computer* has afforded the computer greater access to the mind, why can't the same be said of the mind – greater access to the computer?

We speak of the *Window Period* and the *Window of Opportunity,* yet there is no epistemology to explain these Windows. Are they the same or different and what advantage would it be to the User to know this epistemology if one was created?

If opening a window on a computer is akin to opening an application, then the *Window Period* could be the time-period that the User works on that Application and the *Window of Opportunity* could be the Opportunity gained by doing so. Since the employee's salary is based on time worked, then how much did it cost the company for the time spent by the employee to achieve an opportunity for the company by working on an application?

Similarly, the output of all applications are files of differing type depending on the application worked on. What is the value of these files to the company with regards to time worked on and their opportunity to company achieved? Many of these files are often not complete, lack a cohesive whole and remain apart from all other file types. The business spends a lot of money on staff to create 'half baked' files that may have no inherent *opportunity* to present.

To open a Window is to achieve En-*lighten*-ment by *Enlightening* the Windows User to obtain greater Opportunity within Business Administration Practice for the company. This is the outcome of any well-established Business Administration System; For all employees to obtain complete enlightenment depending on their position and level within an organisation

and to provide that enlightenment to affect Knowledge Management. However, we have come to realise that to achieve enlightenment, more than one Window's Application is required.

Similarly, if one opens Mental Windows, what are the Mental Applications that will be opened by doing so? If Computer Windows and Mental Windows go hand-in hand with each other, then there should be a set of Mental Applications that correlate to a set of Computer Applications. In so determining, what would be the total administrative advantage for doing so?

1.2 Research Problem

Employees that have access to a computer with the Microsoft Office Suite of Applications must know how to use them within the Business Administration Environment to affect Knowledge Management Practice to achieve Tacit Knowledge Elicitation. However, this is not being taught to the User of Windows and the Microsoft Office Suite as there is no 'syllabi' to this instructional design at present.

1.3 Purpose of Research

To create a Windows Based Conceptual Framework and map the Microsoft Office Suite of Applications to this Conceptual Framework to affect Knowledge Management Practice. This will become the required 'syllabi' for the resultant instructional design of the Windows Framework for Knowledge Elicitation.

1.4 Significance of the Study

Aim: To achieve an ever-greater awareness (enlightenment) of the organization's overall position within its business environment. Awareness is a subjective construct and

unless one goes through an objectifying process of Tacit Knowledge Elicitation, Total Awareness will remain an elusive construct. True Enlightenment by each employee will not be achieved.

Goal: For an organisation to achieve absolute market dominance and to remain at this position by using the Microsoft Office Suite of Application in conjunction with a Knowledge Management Lifecycle Process all within a Windows Framework – the Microsoft Windows Avatar.

Using:

i. Excel to Capture Knowledge
ii. Word to Organise Knowledge
iii. PowerPoint to Acquire Knowledge
iv. Outlook to Distribute Knowledge
v. Access to Transfer Knowledge
vi. OneNote to Use Knowledge
vii. Publish to Store Knowledge
viii. SharePoint to Share Knowledge
ix. Teams to Create Knowledge
x. Azure to Apply Knowledge

Outcomes: The Microsoft Office Suite of Applications are applied holistically and equally across the entire organisation, reducing their redundancy, duplicity and incompleteness while making them more cost effective across the entire employee workforce with improved outcomes:

- To achieve an integrated, holistic set of Office Documents that track the Business Administrative Advantage more closely.

- To make available these Office Documents as a Teams reality within a SharePoint Environment.
- To achieve a Team Realisation of the Client Value Chain within the Organisation through Knowledge Management Practice.
- To affect Tacit Knowledge Elicitation from all employees that use Windows and the Microsoft Office Suite.
- To create a Windows AI Platform for all employees to moderate Business Administration Processes using Office Documents within SharePoint.
- To create a full set of Mental Applications that mimic the Microsoft Office Applications.

Should the above outcomes be achieved within this Doctorate Thesis, Microsoft Windows and the Microsoft Office Suite will become a cost-effective way to creating a Knowledge Management Environment for staff within an organisation.

1.5 Research Question(s)

Throughout the entire business administration environment within any organisation, large amounts of money are being invested to get employees to implement Knowledge Management Practice by providing each employee with a computer and access to the Microsoft Office Suite of Applications.

However, employees are not being trained on how to use this suite of applications holistically to achieve the outcomes of Knowledge Management Practice within Business Administration. The best training presently available is from Microsoft themselves. This training is largely limited to ‘how to press the buttons within each application’ to achieve application specific outcomes.

To fully comprehend the impact that the suite has on Business Administration, a suitable Knowledge Lifecycle Framework must be developed that will affect this comprehension. The following Doctorate Dissertation will determine this knowledge requirement through the creation of a Knowledge Management Lifecycle Framework for the Microsoft Office Suite of Applications and link it to a Microsoft Windows Avatar for easy reference by the User.

Once a sufficient Knowledge Base/Epistemology has been generated by the User using the resultant Windows Knowledge Avatar, an AI platform can be applied that will make the Epistemology accessible to all employees to achieve Employee Enlightenment of the Business Administration Process they are part of.

Within an organisation, the field of work is intertwined with the field of study and the field of knowledge. These 3 give rise to a business environment that can rival that of its academic counterpart. That is, if it can be managed well across all employees regardless of their educational background and culture.

Therefore, it would be prudent to try and create a meta-knowledge model that prescribes the knowledge field while keeping it flexible, as well as to combine the cultural norms of the employee so that they can acknowledge the authority of this knowledge, its theory, its actions and finally become aware of its relationship to the real world he/she/they find themselves in.

It is with the above in mind that the selected literature will try and provide a compelling argument and will be discussed as follows:

- Establish the need to ‘open a window’ within the organizational context as postulated by Sakichi Toyoda founder of Toyota when he said to his staff “Open the Window It’s a big world out there” and to realise this window as the ‘meta-knowledge window’ to the field of Knowledge Management.

- Link this ‘window’ to the Cartesian Plane and establish the ‘field of knowledge, the field of study and the field of work’ with the creation of the window within the Cartesian Plane, the four ‘frames of reference’ and the ‘window-period.’
- Number and sequence the four ‘frames of reference’ in the correct order to realise the window as the window unfolds through time and to name each quadrant per the ‘Johari Window’ by Joseph Luft and Harrington Ingham (1955) as Hidden, Open, Unknown and Blind.
- Through the application of logical thought, derive the ‘frames of reference’ for each quadrant to Think, Say, Do and See from the Johari Window.
- Apply the concept of ‘Aaha Learning’ and ‘Cogmotics’ as presented by Dr. Bruce Copley (1995) to the Window so that the Window becomes an ‘Aaha Realisation’ of the Knowledge that lies within it.
- Discuss the work of John Berger’s ‘Ways of Seeing’ and the relationship we have with ‘seeing’ and that the more we know the more we see, but what we see we do not know (Berger 1972). This is how we open the window and accumulate knowledge within it through time.
- Establish a working definition of knowledge which, in this dissertation will be ‘knowledge leads to action.’
- Cover the work of various authors to populate the Window with different taxonomies to realise its significance within the field of Knowledge Management: Spender (1992), Nonaka (1994), and more recently Mousavizadeh et al (2015) among others.
- Cover the work of Zack (1998) and his ‘taxonomy of questions’ to realise the need to populate the Window with questions for the Window to realise and become aware of itself: What, Who, When, Where, Why, How, Which.
- Explore the Five Whys Technique of Root Cause Analysis of Taiichi Ohno of Toyota and equate this as the Window Period. Then to surround these Five Whys with the remaining questions of What, Who, When, Where, How and Which.

- Explore a range of Knowledge Management Lifecycle Frameworks from Huber (1991) to Evans, Dalkir and Biden (2015) and include the final analysis by Shongwe (2016).
- Map the entire Microsoft Office Suite to the Window and explain how to apply the model to affect Knowledge Management throughout the organisation using the Microsoft Office Suite of Applications and to the Windows Avatar for quick reference.

Once the above has been achieved within this Dissertation, a teachable epistemology for Knowledge Management Practice will have been developed. This will become the syllabus to the teaching of Knowledge Management to all staff within an organisation. The following advantages should be achieved:

- Knowledge Management can finally become a recognised training programme for all staff making use of a computer for Business Administration application purposes.
- Staff will become aware of knowledge acquisition practice and how knowledge elicitation is achieved.
- Staff will become more involved in knowledge acquisition as a function for their daily work requirements and should become more accepting of the need to apply their minds to more complex concepts and ideas that require deeper thought.
- Organisations will become ‘learning organisations’ whereupon a culture of ‘dedication to one’s field of expertise’ will become the driving force.
- With enhanced awareness across the board of employees within an organisation, less losses will occur, and greater efficiency should be achieved within knowledge acquisition.

With the above advantages being achieved through the application of this proposed Doctoral Thesis, Microsoft will place themselves in the position to be able to provide organisations with greater expertise in the application of Windows and their Office Suite within the context

of a Learning Organisation. Instead of Microsoft being simply a provider of computer applications, they will become the provider of Knowledge Management Applications within Learning Organisations.

1.6 The Microsoft Windows Logo

The Microsoft Windows Logo consists of 4 Windows. Each Window represents an application. Therefore, there are four Applications represented by the logo. Which four Applications would one select out of all possible Applications and in which order would one place them in within the logo?

Since this logo is the Microsoft Windows Logo, it would be fitting to use Microsoft Applications and better still, Applications from the Microsoft Office Suite of Applications as it is the standard suite of Office Applications provided by most companies to their staff to affect Business Administration.

Although Windows allows all four Applications to be open at the same time, only one can be active at any one time. Therefore, what is the sequence one would follow to work through each Application in turn and what will be the resultant throughput?

Although the Windows Logo is made up of 4 Windows (2x2 matrix), one can increase this to 9 Windows (3x3 matrix) by 'pinning' 5 additional Microsoft Office Applications. If this is done, what will the resultant sequence and throughput be now that there are 9 Applications?

The resultant '*Windows Matrix*' can be considered a *Knowledge Graph* for Windows and in the following Doctorate Thesis, this *Windows Knowledge Graph* will be conceptualised as a *Windows Framework* that will determine the understanding that must be elicited from the staff member to achieve Enlightenment within an Organisation irrespective of their position and expertise.

Intelligence, both Real and Artificial (Human and Computer) across the entire employee base of an Organisation, ensures that Business Administration achieves its outcome of Organisational Enlightenment when applying the Microsoft Office Suite of Applications for Business Administrative purposes.

Excel Spreadsheets, Word Documents, PowerPoint Presentations, OneNotes and Outlook Emails when shared across a SharePoint Platform, should achieve Enlightenment within Teams especially if an Artificial Intelligence programme is applied to the resultant Ontology created from content generated across the entire Microsoft Office Suite within Azure.

By using the Microsoft Windows Logo as the basis for this 'Windows Framework', the User will be able to 'pin' the relevant Applications to the logo and identify the Applications required to achieve Knowledge Elicitation and Abstraction within Knowledge Management and generate the applicable Ontological Content across the entire Microsoft Office Suite as it is the Microsoft Windows Logo that exemplifies Knowledge Management within computer Applications.

When applying an Office Suite of Applications within a Business Administration System, the best training available on how this can be achieved at present is 'how to press the buttons within each application'. There is no 'body of knowledge' or 'skills matrix' available on how to apply the suite holistically within Business Administration – the reason why the suite was created in the first place.

The problem with Knowledge Management Theory is that it is not being taught to staff as there is no teachable Knowledge Management Theory at present despite it being the cornerstone to the 4th Industrial Revolution. All previous revolutions are being taught to staff, but why are we not teaching/training staff on Knowledge Management when it is rooted as

the 4th Industrial Revolution. We need to 'pin' this KM theory and present it to staff so that they can participate in the 4th Revolution more effectively.

How do we teach Carpentry? By teaching how to apply, in sequence, Carpentry Tools holistically. How do we teach Knowledge Management? By teaching how to apply, in sequence, Knowledge Management Tools. Office Applications are the tools to Knowledge Management. We just need to teach how to use them holistically and in sequence to apply Knowledge Management Practice and achieve enlightenment as its product.

CHAPTER II:
LITERATURE REVIEW

2.1 Introduction

Knowledge Lifecycles have been developed by numerous researchers since Huber (1991) and have progressed in complexity up to Navimipour & Charband (2016). There are approximately 39 such lifecycles that have been selected for this Thesis. There may be more, but the 39 that will be used to justify a Unified Knowledge Management Lifecycle should suffice.

Evans, Dalkir and Bidian (2015) tried to develop a *Holistic View Lifecycle (HVL)* covering their own selection of past KM Lifecycles to create their Knowledge Management Cycle and after them came Shongwe (2016) who tried to create a *Unified Lifecycle Framework (ULF)* using the same technique. However, in Shongwe's case, all that occurred was yet another very distinct and different Lifecycle being created. It seems that, no matter how one tries to research these lifecycles, one always ends up with yet another distinct and different lifecycle. This is very true when considering these 39 chosen lifecycles (see Table 1 below) they are all very distinct either by design or by nature.

One would be hard pressed to determine a Universal Ontology out of them if one does not determine a 'Unified Lifecycle Process'. However, if we try to emulate the same research methodology that Evans et al and Shongwe attempted, and then do the same with Navimipour & Charband (2016) we could arrive at a set of KM Lifecycle Processes that achieve the status of 'Unified'.

Both Evans et al and Shongwe applied quantitative research methods by researching Knowledge Lifecycles that have been created thus far starting with Huber (1991) and ending with Evans and Ali (2013). Although their respective selections overlapped, Shongwe went

further and included many more and Evans et al used Heisig (2009) as their central lifecycle as Heisig conducted very broad research of KM Lifecycles himself.

2.2 Research Methodology

To check the validity of Evans et al and Shongwe's outcomes, if one combines their KM Lifecycle lists that they used and apply the same methodology as Evans et al and Shongwe, one arrives very close to their findings. This proves that the two lifecycle lists are authentic and present a close ontology to the applied epistemology of each researcher. Table 1 is a list of the KM Lifecycles that were used by the two researchers.

Table 1: Knowledge Management Lifecycle Processes

Researcher	KM Lifecycle Processes
Huber 1991	Acquire, Distribute, Interpret, Organisational Memory
Wiig 1993	Create, Source, Compile, Transform, Disseminate, Apply, Realise
Meyer & Zack 1996	Acquire, Refine, Store, Distribute, Present
Nichols 1996	Acquire, Organise, Specialise, Store, Distribute, Conserve, Disposal
Skyrme 1998	Identify, Create, Collect, Codify, Database, Diffuse, Use
Holsapple & Joshi 1998	Acquire, Select, Internalise, Use
Evans & Ali 1998	Generate, Codify, Transfer
Jshi 1998	Identify, Acquire, Codify, Store, Disseminate, Refine, Apply, Create
Bukowitz & Williams 2000	Get, Use, Learn, Contribute, Assess
Alvi & Leidner 2001	Create, Store, Retrieve, Transfer, Apply
Martins, Heisig & Vorbeck 2001	Create, Store, Distribute, Apply
Holsapple & Joshi 2001	Create, Select, Internalise, Use
Birkinshaw & Sheeham 2002	Create, Mobilise, Diffuse, Commoditise
Lee and Hong 2002	Capture, Develop, Share, Utilise

Argote, McEvily & Reagans 2003	Create, Retain, Transfer
McElroy 2003	Validate, Acquire, Integrate, Complete
O'Dell, Grayson & Essaides 2003	Organise, Share, Adapt, Use, Create, Define, Collect
Kasvi, Vartianen, Hailikari 2003	Create, Administrate, Disseminate, Utilise
Rolet 2003	Plan, Create, Integrate, Organise, Transfer, Maintain, Assess
Liu, Chen & Tsai 2003	Obtain, Refine, Store, Share
Liebowitz & Megbolugbe 2003	Identify, Capture, Share, Apply, Create
Arostegui 2004	Capture, Elaborate, Transfer, Store, Share
Awad & Ghaziri 2004	Capture, Organise, Refine, Transfer
Gonzalez & Sabherwal 2004	Discover, Capture, Share, Apply
Lee, Lee & Kang 2004	Create, Accumulate, Share, Utilise, Internalise
Chong & Choi 2005	Create, Gather, Organise, Store, Diffuse, Use, Explore
Lee et al 2005	Create, Accumulate, Share, Utilise, Internalise
Tikhomirova et al 2008	Identify, Capture, Create, Classify, Store, Distribute, Apply
Huang & Shih 2009	Create, Store, Distribute, Utilise
Sagsan 2009	Create, Share, Structuring, Using, Auditing
Heisig 2009	Share, Create, Use, Store, Identify
Dalkie 2011	Capture, Create, Acquire, Apply, Share, Disseminate
Turner, Zimmerman & Allen 2012	Create, Acquire, Store, Disseminate, Transfer, Apply
Clobridge 2013	Capture, Describe, Organise, Share
Evans & Ali 2013	Identify, Organise, Store, Share, Apply, Evaluate, Learn, Create
Kanat & Atilgan 2014	Create, Store, Share, Use
Chang & Lin 2015	Capture, Store, Share, Use
Hamond et al 2016	Create, Internalise, Acquire, Refine, Utilise
Navimipour & Charband 2016	Capture, Share, Develop, Use

From the above table, every KM Lifecycle presented is clearly different. Although one can pick up similarities in word choice, they all remain virtually unusable - although this

may be due to the removal of their original context in which they were researched from. Therefore, one could draw license from this to be able to generate one's own dependent on the context in question - could we say the Microsoft Office Suite context…?

Table 2 presents the 'popularity' ranking of the Lifecycle Processes collated from the KM Lifecycles in Table 1 used by each researcher, and the number of times it was used by each researcher analysed. The top 10 processes were selected for good measure beyond the original scope applied by Evans et al which is 7. The reason for this will become apparent later in this dissertation.

Table 2: Lifecycle Ranking

Ranking	Process	Usage
1	Create	24
2	Share	16
3	Store	15
4	Use	11
5	Apply	10
6	Capture	10
7	Acquire	9
8	Organise	7
9	Transfer	7
10	Distribute	6

In Table 3 one can see the relationship between the KMC Model outcomes of Evans et al and the Unified Model of Shongwe along with the Trial Outcomes; They follow closely to one another. However, the table is only ranked by 'popularity' and not by 'sequence'. For

the sequence we must rely on the KMC Model as per Evans et al. Shongwe only created a 'popularity' ranking model.

Table 3: Model Comparison		
Trial Model	**KMC Model**	**Unified Model**
Create	Create	Create
Share	Share	Share
Store	Store	Store
Use	Use	Use
Apply		Apply
Capture		Capture
Acquire	**Learn**	**Acquire**
Organise		Organise
Transfer	**Identify**	**Identify**
Distribute		

From Table 3 many of the processes are the same across all three columns. There are two rows that are different. The first one is *Acquire-Learn-Acquire* and the second is *Transfer-Identify-Identify*. Regarding the first one (Acquire-Learn-Acquire) one could assume them to be synonyms; that to *acquire knowledge* is the same as to *learn knowledge* as *knowledge acquisition* and *learning* are often considered to be the same process within academic literature. Regarding the second one (Transfer-Identify-Identify), one must select *Transfer* as this is from the Trial Model and the methodology used is more precise. It is to be noted that this table is per a 'popularity' ranking and not a 'sequence' ranking. To determine

a ‘sequence’ ranking we will have to apply a different research methodology. This will be applied later. For now, let’s continue with what is given within the literature.

Figure 1 is the KMC Model of Evans et al recreated and from the above we can assume it to be correct for the purposes of this discussion and use it to determine the Microsoft Office Application Sequence that follows.

To make use of the Microsoft Office Suite it is envisaged that the applications are used in sequence whereupon the outcome of one application becomes the input of the next application. Therefore, we require a sequence, and the only sequence is that of the KMC Model. In Table 4, the KMC sequence has been applied to Table 2.

Table 4: Model Comparison Modified

Trial Model	KMC Model	Unified Model
Create	Create	Create
Share	Share	Share
Store	Store	Store
Use	Use	Use
Apply		Apply
Capture		Capture
Acquire	**Learn**	**Acquire**
Organise	**Improve**	**Organise**
Transfer	**Identify**	**Identify**
Distribute		

2.3 Knowledge Assets

Moving through the KMC model are *Knowledge Assets* whose value to the organisation depends on the form that they take (Boisot, 1998 and van den Berg, 2013 in Evans et al, 2015). The most notable of these forms is between *tacit* and *explicit* knowledge.

Tacit Knowledge is intangible knowledge that is embedded within each employee and is uncodified while Explicit Knowledge is knowledge that has been codified by the employee and expressed within various Knowledge Documents (Choo, 2006; Polanyi, 1996; Nonaka and Takeuchi, 1995; van den Berg, 2013 in Evans et al, 2015).

It is for the above reason that the organisation must make use of a KM Lifecycle to draw out of the employee his/her/their knowledge so that it is made usable for the organization. The reason for these KM Models having multiple processes, is to ensure the validity of the knowledge asset being created. The longer and more drawn out the process the greater the value of the Knowledge Asset.

The Knowledge Management Cycle (KMC) Model

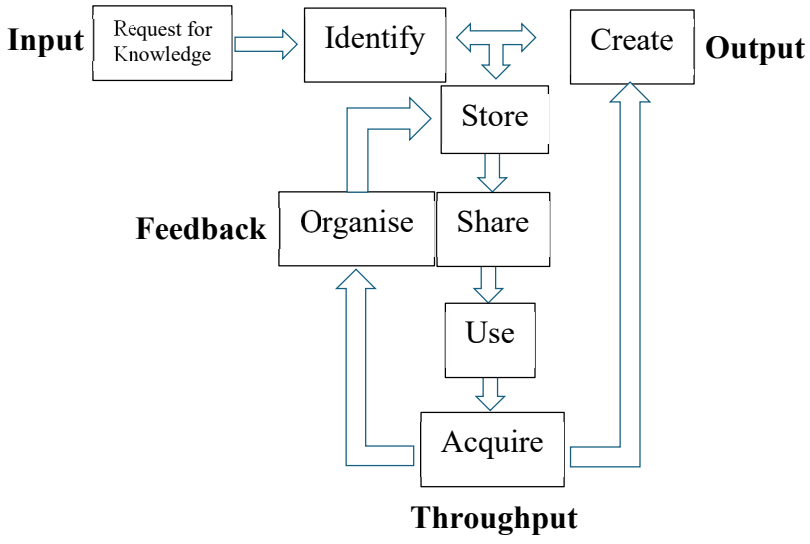


Figure 1 **Evans et al (2015) Revised.**

Knowledge Assets are created using the Microsoft Office Suite. Such assets are Excel Spreadsheets, Word Documents, PowerPoint Presentations, OneNotes, Outlook Emails, Published Documents and Access Databases. All of these are created by employees that work on these applications and they must complement each other and come together under a unified KM Lifecycle that the company has set-up. It is in the interest of the company to ensure that these assets are well organised so that they contribute to the knowledge base of the company.

2.4 Tacit Knowledge Elicitation

Tacit Knowledge Elicitation is the process applied to building expert systems. The aim of this process is to elicit from a knowledge expert their tacit knowledge regarding the engineering of an expert system (Chervinskaya and Wasserman, 2000).

This tacit knowledge is in the form of mental models that the knowledge domain expert has created over time. These models are difficult to express if they do not have a specific context into which they can be expressed (Ford and Sterman, 1997).

There are various techniques that are available that can be applied to facilitate tacit knowledge elicitation. Below is a list of such techniques as provided by Hanafizadeh and Ghamkhari (2018).

a. Unstructured, Semi-structured and Structured Interviews
b. Laddering, Process and Concept Mapping, Teach-back Modelling.
c. Twenty Questions, Critical Decision, Repertory Grid, Card Sorting, Triadic Elicitation.

Hanafizadeh and Ghamkhari (2018) did not research these techniques as novel, but rather presented them as being provided by other researchers over time. Therefore, these techniques

have been well documented as peer reviewed research papers for their suitable use in tacit knowledge elicitation.

Since the techniques outlined above are ‘applications’ and each ‘application’ requires an input, process, and output, can one not consider the Microsoft Office Suite of Applications the same way, as Tacit Knowledge Elicitation Techniques in their own right?

If we consider all employees within an organisation as possible *knowledge experts* within their field of work and that they have created mental models of their tacit knowledge, how does one create the context into which these models can be applied?

It is to be noted that all employees have been selected for their respective positions within an organisation as ‘experts’ by the selection process set up by the Human Resources Department of an organisation. Once selected, each employee is provided with a computer (laptop or desktop) and access to the Microsoft Office Suite to affect their *Job Description* as *Knowledge Experts.*

Each employee is then given a selection of data streams that they are responsible for to ensure that the data stream generated within the day-to-day operations of the company remains within suitable norms from month-to-month dependent on the respective department and the position they occupy within that department.

If we consider the given model of Evans et al (2015) as outlined above and apply this thinking, we can create a Tacit Knowledge Elicitation Model using the Microsoft Office Suite of Applications in sequence such that the *Expert Employee* will be able to provide their *Expert Knowledge* to a prevailing organisational problem as conceptualized by the data streams they are responsible for.

The following is a hypothetical explanation of how this could be done. Refer to Figure 1 above and Figure 2 below for reference as these hypothetical explanations are presented.

2.4.1 Knowledge Request using Microsoft Office

A Knowledge Request is a request for knowledge to be supplied for various reasons that may be either strategic and/or operational such as for problem solving, decision making, gap analysis or innovation among others (Evans et al, 2015).

The Microsoft Office Suite as a whole and by its use constitutes a Knowledge Request. By applying each application in sequence such that the output of one becomes the input of the other and every staff member is aware of this sequence, the resultant throughput of the suite becomes KM Practice itself; That staff will know to which application they can go back to and find justification for the current application in question.

2.4.2 Capture Knowledge using Excel.

To identify knowledge, the employee makes use of data that is being collated from the transactions of the department they are in and the data they are responsible for based on their position within the department. This knowledge identification is applied using *Excel*. The raw data is entered into an *Excel Spreadsheet* (from an 'access' programme to be discussed later) and 'excelled' to the level at which it identifies itself as being within/without acceptable norms. If within, then no new knowledge is required as existing knowledge will suffice. If without, then new knowledge must be created to bring this data back into alignment.

2.4.3 Organise Knowledge using Word.

After the data has been processed through Excel, an *explanation* of the current data in relation to all other data collated from previously collected data in the past is then written up as a Word Document using *MS Word* usually in the form of a report. This report is then *stored* within MS SharePoint to be read by those that are privy to the report such as Supervisors and Line-Managers within the department. If the data is within acceptable norms, the current knowledge will suffice to continue being used as before and no further processing is required. If not, then remedial action will be required, and new knowledge is created AND applied to alter the next tranche of data downloaded when the knowledge lifecycle repeats itself.

2.4.4 Acquire Knowledge using PowerPoint.

As the monthly reports are generated and Supervisors and Line-Managers get to read the reports, the information contained within each report is converted into *Applied Knowledge* over time through a process of re-contextualization (Dalkir, 2011 in Evans et al, 2015). This applied knowledge is written up within a PowerPoint presentation and *shared* with all relevant stakeholders responsible for the application of the knowledge.

2.4.5 Distribute Knowledge using Outlook.

Once the PowerPoint presentation has been presented, the departmental staff then go out to execute the resultant knowledge to affect the necessary changes identified. As this occurs, staff use Outlook to express how the knowledge is being applied to ensure that it is applied correctly as well as expressing any anomalies that must be addressed as they occur.

2.4.6 Transfer Knowledge using Access.

Every department within an organisation is responsible for completing a set of transactions over the course of a month. These transactions are completed using an Access programme. Although one can make use of Microsoft Access, there are more powerful 'Access' Programs that have been created. Such programs as ViP for Payroll, Pastel for Accounts and HireTrack for equipment hire and so on.

All of these 'access' programs ensure that all transactions the department undertakes are logged. It is within these 'access' programs that the raw data is obtained to be fed into Excel at month end.

2.4.7 Use Knowledge with OneNote.

The resultant learning that takes place within the organisation over time is then fed back into the process via an *organise* loop. As stakeholders learn what the transaction content of their Access programme consists of and the reasons why these transactions are being affected by clients and suppliers alike, these transactions create data that is fed into Excel for *identification*.

By making use of OneNote, staff take note of the need to *organise* the process of *knowledge acquisition*. This is the reason why staff write notes; Each note refers to the reorganization of knowledge. Therefore, when writing notes, always be mindful of the KM Process and where the department is within its knowledge acquisition process.

2.4.8 Store Knowledge with Publish.

As the KM Lifecycle loops over time, incremental steps of refinement add up to a full step of knowledge creation. This new knowledge is 'published' along with previous knowledge that has already been published. This allows for new knowledge to be assimilated

into existing knowledge. Once published, it becomes explicit knowledge for all stakeholders to know and use. It also becomes the basis for any staff training required.

It is when the company publishes its 'findings' with regards to *Knowledge Acquisition*, then it develops its own '*body of knowledge'* from the output of an accepted KM Practice adhered to by all employees. The company will become a leader in its field of business simply because it adheres to a rigorous KM Lifecycle.

The KMC Model with the Microsoft Office Suite

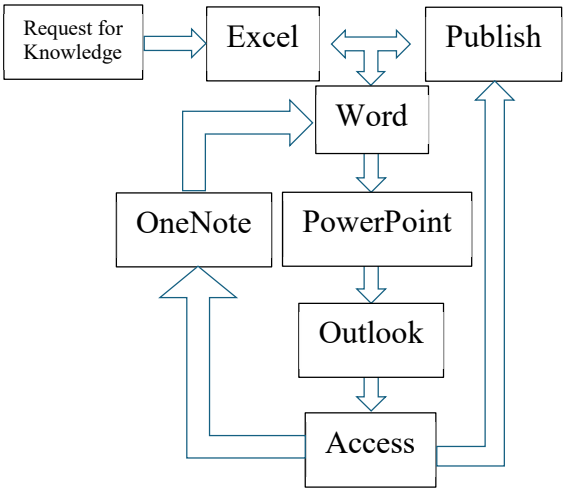


Figure 2 **Evans et al (2015) Modified.**

Figure 2 presents the eight hypotheses in sequence as per the model outline of Evans et al (2015) and this sequence may well suffice as it stands. However, it would be incomplete to regard this model as sufficient when one considers that there are a total of 10 Applications that make up the Microsoft Office Suite: Excel, Word, PowerPoint, Outlook, Access, OneNote, Publish, SharePoint, Teams, and Azure. We therefore need to create a 10-sequence model. We would therefore need to increase the LM Lifecycle to 10-steps to link with each of

the 10 Microsoft Office Applications. To achieve this, we will need to adopt and apply a new methodology two determine a 10-step KM Lifecycle.

2.5 A New KM Lifecycle Sequence

Let's return to Table 1 above where we will find the KM Lifecycles tabulated according to their author. Each of these lifecycles has their own sequence created by their respective authors. If we assume that Evans et al and Shongwe retained the sequence integrity for each Lifecycle, then can we determine an average sequence applied across the 10 lifecycle steps in table 4?

2.6 Methodology

Ignoring the KM Lifecycle sequence as contemplated by Evans et al which only covered 7 steps, let's concentrate on the Unified and Trial Model Lifecycles which both have 10 steps and are the same. To determine where each step lies across the entire set of Lifecycles in Table 1, we can assign a sequence location number for each. Then, by adding up each lifecycle score, each lifecycle step will obtain a sequence ranking that can be used to determine the final sequence for each Lifecycle step in Table 5 and tabulate such a score ranking in Table 6.

Table 5: Knowledge Management Lifecycle Process Sequence Location

Researcher	KM Lifecycle Processes
Huber 1991	**Acquire(1)**, **Distribute(2),** Interpret, Organisational Memory
Wiig 1993	**Create(1)**, Source, Compile, Transform, Disseminate, **Apply(6)**, Realise
Meyer & Zack 1996	**Acquire(1)**, Refine, **Store(3)**, **Distribute (4),** Present

Nichols 1996	**Acquire(1)**, **Organise(2)**, Specialise, **Store(4)**, **Distribute(5),** Conserve, Disposal
Skyrme 1998	Identify, **Create(2)**, Collect, Codify, Database, Diffuse, **Use(7)**
Holsapple & Joshi 1998	**Acquire(1)**, Select, Internalise, **Use(4)**
Evans & Ali 1998	Generate, Codify, **Transfer(3)**
Jshi 1998	Identify, **Acquire(2)**, Codify, **Store(4)**, Disseminate, Refine, **Apply(7)**, **Create(8)**
Bukowitz & Williams 2000	Get, **Use(2)**, Learn, Contribute, Assess
Alvi & Leidner 2001	**Create(1)**, **Store(2)**, Retrieve, **Transfer(4), Apply(5)**
Martins, Heisig & Vorbeck 2001	**Create(1), Store(2)**, **Distribute(3), Apply(4)**
Holsapple & Joshi 2001	**Create(1)**, Select, Internalise, **Use(4)**
Birkinshaw & Sheeham 2002	**Create(1)**, Mobilise, Diffuse, Commoditise
Lee and Hong 20020	**Capture(1)**, Develop, **Share(3)**, Utilise
Argote, McEvily & Reagans 2003	**Create(1)**, Retain, **Transfer(3)**
McElroy 2003	Validate, **Acquire(2)**, Integrate, Complete
O'Dell, Grayson & Essaides 2003	**Organise(1), Share(2)**, Adapt, **Use(4)**, **Create(5)**, Define, Collect
Kasvi, Vartianen, Hailikari 2003	**Create(1)**, Administrate, Disseminate, Utilise
Rolet 2003	Plan, **Create(2),** Integrate, **Organise(4), Transfer(5)**, Maintain, Assess
Liu, Chen & Tsai 2003	Obtain, Refine, **Store(3)**, **Share(4)**
Liebowitz & Megbolugbe 2003	**Identify(1)**, **Capture(2), Share(3)**, **Apply(4)**, **Create(5)**
Arostegui 2004	**Capture(1)**, Elaborate, **Transfer(3), Store(4)**, **Share(5)**
Awad & Ghaziri 2004	**Capture(1)**, **Organise(2),** Refine, **Transfer(4)**
Gonzalez & Sabherwal 2004	Discover, **Capture(2)**, **Share(3)**, **Apply(4)**
Lee, Lee & Kang 2004	**Create(1)**, Accumulate, **Share(3)**, Utilise, Internalise
Chong & Choi 2005	**Create(1)**, Gather, **Organise(3), Store(4)**, Diffuse, **Use(5)**, Explore
Lee et al 2005	**Create(1)**, Accumulate, **Share(3)**, Utilise, Internalise

Tikhomirova et al 2008	Identify, **Capture(2)**, **Create(3)**, Classify, **Store(5)**, **Distribute(6), Apply(7)**
Huang & Shih 2009	**Create(1)**, **Store(2)**, **Distribute(3),** Utilise
Sagsan 2009	**Create(1)**, **Share(2)**, Structuring, **Using(4)**, Auditing
Heisig 2009	**Share(1)**, **Create(2)**, **Use(3)**, **Store(4)**, Identify
Dalkie 2011	**Capture(1)**, **Create(2)**, **Acquire(3)**, **Apply(4)**, **Share(5)**, Disseminate
Turner, Zimmerman & Allen 2012	**Create(1)**, **Acquire(2)**, **Store(3)**, Disseminate, **Transfer(5), Apply(6)**
Clobridge 2013	**Capture(1)**, Describe, **Organise(3), Share(4)**
Evans & Ali 2013	Identify, Organise, **Store(3)**, **Share(4)**, **Apply(5)**, Evaluate, Learn, **Create(6)**
Kanat & Atilgan 2014	**Create(1)**, **Store(2)**, **Share(3)**, **Use(4)**
Chang & Lin 2015	**Capture(1)**, **Store(2)**, **Share(3)**, **Use(4)**
Hamond et al 2016	**Create(1)**, Internalise, **Acquire(3)**, Refine, Utilise
Navimipour & Charband 2016	**Capture(1)**, **Share(2)**, Develop, **Use(4)**

Table 6: The KM Lifecycle Ranking Score

S	Process	Usage Ranking Score
52	Apply	6/7/5/4/4/4/7/4/6/5
51	Create	1/2/8/1/1/1/1/1/5/1/2/5/1/1/1/3/1/1/2/2/1/6/1/1
50	Share	3/2/4/3/5/3/3/3/2/1/5/4/4/3/3/2
47	Store	3/4/4/2/2/3/4/4/5/2/4/3/3/2/2
45	Use	7/4/2/4/4/5/4/3/4/4/4
27	Transfer	3/4/3/5/3/4/5
23	Distribute	2/4/5/3/6/3
16	Acquire	1/1/1/1/2/2/3/2/3
15	Organise	1/4/2/3/3/2
14	Capture	1/2/1/1/1/2/2/1/1/1/1

Table 6 represents the scores tabulated from Table 5 above and then added up to provide a final Ranking Score. This score is then ranked from lowest to highest in Table 7 below to create a final Knowledge Management Lifecycle Sequence for the available data as given by Evans et al and Shongwe.

Table 7: The KM Lifecycle Sequence

Sequence	Process	Average Sequence Score
1	Capture	13
2	Organise	15
3	Acquire	16
4	Distribute	17
5	Transfer	27
6	Use	44
7	Store	46
8	Share	50
9	Create	51
10	Apply	52

Table 7 above represents the final set of Knowledge Management Lifecycle Steps in sequence and will be used throughout this dissertation. The remainder of this dissertation will use the above Lifecycle Sequence and map it to Windows to create the *Windows Knowledge Management Conceptual Framework* that follows hereon.

2.7 Results

From Table 7, the following KM Lifecycle Sequence has been obtained and will be discussed as follows:

i. **Capture using Excel:** Knowledge to be Captured in some form and kept for future processing along with the Analysis of its core components.

ii. **Organise using Word:** Knowledge is then Organised and where gaps in the knowledge are identified, knowledge may require further Synthesis.

iii. **Acquire using PowerPoint:** The Organised Knowledge will need to be Implemented and so an Implementation Sequence will need to be Acquired.

iv. **Distribute using Outlook:** Knowledge is Distributed according to applicable Standards and is Assessed to ensure the correct Application of the Knowledge where required using emails.

v. **Transfer using Access:** Once the Knowledge has been Distributed across the entire Knowledge Domain, the resultant Knowledge Transfer can be Evaluated for its efficacy.

vi. **Use using OneNote:** As Knowledge is Transferred across the Lifecycle, it is Used to achieve an Effect. That effect is to alter the resultant data. The resultant data change must be taken note of.

vii. **Store using Publish:** As knowledge is being Used. Tacit knowledge come to the fore that requires storage for verification as to its exact nature for later Use.

viii. **Share using SharePoint**: Once Knowledge has been Stored, to ensure that its future Use is more compliant, the Knowledge is Shared to Justify its continued Use.

ix. **Create using Teams:** Each time a Knowledge Lifecycle unfolds, an Improved Awareness is Created. This has the effect of Improving the Knowledge to be Applied.

x. **Apply using Azure:** As the KM Lifecycle is applied each time greater Enlightenment is achieved that will add to the overall understanding throughout Azure.

So far, we have determined a 10-Step Knowledge Management Lifecycle and mapped each step to a suitable Microsoft Office Application along with a suitable Mental Application to match. See Table 8 for a summary.

Table 8: The KM Lifecycle Sequence with MS Office and mental Applications

Sequence	Process	MS Office Application	Mental Application
1	Capture	Excel	Analyse
2	Organise	Word	Synthesise
3	Acquire	PowerPoint	Implement
4	Distribute	Outlook	Assess
5	Transfer	Access	Evaluate
6	Use	OneNote	Moderate
7	Store	Publish	Verify
8	Share	SharePoint	Justify
9	Create	Teams	Improve
10	Apply	Azure	Enlighten

2.8 Conclusion

Now that we have the KM Lifecycle mapped to a suitable MS Office Application AND a suitable Mental Application, we can proceed with the development of a Windows Knowledge Management Lifecycle Framework.

This Framework will be designed around the ‘Window of Knowledge’ as contemplated by Joseph Luft and Harrington Ingham (1955) to maintain the Window/Windows metaphor of Knowledge Acquisition.

CHAPTER III

METHODOLY

3.1 Introduction

After having read a plethora of peer reviewed papers covering Knowledge Management (KM) Lifecycle Framework Processes, one realises that much of these KM Processes that have been identified lack a coherent universal framework upon which they can rely on for their epistemology. It has taken over 20 years for a reliable epistemology to develop but there is no coherent holistic epistemology available. Also, the literature is searching for a unified set of computer applications to affect these processes within an organisational context as KM practice is computer application based.

Therefore, the need for research is to determine a universal KM framework (window) and to determine the computer applications required to affect KM practice within an organisation.

3.2 Research Objectives

Seng (2004) in Sunyono et al (2015) defines a mental model as “deeply held internal images of how the world works, images that limit us to familiar ways of thinking and acting. Very often we are not consciously aware of our mental models, or the effects they have on our behavior”.

Per Mumford et al (1991) in Malycha et al (2017) there are eight core processes that play a critical role when creative ideas are formed. (1) After a problem or task has been clearly defined, (2) knowledge is activated and (3) organized into appropriate categories (taxonomies) resulting in (4) novel combinations of these categories being generated which results in (5) new ideas being generated which are (6) evaluated between each other and (7)

the best one(s) implemented and (8) the outcome(s) assessed. Should the result not achieve the desired outcome, the whole process repeats itself.

Mental Models, per Hemelo-Silver & Pfeffer (2004) in Malycha et al (2017), are an explanation of someone's thoughts about the workings of their external real world and that they represent complex forms of domain specific knowledge. They provide a framework for the storage and recall of past experiences (He, Erdelez, Wang & Shyu, 2008 in Malycha et al, 2017).

Per Malycha et al (2017) the structure of a mental model a person applies is crucial to his/her performance within the workplace on a problem-solving task. "The potential impact of mental models on people's creative thinking suggests that training interventions designed to improve creative problem-solving should focus on fostering strategies which require people work with information imbedded in their mental models" (Scott et al., 2004, in Malycha et al, 2017).

Doyle and Ford in Scott et al. (2016) provide a thorough definitions of a mental model: "A relatively enduring and accessible, but limited, internal conceptual representation of an external system whose structure is analogous to the perceived structure of the system".

Mental models are enduring and resistant to change (Genter and Stevens, 1983, Scott et al, 2016). Also, individuals with shared mental models that are compatible have a greater propensity to arrive at compatible conclusions (Cannon-Bowers et al., 1993 in Scott et al, 2016). Since meta-knowledge is 'knowledge about knowledge' and that models frame a person's knowledge, can one derive a metamodel that will create all subsequent mental models?

Per Gary and Wood (2016) perceived causal relationships of the business environment by individuals are in short 'chunks' rather than in large interconnected networks of the full set of causal relationships: "Research shows that decision makers usually think in short causal

chains, tend to assume each effect has a single cause, recognize little feedback and typically represent complex, interdependent situations as largely separable components" (Feltovich et al, 2001; Sterman, 1994, in Gary & Wood, 2016).

Therefore, from the above, it is advisable to create a meta-model that will force the development of large, interconnected network models that recognize multiple cause and effect outcomes, allow for feedback to modify the model and to achieve a more holistic outcome of the entire model.

3.3 Research Methodology

Following is the research methodology that this proposed Doctorate Thesis will follow. It is to follow a Conceptual Framework Methodology using the Conceptual Paper Outline by Michael Marek (Wayne State College – Wayne, Nebraska, USA) as an example.

The following steps will to be applied:

1. Conduct a Literature Review covering as many internal and external influencers as possible.
2. Reflect on the above influences to capture alternate influences not found within the literature reviewed.
3. Synthesise the influencers into a new Taxonomy, Thesaurus and Ontology.
4. Integrate the new Ontology into a conceptual framework showing the internal and external factors identified.
5. Analyse the role of the instructional design and technology required by the resultant model.
6. Develop recommendations for its eventual implementation.

3.4 Windows for the Computer

Before we consider ‘Windows for the Mind’ let us first consider ‘Windows for the Computer’ in relation to the Computer User. A Computer User is different from a Computer Programmer. A Computer User is a ‘professional’ that makes use of a computer at work or at play and makes use of ‘applications’ to affect this work or play. A Computer Programmer programs the application itself for the Computer User to apply within their respective work or play environment.

All computers require an Operating System to enable them to run applications. Windows is a proprietary name coined by Microsoft to name their Operating System. However, there are other companies that have a ‘windows’ operating system such as macOS developed by Apple, Android developed by Google and iOS also developed by Apple. All of them make use of a ‘Window’ to open an application.

The advantages of using a Window to open an application are: (1) More than one window can be opened at the same time and so more than one application can be open at the same time. However, only one window can be active at any one time. (2) By using the function of a ‘clipboard’ the User can Cut, Copy and Paste data or Information from one application to another. (3) More than one application is often used by the Computer User to complete their work or play tasks. In fact, this is why there is an entire Office Suite of Applications created by different companies that consist of multiple applications all of which are required to affect Business Administrative Tasks.

An application is a task specific programme that requires input, process and output. Since more than one application is required, these applications are applied sequentially such that the output of one becomes that input of another. This leads to an overall throughput of applicable applications that will have the effect of allowing the Computer User to achieve Knowledge Management by way of Knowledge Elicitation.

Just as a User may use a Calculator to apply Mathematical Functions why can't a Computer User make use of Computer Applications to apply Mental Applications? Is there a correlation between Computer Applications and Mental Applications? Are these Mental Applications the Knowledge Management Lifecyle Processes so far determined? If so, then we have the beginnings of a *Windows-Based Mental Operating System* just like the *Windows-Based Computer Operating System* that can generate Data, Information, Knowledge and Wisdom across a set of Office Suite Applications to achieve Enlightenment of Business Processes. The Mental Windows must also be modeled according to an academically recognisable *Mental Windows Framework.*

3.5 Windows for the Mind

Describing our knowledge using the metaphor of a 'window' has been used within popular culture for some time now. Expressions such as "Open the Window. It's a Big World Out There" (Sakichi Toyoda) "The Window of Opportunity" (?), "The Window Period" (?) and now more recently "The Window of Hope" (Oleta Adams, 1993) have created the illusion of a 'window' that exists within the metaphorical realm of knowledge awareness.

These metaphors, though seemingly different, may well be one and the same and that they may refer to a singular 'window'. The 'window' is being used as a metaphor to define the *field of knowledge*, the *field of study* and the *field of work*. This can become especially useful in Knowledge Management. See Figure 3.

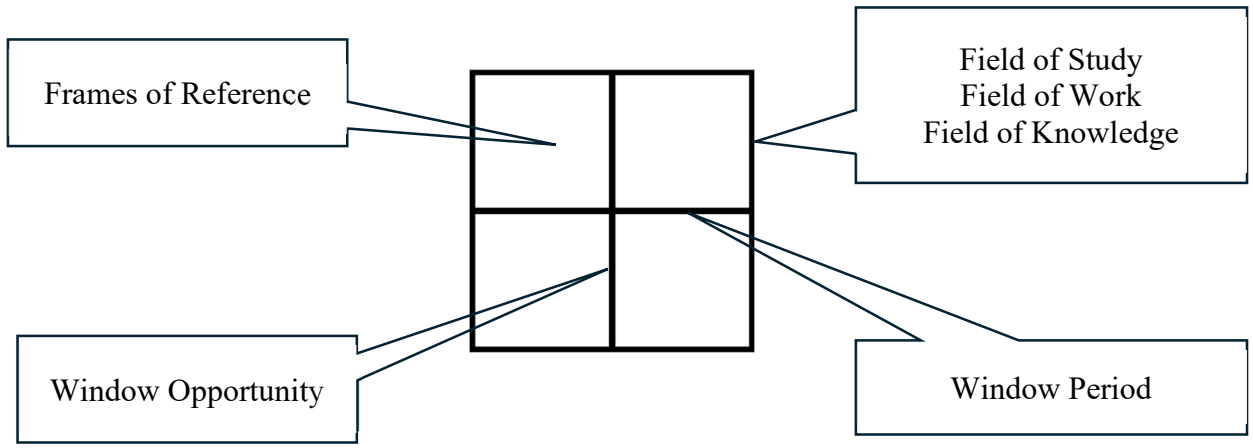


Figure 3 **Garth Green 2025.**

If this 'window' can be drawn and populated with meta-knowledge, then one has the beginnings of a *windows-based mental operating system*. This can be used by employees to convert implied data into explicit information and in so doing, generate for themselves the required knowledge for their respective *field of work*.

Sakichi Toyoda, the founder of Toyota – one of the largest automotive manufacturers in the world – has been quoted as having repeatedly said to his staff "open the window, it's a big world out there." Sakichi used this expression to motivate his employees to see beyond the confines of the present situation at hand and to explore other opportunities that will lead to his Kaizen philosophy of 'small incremental steps of continuous improvement.'

It is to be noted that this Window looks very much like the Microsoft Windows Logo. However, one is not allowed to draw, annotate or animate any logo due to copyright issues. Therefore, this window is rather to be considered an AVATAR. An Avatar is an icon that

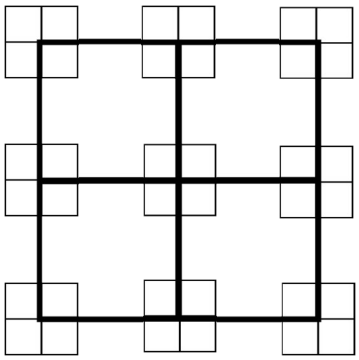
depicts a Field of Knowledge while a Logo is an icon that depicts a Brand. Avatars can be drawn, annotated, and animated by anyone and is used to illustrate their Field of Knowledge.

3.6 Window to Windows

Figure 4 illustrates how the Main Window is subdivided into Sub-Windows. There are nine Sub-Windows that make up the Main Window. This is why the Derived Knowledge Lifecycle has 10 steps – 9 Subs with the 10th being the Main Window.

It is also to be noted that this 'framework' is not unlike the framework that one will find on one's computer for the mapping of the Application Icons within the Start Menu.

The Window to Windows



Main Window to Sub Windows

Figure 4 **Garth Green 2025.**

3.7 The Cartesian Window

During the 1650's Rene Descartes put forward the notion of a mathematical 'plane' that has become known as the Cartesian Plane. It consists of two axes set at right angles to

each other which depict scalar quantities of ‘x’ and ‘y’ respectively creating the algebraic formula of the function of ‘x’ in relation to ‘y’. This creates a graph that depicts the changing relationship between two variables.

It has become the cornerstone of all our graphical depiction of the relationship between two variables as required in such math as Algebra, Calculus, Logs and Statistics to mention a few. There is a 3-dimentional version of this with the axis ‘z’ depicted going into and out of the 2-dimensional page. However, this 2-dimensional depiction will suffice for this thesis. See Figure 5

In figure 5, the ‘window’ has been superimposed over the Cartesian Plane creating 4 ‘quadrants’ in sequence as depicted. This sequence is to ensure that the window opens in a sequential manner over time.

The Window and The Cartesian Plane

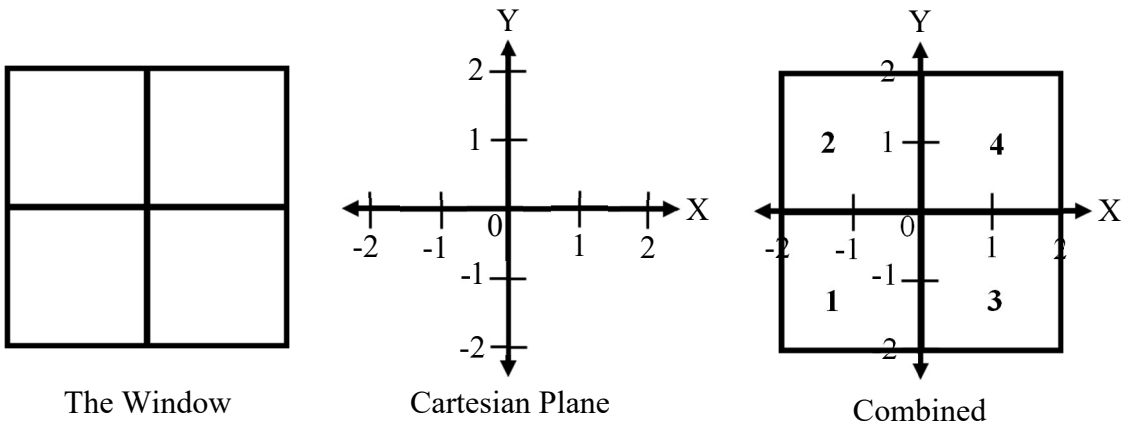


Figure 5 **Garth Green 2025.**

The scalar quantities along the ‘x’ and ‘y’ continuums dictate the change in ‘time’ from *Past to Present to Future* and the change in Opportunity from the *Lesser Opportunity* to the *Greater Opportunity*.

Data is generated as an organisation creates value for its clients. This data is collated, and a graph is drawn depicting the relationship between two data variables – the dependent and the independent variable. The dependent variable is ‘dependent’ on the ‘independent’ variable which is often set as ‘time’.

The resultant graph is explanation from which information is created. This explanation becomes the input to the creation of knowledge which leads to understanding and awareness. It is the awareness that becomes the input for the derivation of future probability.

There is one reference that is of importance that lies within the Cartesian Plane which does not lie within the window itself, though the window does refer to it. This is the ‘timeline’ or ‘period’. This line runs along the ‘x’ axis. This gives rise to the ‘Window Period’ and runs through the center of the window. This time is broken down into moments. A moment of time is the time during which the dependent variable is being created as the independent variable – usually time – unfolds.

As an example, most graphs are created in ‘monthly’ moments. Therefore, during the month, the dependent variable is being created – such as turnover for that month. At the end of the time-period (the month) the data is collated and inserted into the graph allowing the present to move one month on. In so doing the observer sees more of the resultant knowledge.

As the monthly turnover shifts across the window, the observer begins to realise patterns emerging within the graph. These patterns give rise to knowledge that is used to predict the future in ever increasing surety. This is the power of knowledge awareness – the

ability for the observer to predict the future turnover in this case. With this knowledge, management can make better decisions as to resource allocation.

The Cartesian Plane provides us with the ability to generate knowledge through the superimposed window that lies within it. Therefore, by opening the window, one is opening the Cartesian Plane.

The Advantage and Disadvantage

Although the Cartesian Plane is not a 'window' it sets the backdrop onto which the 'window' can be placed. The advantage is that it presents the world with the necessary graphical representation of data from which a graph can be drawn depicting the relationship between a dependent and independent variable. In so doing, information about the data can be acquired and knowledge awareness is achieved.

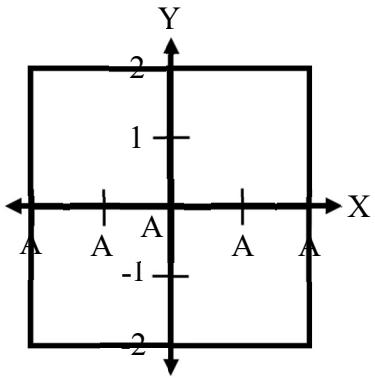
Often the independent variable – which is placed along the 'x' axis – is time. Therefore, the Cartesian plane provides the 'window' with the required 'window period'. The disadvantage is that data is inserted in discreet amounts which is not how the world around us operates. The word is far more 'fluid' and so the human mind must fill in the missing data through a process called 'inferencing'.

3.8 The Window Period

Running along the centerline of the Cartesian Plane is the 'timeline' which becomes the 'Window Period'. This is the time it takes for one to move through the window. However, there is a catch, the time it takes to move through the window must be determined by the time it take to realise the knowledge that lies within the window.

If one can grasp the knowledge quicker compared to other team members, then all the better. The window is then complete and a new one can be opened. See Figure 6.

The Window Period



Acquisition – **A**cquisition – **A**cquisition – **A**cquisition – **A**cquisition

Figure 6 **Garth Green 2025.**

The Advantage and Disadvantage

The 'Window Period' sets out the time it takes to move through the 'window' to achieve conscious awareness of the knowledge that lies within it given the data variables set out along the 'x' and 'y' axis. However, the disadvantage is that this time-period is uniform and does not consider the human factor of the mind being able to realise knowledge before all the information has been presented. Hence the need to add the 'aaha' realisation of the information in relation to the knowledge within is more appropriate.

3.9 The Aaha Window

Dr Bruce Copley (1995) of 'Aaha Learning' developed the concept of 'Cogmotics'. This concept is derived from the words 'Cognition' and 'Motor'. Therefore, the concept explains the link between Cognition and Motor – Knowledge into Action.

The word ‘aaha’ is significant to his ‘Cogmotics’ theory as it defines the time it takes for the mind to realise knowledge and then to act upon it. This word is divided into two halves or quotients [the meaning of quotient is ‘dividend’ and the word ‘aaha’ is divided into two halves – two quotients]: The first half is before the ‘h’ and the second half is after the ‘h’.

The first half is where the emotion lies of the explanation – the experience. Here the mind is trying to explain what one is seeing (Berger 1972). However, what one is seeing cannot be fully realised by what one knows. Hence the Emotion Quotient (EQ). The second half of the word is where the realisation lies of knowledge finally fitting what one sees – the future realisation. This is the Intelligence Quotient (IQ).

The ‘h’ itself lies in the present and represents ‘hope’. As the window-period unfolds, hope is maintained throughout so that the protagonist can realise the window and achieve an ‘aaha’ experience.

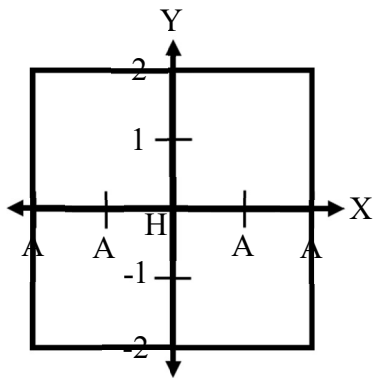
Each ‘a’ of the word ‘aaha’ represents the acquisition of knowledge. Each ‘a’ represents a moment that must be defined by the best ‘feeling’ at that present moment given the prevailing status of the window. This is because what is known does not fit what one sees and since what one sees is greater than what one knows and realisation still must be achieved, it is imperative for a person to apply the best fit at any one present moment. See Figure 7.

The Advantage and Disadvantage

The advantage of adding AAHAA to the Window is that the TIME Sequence is Realisational in nature. That by proceeding through each MOMENT over time, the sequence maps out a narrative that explains to the User an understanding of the Window Content.

The disadvantage is that the starting point must be the end of the point of realisation of the previous narrative realised. It is this point that the User may not be aware of and so the beginning and end of the Window may be missed by the User.

AAHAA Knowledge Realisation



Acquisition – **A**cquisition – **H**ope – **A**cquisition – **A**cquisition

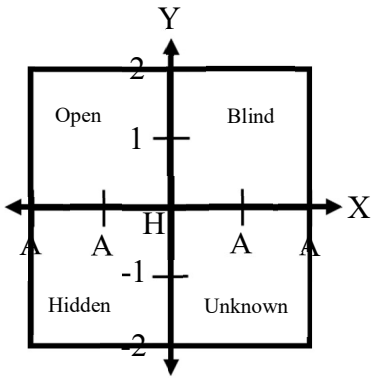
Figure 7 **Garth Green 2025.**

3.10 The Johari Window

In 1955 two Psychologists, Joseph Luft and Harrington Ingham created a psychological representation of a ‘window’ and is named after the combination of their names ‘Jo’ and ‘Hari’ to form ‘Johari’. It is not the intension of the author to go into the psychological side of this window. But rather to consider it as a step to understanding the psychological side of the ‘window’ itself. (See Figure 8)

The Johari Window names each of the four quadrants in turn and provides us with a simple explanation for their respective presence. Per Johari, this window depicts a person’s individual ‘awareness’ of their surroundings in terms of ‘hidden’, ‘open’, ‘unknown’ and ‘blind’. Each of these will be discussed in turn. (Armstrong, 2006)

The Johari Window



Acquisition – **A**cquisition – **H**ope – **A**cquisition – **A**cquisition

Hidden – Open – Unknown – Blind

Figure 8 **Luft and Ingham 1955.**

- **HIDDEN:** The 'hidden' dimension represents what the protagonist knows but prefers to keep to him/herself.
- **OPEN:** The 'open' dimension represents that which the protagonist is prepared to tell others where their understanding lies.
- **UNKNOWN:** The 'unknown' dimension represents that which the protagonist does not know yet. This unknown knowledge does exist for the protagonist to get to know. So too does this knowledge exist for everyone else but to date nothing has been revealed to anyone.
- **BLIND:** The 'blind' dimension represents the knowledge that everyone knows around the protagonist, but the protagonist him/herself does not know.

The Johari Window has been superimposed onto the window as seen in figure 8. Therefore, per the window sequence, the window runs as such: Hidden, Open, Unknown and Blind.

Now, let's return to the Cartesian Plane and note that quadrant 4 is 'Blind' which is the opposite of 'See', then by inference, what would be the opposites of 'Hidden', 'Open' and 'Unknown'? Per the Johari Window, hidden is what a person knows that he/she keeps to themselves. Then the only thing that one can do with this is 'think'. Also, the same goes for 'open'. Here the person is willing to tell others where their knowledge lies. Therefore 'open' is 'say'. For the 'unknown' to become 'known', then one must do something to experience the unknown. Therefore 'unknown' is 'do'. This brings us back to 'see'. Thus, we get: Think, Say, Do, See…. Hidden-Think, Open-Say, Unknown-Do and Blind-See. Therefore, as per the colours of the Microsoft Window; Blue is Think, Red is SAY, Yellow is Do and Green is See.

The Advantage and Disadvantage

The Johari Window is the first-time cognitive psychology has provided the notion of a knowledge realisation window – and called it a 'window'. This makes the window tangible within the cognitive mind. It is useful therefore to use it as the starting point of the development of a 'mental window'. However, it is limited in scope as one cannot remain within the confines of HIDDEN, OPEN, UNKNOWN and BLIND - there is more to knowledge awareness and realisation.

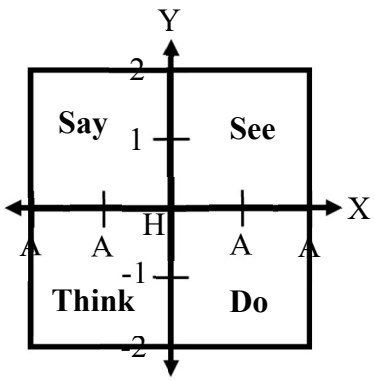
3.11 Open the Window

Since the 'Open' Quadrant of the Johari Window is the same as the 'Say' quadrant, then the way in which one opens the window is to say what is on one's mind which is the hidden think. This has the effect of reducing the 'hidden' and the 'blind' sides of the window while reducing the unknown side to the extent that the threat of the unknown is reduced to a minimum.

Per the book “Ways of Seeing” by John Berger (1972) the author discusses knowledge and the way in which we see our world through this knowledge. His argument is that the more we know, the more we see. But what we see we do not know. It can be deduced from this that the more we ‘do’, the more we ‘see’ but what we ‘see’ does not fit what we know. John Berger determines that this is never concluded. It is unresolved and knowledge is forever changing and developing and hence the need to constantly be aware. (See Figure 8)

The more one knows the more one sees but what one sees does not fit what one knows. We must assimilate this seeing into our existing knowing. This is achieved by changing what we know to fit what we see. (Berger, 1972) (See Figure 9)

The Window of Knowing



Acquisition – **A**cquisition – **H**ope – **A**cquisition – **A**cquisition

Think – Say – Do – Aaha I See – Think – Say – Do…

Figure 9 **Garth Green 2025.**

We must assume that what we see is greater in truth than what we know. It is prudent to change what we know to fit what we see rather than the other way around. Therefore, there

is an emotional quotient attached to knowledge that is being forced to change to fit new seeing.

Also, as per the Johari Window, to open the window one must ‘say’ what is on one’s mind to bring it into the open. This will have the effect of opening the window ever wider reducing the ‘hidden’ and the ‘blind’ sides of the window while reducing the ‘unknown’ side to a minimum so reducing the threat of the unknown.

3.12 The DIKW Window

The DIKW (Data, Information, Knowledge, Wisdom) Model is a hierarchical framework that describes the progression from raw data to wisdom. It was first introduced by Russell Ackoff in 1989. (See Figure 10)

DIKW Hierarchy:

1. Data: Raw, unprocessed facts and figures (e.g., numbers, text, images)

2. Information: Organized and structured data with context (e.g., reports, summaries)

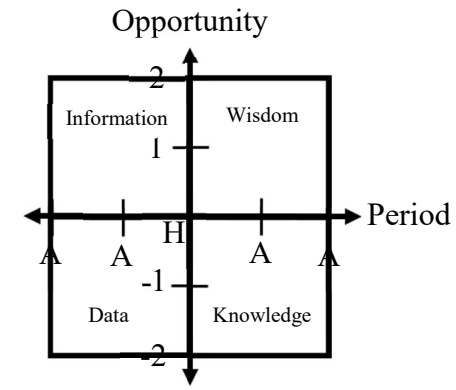
3. Knowledge: Understanding and insights gained from information (e.g., patterns, relationships)

4. Wisdom: Applied knowledge with judgment, experience, and intuition (e.g., decision-making, problem-solving)

Therefore, as per the Window we will get (See figure 10):

- Think of the Data
- Say the Information
- Do the Knowledge
- See the Wisdom

The DIKW Window



Data – Information – Knowledge – Wisdom

Figure 10 **Garth Green 2025.**

The Advantage and Disadvantage

It clarifies the distinction between data, information, knowledge, and wisdom and highlights the importance of context and understanding. It emphasizes the role of experience and judgment in decision-making and provides a framework for knowledge management and organizational learning.

However, it oversimplifies complex relationships between data, information, knowledge, and wisdom and fails to account for nuances and ambiguities. It does not address power dynamics and social context.

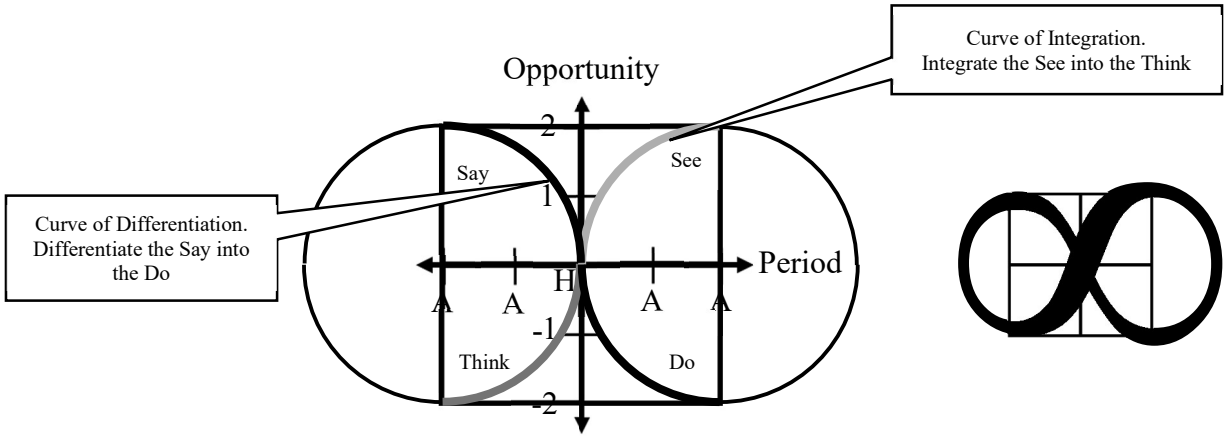
3.13 The Infinity Window

Now that we have determined the Window of Knowledge as being Think – Say – Do – See, this process continues ad infinitum or 'to infinity'. However, we can also consider this process as being See – Think – Say – Do. In other words, there is a See to Think and an Say

to Do. We need to integrate what we See into what we Think and Differentiate our Say into our Do. These create the Curve of Integration and the Curve of Differentiation. (See Figure 11).

As these progresses over time, one realises that it creates a 'loop' which is the symbol for Infinity. The symbol for Infinity is made up of two curves, the curve of Integration and the curve of Differentiation. The Curve of Integration is the Learning Curve and the Curve of Differentiation is the Research Curve and between the two curves we have the Communication Curve. This is why we have three basic methodologies that move through the Window: Learning Methods, Research Methods, and Communication Methods.

The Window of Infinity



Acquisition – **A**cquisition – **H**ope – **A**cquisition – **A**cquisition

Integrate Wisdom into Data and Differentiate Information into Knowledge

Figure 11 **Garth Green 2025.**

The Advantage and Disadvantage

By making use of the work of John Berger, the window becomes dynamic in nature. It 'grows' as one moves across the window as the window period unfolds. Therefore, the

window becomes ever larger and so takes on every increasing amount of knowledge realisation. This is because the more one knows of the window, the more one sees through the window at ever more knowledge.

The disadvantage is that this ever-increasing awareness is never settled and is always in a state of transition and flux. The viewer must realise this and there comes a time when one must define a line as to where the past and future collide. Therefore, WHERE is a very important place within the window period.

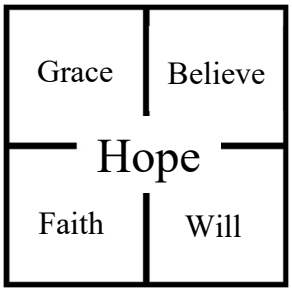
3.14 The Window of Hope

Oleta Adams (1993) wrote a song called "The Window of Hope". Though this song is not 'academic', it does shed light on the colloquial importance of a 'window'. As one moves along the window period, at each moment in time one must hold on to 'hope' until one reaches conscious awareness and can complete the expression 'aaha'. Therefore, the present time always represents 'hope' throughout the window period. (See Figure 12)

To have the Hope to think about it one must have faith in that thing. In many cases, the time it takes to think things over may well be for a very long time. It can take as long as an entire lifetime to achieve a small realisation.

- The Hope of Think is Faith
- The Hope of Say is Grace
- The Hope of Do is Will
- The Hope of See is Believe

The Window of Hope



The Faith to Think, The Grace to Say,
The Will to Do, The Belief to See

The Window of Hope

God's Window

Figure 12 **Garth Green 2025.**

However, there comes a 'point at which' where one realises what the information is all about. This is the second half of the word 'aaha' – the part after the 'H'. This is where the feeling (intelligence) quotient lies. This point is where one realises the knowledge that underpins the information. Once realised, the original information can be discarded as one will recreate this information as and when required through the application of the knowledge.

The Advantage and Disadvantage

By adding the 'window of hope' the window will become more user friendly to the employee who are not necessarily academically minded. However, 'hope' needs to be qualified as well as quantified so that hope becomes realisational which is the fundamental reason for opening a window in the first place.

3.15 The Microsoft Window

A very well-known window is the Microsoft Windows Logo. This window has never been questioned as being an exact likeness of a typical window. However, as all logos go, they are purely metaphorical in nature.

The reason why the computer has adopted a 'window's-based operating system' is because the concept of a 'window' is human. Window formatting is an interface that allows the human mind to interface with the computer. The computer itself is not 'interested' in this style per se, but rather takes the defined 'input fields' within each 'window' and inserts them into the line-by-line programme to be executed by the microprocessor.

The difference between the computer and the mind can be likened to the difference between a 'microprocessor' and a 'macro-processor'. The computer 'brain' is a microprocessor that loves to number crunch to the smallest degree, while the Mind – the macro-processor – loves to dream up to the largest degree. The Computer and the Mind both 'compute' to arrive at their respective outcomes. The computer requires an 'operating system' to accomplish these tasks. Should there not be a similar one for the Mind?

Possibly the answer lies within the fact that we humans have created a 'windows-based operating system' for the computer and that this operating system has been created to interface with the Human Mind in windows format because the mind sees its world in windows format. Therefore, the mental operating system should also be windows-based and hence the notion of creating a Windows-based Mental Operating System. If so, then it could look much like the Microsoft Windows Logo which is a mental construct. A window 'schema' for which we humans accept as a typical illustration of a window and for which we humans are the only species that understand symbolic representation of our knowledgebase and windows formatting.

As much as the Microsoft Windows Logo depicts the Computer Operating System by its name's sake, so too can it depict that of the Mental Operating System by the same name's sake. The two could be used side-by-side to create a meta-knowledgebase that can help humans interface not only with computers, but also between us. A type of 'inter-', 'intra-' distinction; Interlocute between ourselves and Intralocute with the computer both in windows-based formatted style.

The Advantage and Disadvantage

the Microsoft Window Logo provides the first real glimpse into the 'symbolic' representation of the 'window' as well as provide the colours for each of the 4 quadrants. These colours also work well with the knowledge acquisition window that will be discussed later.

The disadvantage is that the Microsoft Window is only symbolic of the entire nature of the window and the mind must fill in the 'blanks.' Therefore, the window cannot be used as the final drawing of the entire window, but rather as a 'logo' that prompts the mind to open the window.

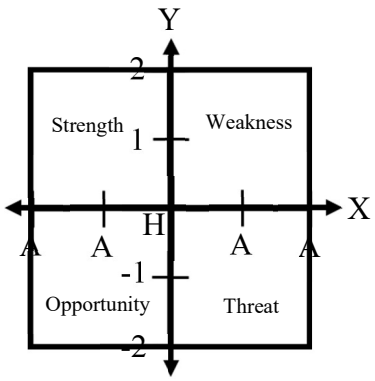
3.16 The Opportunity Window

There are two directions of thought as to the window of opportunity. One can consider the entire window to be the 'window of opportunity' or, as a part thereof and the remainder determining the outcome of the opportunity.

If we make use of the well-known SWOT Analysis – Strength, Weakness, Opportunities and Threats - and place this into the window, we will create the Window of Opportunity. (See Figure 14)

As per the sequence of the Window, the words run as per Opportunity, Strength, Threat and Weakness. (Kolbina, 2015)

The Window of Opportunity



Acquisition – **A**cquisition – **H**ope – **A**cquisition – **A**cquisition

Opportunity – Strength – Threat – Weakness

Figure 14 **Garth Green 2025.**

The Advantage and Disadvantage

By making use of the SWOT-Analysis, one can add the notion of 'opportunity' to the window as it is only with the SWOT-Analysis that the word 'opportunity' has been introduced into a well-known taxonomy classification. Therefore, one can say that the "Window of Opportunity, Strength, Threat and Weakness" rather than just the "Window of Opportunity".

3.17 The Knowledge Management Window

As early as 1907, during the height of the industrial revolution, Frank Gilbeth stated that "the most important success factors of a company are dedicated employees and the

application of knowledge" (Vajna, 2002). Sando Vajna considers the problems associated with knowledge application. He considers that if a knowledge-based system is to aid employees in their acquisition, modification, and application of knowledge, it will be limited to data, information and meta-rules. (Vajna, 2002)

A Swedish accountant, Karl Eric Siveby, noted that when companies are sold at values far higher than their accounting value, it can be attributed to the knowledgebase that these companies possess to solve their own problems. That these companies possess the means to develop new technology on their own rather than rely on external sources of knowledge.

Nobre et al (2008) state that an organisation must develop their own set of principles, definitions, theorems, axioms and propositions that will form their knowledgebase to create and maintain its value as a knowledge-based organisation.

Therefore, this Windows Operating System must be based on:

- Application of Knowledge
- Data, Information (Knowledge and Wisdom) and Meta-Rules (Meta-Knowledge – DIKW Theory)
- Enable the solving of problems (Root Cause Analysis and 5-Whys)
- Enable the development of new technologies (new ways of doing things)
- Principles, Definitions, Theorems, Axioms and Propositions
- Organisation as Knowledge-Based.

The Advantage and Disadvantage

By considering this Window and the Windows Operating System as the Knowledge Management Window will bring together a vast amount of Knowledge Management

principles within one unity function of a Window/Windows. So much of our Metaknowledge about knowledge is structured around a Window Format/Cartesian Plane.

The resultant Windows-Based Mental Operating System may become too rigid in its structure, too absolute in its principles and too brazen in its determination that too much of our human experience may be left out and atrophy over time.

3.18 The Definition of Knowledge

A workable definition that will be applied in this study comes from Alavi and Leidner (1999) which is based on the work of Huber (1991) and Nonaka (1994). The reason for its use is that it considers knowledge to an end and not as an end in itself. It leads employees to action: "Knowledge is a justified belief that increases an entity's capacity for effective action." The term 'entity' may refer to an organisation, team or individual and the term 'action' can refer to skills and/or intellectual capacity.

The Advantage and Disadvantage

At the end of this dissertation, the definition of Data, Information, Knowledge and Wisdom will become more definable. For now, the above definition will suffice.

- Data is enabling of Think.
- Information is enabling of Say.
- Knowledge is enabling of Do.
- Wisdom is Enabling of See.

3.19 The Window Taxonomy

To establish the framework of a knowledgebase, taxonomies are used to define this knowledgebase for effective knowledge transfer and Knowledge Management is no

exception. Since its inception, various theorists have tried to establish a set of taxonomies most likely to define the knowledgebase of Knowledge Management.

3.19.1 Spender (1992)

Spender (1992) in Alavi and Leidner (1999) starts the taxonomic debate within Knowledge Management by creating the distinction between 'tacit' / 'explicit' knowledge and 'social' / 'Individual' knowledge continuums set at right angles to each other. This results in a 2 x 2 matrix where each quadrant becomes 'Collective Authority', 'Objectified Theory', 'Automatic Action' and 'Conscious Awareness'. (See Figure 14)

The Taxonomy Window

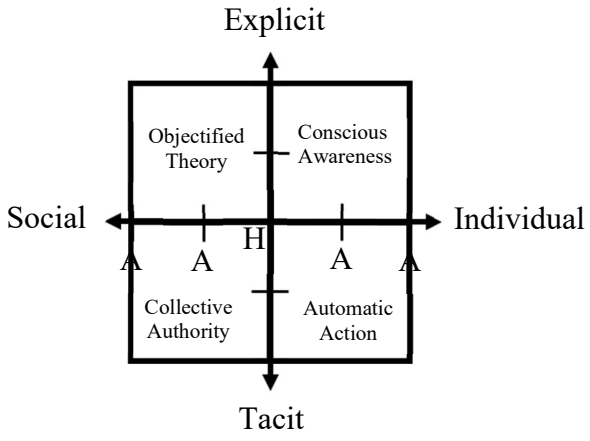


Figure 14 **Garth Green 2025.**

3.19.2 Zak (1998)

Zak (1998) in Alvi and Leidner (1999) consider 6 basic questions along with their respective knowledge type that are asked and need to be framed within the window to determine the knowledge that lies within the window.

- What is the declarative?
- Where lies the relational?
- When is the conditional?
- Why is that the causal?
- Which is the collective?
- How is the procedural?

Each of these questions opens the ‘window of hope’. Hope in the What, Where, When, Why, Which and How. Each of these questions will have its own taxonomy that ‘frames’ the relevant knowledge required per question.

However, there is one question that is missing and that is ‘Who’ which Zak did not include which the author believes should be included within the question sequence. Also, this question does not have its own ‘knowledge type’ as do the others (declarative, rational, conditional…). A workable type for Who could be ‘Corrective’. It is the Who that sets the corrective outcome of the 'window’.

With the above list of questions, it now becomes necessary to determine their order. Zack does not consider there to be an order and it is imperative to know if there is an order otherwise, within any literature on a subject matter, the questions would be randomly asked and answered differently. If one has a set sequence, one can then compare ‘like-for-like’ and so knowledge becomes more deterministic, and a greater awareness can be achieved.

3.20 The Question Taxonomy

In 2017 Garth Green submitted his Master's Thesis for his Master's in Business Administration. In this thesis research, a workable sequence was determined and is set out as follows.

What, Who, When, Where, Why (x5), How, Which

[Please refer to the entire thesis 'Windows for the Mind' by Garth Green (2017)]

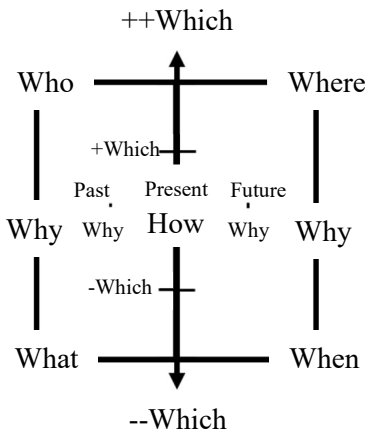
To fully understand this sequence, we need to add it to Zak's Knowledge Declaratives.

- WHAT is the Declarative?
- WHO is the Corrective.
- WHEN is the Relational.
- WHERE is the Conditional.
- WHY – WHY – WHY – WHY – WHY – Causal.
- HOW – Procedural.
- WHICH – Collective.

Therefore, for every WHY there is a What, Who, When, and Where that creates each WHY. As each WHY is created over time, the resultant is a HOW procedural sequence. Once the HOW is determined, then we have discovered the WHICH. BUT, there are two WHICH's. The Lesser Which and the Greater Which. The Lesser Which determines the minimum collective knowledge that must be adhered to as set by previous Knowledge Lifecycle reviews and the Greater Which is the maximum Collective Knowledge that the present Knowledge Lifecycle is proposing. Thus, each time one goes through a Knowledge

Lifecycle, one is trying to ensure that the Causal Outcome meets the minimum standard. However, the ability to maintain the minimum standard often fails, and so a maximum outcome must be created to ensure that the current minimum will be achieved in the future. (See Figure 15)

The Seven Question Taxonomy



What – Who – When – Where – Why-Why-Why-Why-Why – How – Which -Which-Why

Figure 15 **Garth Green 2025**

The Advantage and Disadvantage

Our knowledgebase of meta-knowledge is full of Taxonomies. It is these Taxonomies that help us classify our understanding of the world. So far, this dissertation has covered a few major ones that are able to define the Window and it four quadrants. However, there are many others that will be introduced further in this dissertation. By bringing multiple Taxonomies together within a framework, will make them 'speak of each other' in such a way as to create a powerful metaknowledge framework that will make Knowledge Management achievable.

3.21 The Didactic/Dialectic Window

Now that we have determined the components of the Window and that this Window 'belongs' to everyone – we all operate within and though this Window - we need to have a look at how our Window's interacts with each other's Window.

In Figure 16 we have two Windows – mine and yours – set side by side facing each other. Note how the two are opposites of each other. They are mirror images of each other. This is how 'My Window' interacts with 'Your Window'.

Each Window presents a Didactic of itself. A Didactic is a teaching or instructional approach that emphasize a single narrative of explanation. We each have this singular narrative that moves though our Singular Window which is called the 'Singularity'. (See Figure 16)

Hegal Didactic/Dialectic Window

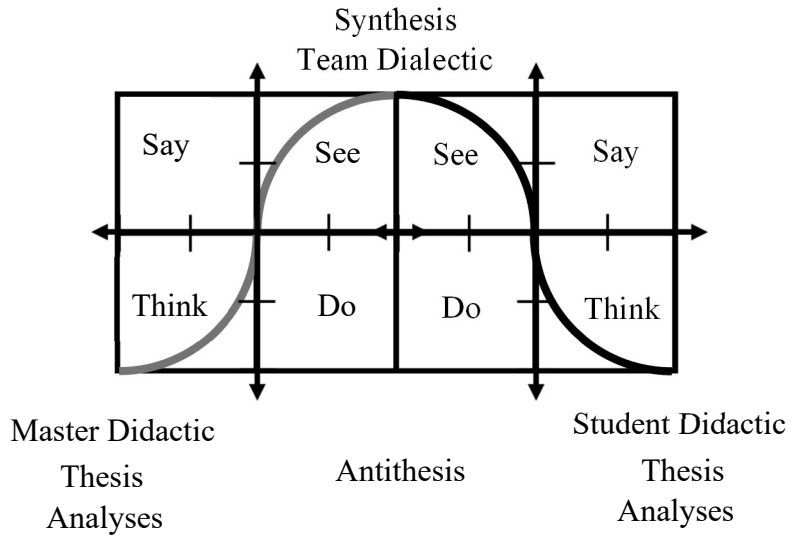


Figure 16 **Garth Green 2025.**

However, when we consider two Didactic Windows confronting each other and interacting with each other though Research, Communication and Learning methodologies, a Dialect effect occurs whereupon each Window assimilates itself with the Opposite Window. This is called the Dialect Effect. Dialectic refers to the process of dialogue, discussion, and debate between two or more individuals – two or more Windows – two or more team members.

The Advantage and Disadvantage

By considering the Window as a Didactic Analysis, the individual has the authority to establish their 'Answer' to the 'Question' and can present it to the Team for evaluation. Then by considering the Team as Multiple Windows coming together to Dispute each given explanation, a Dialectic can evolve whereupon the Team is allowed to evaluate each contributing narrative/explanation and through a Dialectic discussion/debate, a synthesis of ideas can emerge whereupon the resultant explanation is greater than each of the individual narratives making it up.

Also, each team member will be able to recognise their individual contribution to the final explanation and so each team member will know their role to play in the execution of the final application of the resultant examination. It is therefore advisable that when it comes to task assignment for the application of the knowledge, each team member is given their respective task contribution as it is only them that will know the full extent of the task application.

3.22 The Philosophical Window

In Philosophy, there are a set of Philosophical Realms that define our understanding of Knowing. These are: Epistemology (Knowledge), Ontology (Reality), Teleology (Purpose), Axiology (Values), Methodology (Approach), Phenomenology (Experience), Ideology (Beliefs), and Praxeology (Theory of Action). (See Figure 17)

- Ontology – What is Reality
- Axiology – Who is Right or Wrong
- Praxeology – When to Action
- Epistemology – Where lies the Truth or False
- Explanation – The Why of the Past Purpose
- Teleology – The Why of the Present Purpose
- Prediction – The Why of the Future Purpose

The Philosophical Window

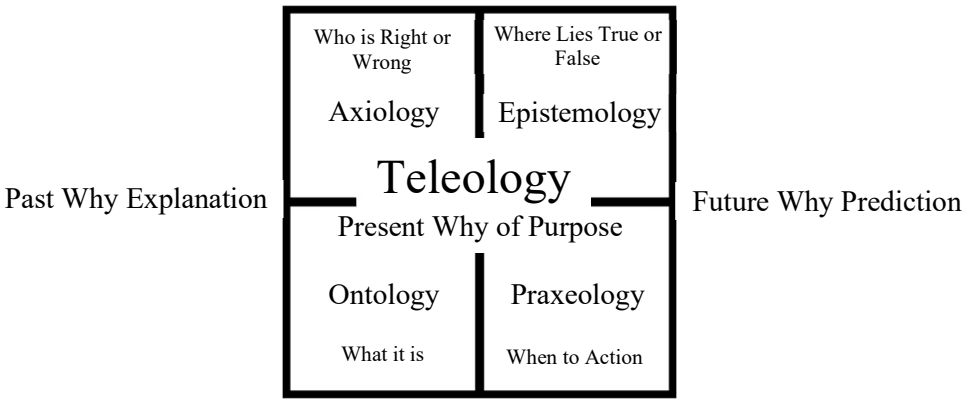


Figure 17 **Garth Green 2025.**

The Advantage and Disadvantage

The advantage is that Philosophy is 'talking' the same language with regards to the outline of the Window.

The disadvantage is that the Philosophical words themselves can be a bit daunting to the User. Therefore, a cursory look at them is better than a full explanation of each.

3.23 The Overton Window

The Overton Window is a political Theory that describes the range of ideas that the public considers acceptable or mainstream at any given time. It was developed by Joeph Overton, a former vice president of the Mackinac Centre for Public Policy. The Overton Window refers to the "window of discourse" – a spectrum of ideas that are politically acceptable within the current climate of public opinion.

How It Works

Ideas can be categorized along a spectrum of acceptability:

1. **Unthinkable** – Completely outside the bounds of public discourse.
2. **Radical** – Considered extreme or fringe.
3. **Acceptable** – Gaining traction, but still debated.
4. **Sensible** – Seen as reasonable and mainstream.
5. **Popular** – Widely supported by the public.
6. **Policy** – Officially enacted or implemented.

When we consider this window in relation to the "window of knowledge", the Overton Window changes its meaning. Although it is a 'political' window, we could change this to become more of a 'polity' window where a team within an organisation is willing to entertain

a changing discourse of ideas. After all, the Window of Opportunity is being presented by a singular employee with an idea that can range from 'popular' to the 'unthinkable'.

This Overton Window also considers the spectrum ranging between the Conservative Right to the Liberal Left. Again, when we consider this Window in relation to the Window of Knowledge, this concept of Right-Left polity holds true. Within the Team there will be some members that will lean towards remaining true to a Conservative Right and want to keep current ideas unchanged, while there will be those that will lean towards a Liberal Left and embrace new Ideas that challenge the status quo.

It is important to highlight here that knowing how this window works across a team, should provide those on the Right to consider new ideas and allow them to influence their understanding more and more over time especially if the Data constantly pushes for such an idea to become more acceptable and to those leaning towards the Left must realise that an idea must not be implemented at face value. That it too must evolve over time and become more widely accepted by all members and become more consolidated. Both the Conservative Right and the Liberal Left must centralise their understanding across the Overton Spectrum to find common consensus. That the 'radical' idea that is outside the Overton Window shift into the Overton Window where is more acceptable to both the Left and Right.

It is to be noted that the Overton Window considers Left and Right to be Up and Down of the Window. That the Window lies Vertical rather than Horizontal. This was done by Overton to refrain from making the Window Political in nature. However, he did not realise that by so doing, he *has* made it Political in Nature. One must realise that the Window does not lie Vertical but Horizontal. It lies as a Map that is read Horizontally. It 'Maps' the 'Territory'.

The Window of Knowledge maps the Territory, and it is the Territory that the User must explore and get to know. The User is centred in the present looking towards the Future. Therefore, the User's left is 'up', and the User's Right is 'down'. One must always bear in mind that the Window lies horizonal and not vertical and that it Maps the Territory and that the User 'walks' the Territory.

The Advantage and Disadvantage

The Overton Window highlights the importance of viewing the Window as a Map of the Territory. That it lies Horizontally and not vertically as drawn. That knowledge is in the form of Applied Ideas that must be acceptable to all within the Team because it is the Team that will be implementing the ideas to Mitigate the Discourse.

The disadvantage is that the Overton Window may be considered by the Team as a Political Discourse and not a Polity Discourse. There is a difference between the two. Political Discourse is political in nature and is driven by Party Politics, while Polity is driven by Team Politics. (See Figure 18)

The Overton Window

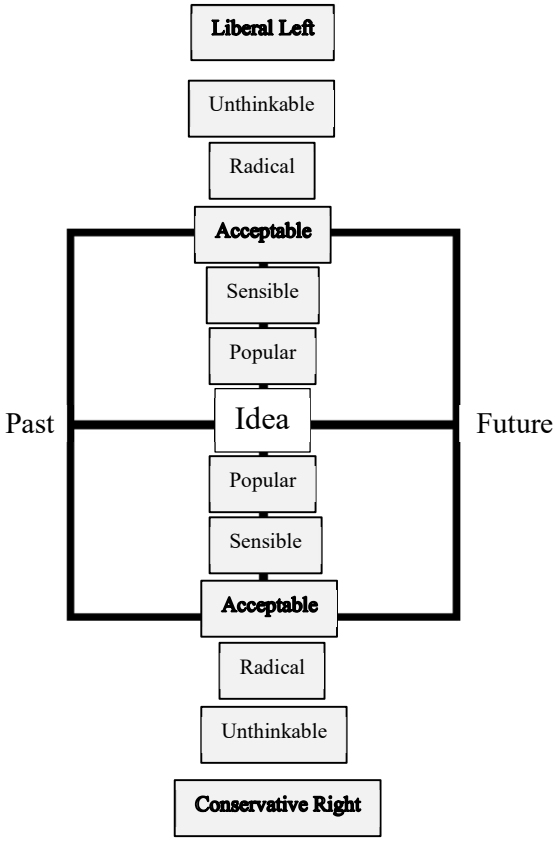


Figure 18 **Overton mid 1900's.**

CHAPTER IV

RESULTS

4.1 Introduction

Sakichi Toyoda – the founder of Toyota Motor Corporation in Japan – is often quoted as having said to his employees…

"Open the window, it's a big world out there."

Although he never drew the Window, he gave us insight into what to expect from opening the Window – greater enlightenment of its knowledge content. Sakichi Toyoda also said that if you want to know the root cause of a problem ask five *whys*. These five *whys* will trace back in time to the cause of the present problem.

Let us use a real-world example to illustrate this: At present we have a vehicle that will not start within the Logistics Department, so you start asking yourself a series of *whys* to trace back to the reason *why* it will no longer start. For each *Why*, a workable answer must be put forward from which a new *Why* can be asked.

1. Why? – The Battery is Dead.
2. Why? – The Alternator is not Functioning.
3. Why? – The Alternator Belt is Broken.
4. Why? – The Alternator Belt is well beyond its Service Life.
5. Why? – The Vehicle was not Maintained according to the Recommended Service Schedule.

We can continue with this further, but we will leave it at five *whys* as per Toyoda. From this list of *whys*, we have determined the root cause of the present problem (or effect); the fanbelt was not replaced because the vehicle missed its last service interval.

However, in most cars there is a Gen-Light that comes on that will inform the driver that the Generator is not generating. If the driver knew what to do when this occurs and drove the vehicle to the service station to have the fanbelt replaced, the vehicle would not have been stranded, costing valuable time to the company.

Let's illustrate this with a drawing…(see Figure 19)

The Five 'Why' Window Period

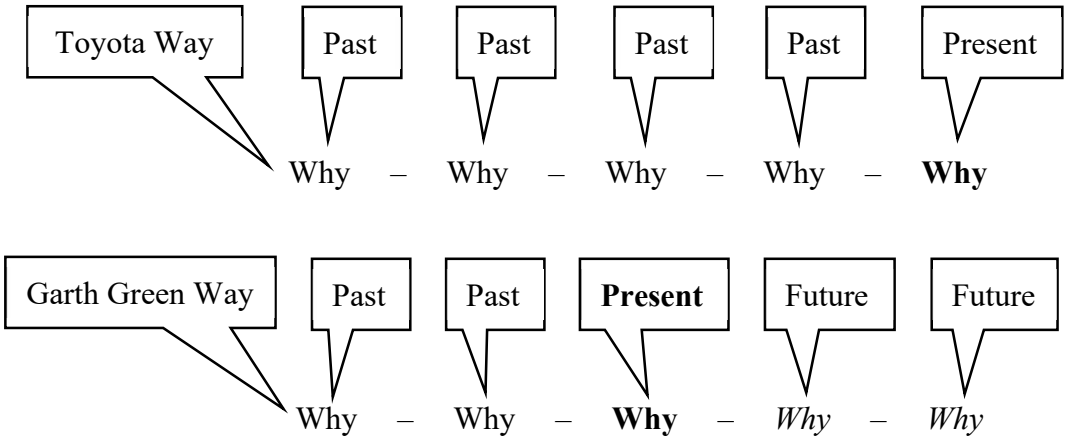


Figure 19 **Garth Green 2025.**

But, because the Gen-Light came on at ‘Past 3’, this *why* now becomes the present and ‘Past 1’ and ‘Past 2’ become the future which in this case would not have occurred. It means that at ‘Past 3’ the issue was resolved, and the future was deleted. (See Figure 20)

The ‘Why’ Window Period

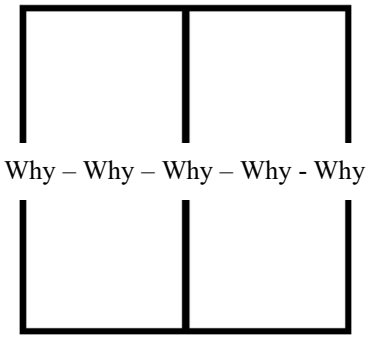


Figure 20 **Garth Green 2025.**

Now, if we ‘Complete the Parallelogram’ we will create A Window around the Window Period. However, each of these 5 *Whys* are not sequenced equally over time. Some of the time intervals between each *Why* may be shorter while others may be longer. Data Points derived from each Why are plotted along a curve across the Window.

The Window Learning Curve

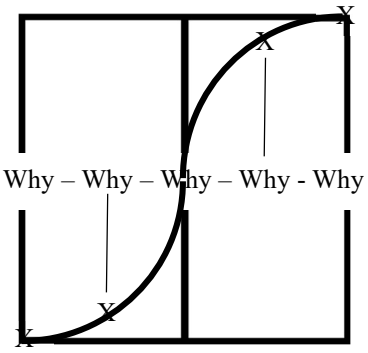


Figure 21 **Garth Green 2025.**

This curve is known as the ‘S-Curve’ due to its shape and is the foundation curve of every ‘Field of Work’. This curve is an ideal curve that all Data obtained should follow. We also call this curve the ‘Organizational Development Curve’ if we work at an Organizational Level and the ‘Learning Curve’ if we work at a ‘Personal Level’. (See Figure 21)

All Data should follow this curve if we want to maximize the *Window of Opportunity*. When Data fails to follow this curve, then systems fail to achieve their desired goals. This is why we make use of Windows and the Office Suite of Applications; to ensure that Data remains true to this curve as far as practically possible.

You should now realise where we are going with this. Yes, the Microsoft Windows Logo… Unfortunately, one is not allowed to draw, annotate nor animate the Microsoft Windows Logo, so it has been drawn in this way. The similarity will suffice to continue…

The Window consists of 4 Windowpanes or Tiles. Each Windowpane/Tile represents an application, and the Microsoft Logo shows four Windowpanes/Tiles. Therefore, we need four Applications to become aware of the Window Period.

The question now becomes; Which four Applications must one use, placed in which position and in which sequence must they be applied? The output of one application is the input of another until Awareness is achieved of the Business Cycle.

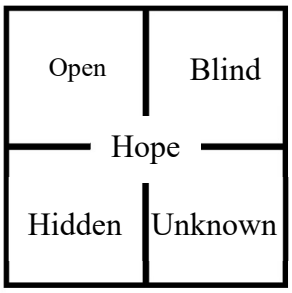
There are many Applications out there that one can make use of and currently this has been left up to the user of Windows when pinning Applications to the Start Menu. However, this assumes that whichever Applications are selected and the positions they are placed in and the sequence they are used in, is fully justified by the User. This makes the User the expert and these Applications that are applied to elicit the user's expert knowledge.

The danger of this is that the User is not necessarily aware that the Application choice and position selected, and the sequential use of each Application is vital to the overall understanding of the *Business Opportunity* that exists within any organisation. The *Window of Opportunity* is being missed when using Windows in this way.

4.2 The Window

Two Psychologists – Joseph Luft and Harrington Ingham – created a Window they called the Johari Window in 1955 and named each side Hidden, Open, Unknown and Blind. This Windows represents the 'Window of Knowledge.' (See Figure 22)

The Window of Hope



The Window of Hope

Figure 22 **Garth Green 2025.**

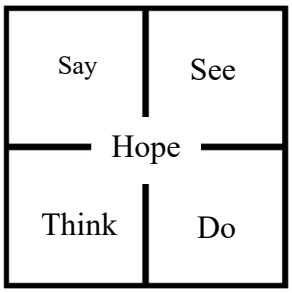
Hidden – Open – Unknown – Blind

Remember this Window sequence as it remains throughout.

If the opposite of BLIND is to SEE, then HIDDEN becomes THINK, OPEN becomes SAY and UNKNOWN becomes DO.

Then the Window becomes…(See Figure 23)

The Window of Think, Say, Do, See



Think – Say – Do - See

Figure 23 **Garth Green 2025.**

Sakichi Toyoda also said that if you want to know the cause and effect of anything and everything, we need to ask – and answer – five Why's. If we add the five 'Whys' to the Window, we get…(See Figure 24)

The Window Period of the Five Why's

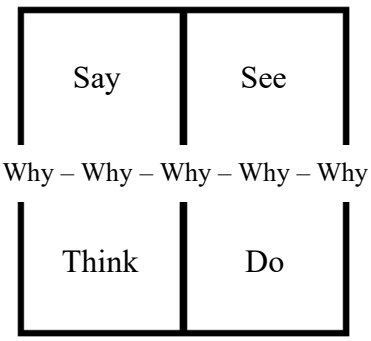


Figure 24 **Garth Green 2025.**

The three ‘Whys’ in the middle become the means-to-an-end and can be simplified to ‘HOW’ we arrive at the EFFECT (Right Why) from the CAUSE (the Left Why).

WHY – HOW – HOW – HOW – WHY

Since the three HOWs can be reduced to one, we get…

WHY – HOW – WHY

We can write this another way…

Aware – Hope – Aware

Or simply…

A – H – A

This is pronounced ‘aaha.’

Aaha I See, Think, Say, Do…Aaha I See, Think, Say Do…This repeats to infinity creating understanding of the Window Content.

John Burger (1971) in his book ‘Ways of Seeing’ said that the more you know the more you See, but what you See you do not Know. So, you go through the Window to Know MORE of what you see.

Since these ‘Whys’ run along the Window Period, which is Time, then there must be a Past, Present and Future. (See Figure 25)

The Window Period of Past, Present and Future

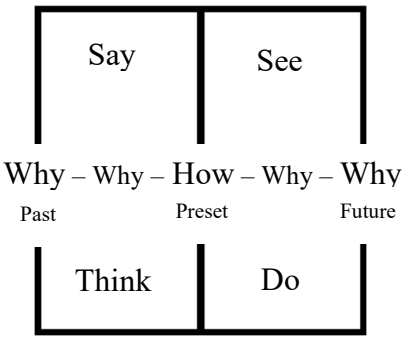
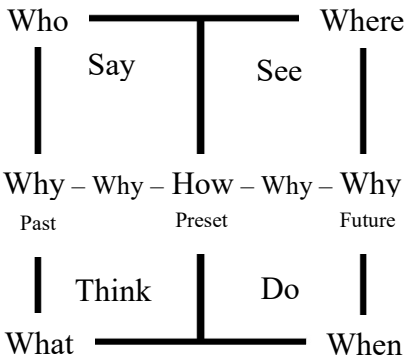


Figure 25 **Garth Green 2025.**

Now that we have found the placing of WHY and HOW, we need to find the placing for WHAT, WHO, WHEN, WHERE and WHICH. (See Figure 26)

- WHAT is the THINKing.
- WHO is SAYing it.
- WHEN are we DOing it.
- WHERE are we SEEing it.

The Window Question Taxonomy



What, Who, When, Where, Why…That is How we arrive at the future WHY.

Figure 26 **Garth Green 2025.**

Now we need to place WHICH…

The Which line determines WHICH WAY to go through the Window - up or down. This line is called the *Opportunity Line*: Which way does the Opportunity lie – up or down – and will depend on the type of data under consideration.

What, Who, When, Where, That's Why (x5) - Aaha, so that's How…Now I know Which way to go through Windows.

4.3 The Window of Circumstance

The Window of Circumstance is (1) What is the Thinking, (2) Who is Saying it and, (3) When will we Do it for it is only by Doing will one See (4) Where it lies. It is for these Circumstances that (5) the Why is formed. This repeats itself repeatedly each time generating another Why therefrom. After a given time (Window Period), the Whys sequence themselves into a pattern of (6) How and once the pattern has been realised, the Window's Protagonist will become aware of (7) in Which direction (Window Opportunity) to move through the Window. The circumstance needs to be realised to the point at which adjudication can take place to affect corrective action. (See Figure 27)

The Window of Circumstance Leading to Action

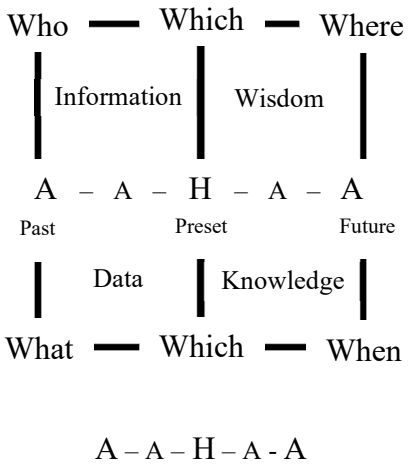


Figure 27 **Garth Green 2025.**

What – Who – When – Where – Why/Why/Why/Why/Why – Aaha That's How – Now I know in Which direction (Way) to move through the Window (corrective action) - the Window of Knowing. Every WHY is an Awareness of Circumstance (A). This repeats itself (AAAAA) regardless until the HOW is realised (H). Therefore, the following sequence is achieved AAHAA. This is pronounced as 'aaha.'

Consider a piece of written music. Each note is a What and the Pianist is the Who. Each Note has a When for it to be played. By playing the note, its Where becomes known to the Pianist in relation to all other notes within the music. As each note is played, each with its own What, Who, When, Where, its Why becomes known to the listener. As each Why is played, the listener becomes aware of a Tune the notes are playing out. After a while, the listener will become aware of the Tune and will then realise How the song goes and so can predict the next note (Future Why) to be played. Thus, the listener will know in Which direction the song is paying itself out.

The problem is that in Business Administration, the 'music' (business) has not been pre-written. But rather is being written as one 'plays' each business 'note' and each 'note' being played represents a month of Business Administration. The key is to become aware of the 'Tune' as quickly as possible with as few notes (months) as possible so that the Business Administrative Opportunity can be realised and applied timeously.

These are the Windows of Circumstance and provide a theoretical framework that can be used to explain any given circumstance of action. Regardless of who is saying it, the What remains underlying of the Who. Once a listener has listened to Who is saying it, the listener will realize that What is being said exists beyond Who is saying it. Therefore, the underlying What exists before anyone ever Says it. Thus, it is What-Who rather than Who-What.

This becomes the Window of Knowing…Knowing the What, Who, When, Where for every Why that repeats to create every successive Why whereupon the sequence of Whys develops the How and the Which can then be realised.

Think of the What…What is the Thinking behind the Data? All data created is created with Thinking behind it…What is this Thinking and can it be explained once determined. The what is always greater than the who and precedes every who. The data is created through reason.

Say the Who …Who is saying the Information? All Information is the explanation of data in relation to all previous data of the same type as well as all other complimentary data that can help guide the overall explanation.

Do the When…When is the Knowledge? All knowledge to be applied is to be considered unknown as per the Johari Window. Therefore, it is always best to apply this knowledge with caution. However, once applied, the real knowledge will make itself known. This is the scientific method of experimentation. All applied knowledge must be set as an 'experiment' so that the threat of the unknown can be mitigated as far as possible.

See the Where…Where is the Wisdom? Once the knowledge has made itself known, Wisdom is achieved, Wisdom is the resultant of See the reality the knowledge elicits to the observer. The observer attains a heightened level of Wisdom that is used as input to the next Window as it repeats itself for the next Window Period.

Know the Why…Why is Enlightenment? Once the Window Period Cycle has completed itself and the Data, Information, Knowledge, and Wisdom has been realised through elicitation, Enlightenment will have been achieved. It is, however, very short lived and only exists for that specific Window Period as new data will be forthcoming in the next Window Period to follow.

Data is Explained into Information: Data is explained in relation to all other data of the same type from all previous time periods. This explanation is made explicit by the knowledge expert responsible for the specific data stream under consideration.

Information is Disputed into Knowledge: The knowledge that is applied at any one time is only that which is required to mitigate the given Data Reality. This is the Past Why of the Present How to Mitigate the Future Why.

The original Data Source must be left in its raw state so that it can undergo any future analysis to determine any new Explanation should one be necessary…One must be able to return to the 'source code' so that a differing explanation can be created to dispute any current explanation should the future why demand it through wisdom after the fact.

Any explanation is generated from a SHIFT CHANGE of MENTALITY that will generate over time a narrative of action different from the current…Over time this SHIFT CHANGE may prove wrong and so we need to return to the original data to obtain a new explanation.

This is why Wisdom is so powerful. The newly found wisdom after the application of the Mitigating Knowledge is fed back through the window to affect a greater Explanation of the original data. Throwing the data away and you have lost the Mitigating Narrative of Opportunity.

Knowledge is Mitigated into Wisdom: All Applied Knowledge when applied will make itself known regardless of consequence. It is this consequence that becomes Wisdom. However, this consequence must be mitigated as far as practicably possible as it will decide the outcome of the applied knowledge.

Wisdom is Realised into Greater Explanation: Explain Data into Information. Dispute the Information into Knowledge, Mitigate the Knowledge into Wisdom and then Realise the Wisdom into Enlightenment.

The Word AAHAA is Split into three sections. The first half is Emotion and the second half is the Feeling with the centre being Attitude. If you pronounce Aaha with this in mind, it will make sense. (See Figure 28)

The Window of Emotion, Attitude and Feeling

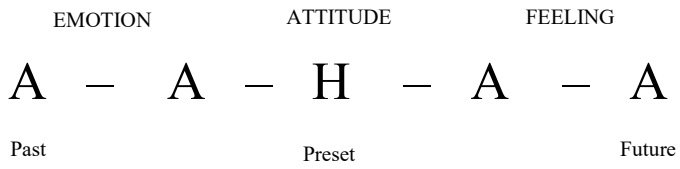


Figure 28 **Garth Green 2025.**

FAITH in the Data – You created the data, or you logged the data therefore you should have all the faith in the data from which you will use it as input to the window of knowing.

GRACE in Information…Bring you side of the explanation. Present your Grace to the world regarding your explanation of the Data you have collected and have analysed to determine its place in respect to all other previously obtained Data within your assigned Data Stream.

HOPE in How…. As you present this explanation over time, you will realise the narrative of this information. Information is presented within the present, but over time, this present narrative spell out the greater realisation that when determined becomes the How.

WILL in Knowledge…Knowledge is only applied if there is the Will to do so…If none, nothing will happen. Applied knowledge is the Will to do so. The future is only

created/determined by those that Do It. We apply knowledge to change the course of the data narrative.

BELIEVE in Wisdom…Seeing is greater than what you know and therefore you must always believe in the seeing thereof. That which you see must be assimilated into your knowing as a given. You have gone through Windows and by doing so you come to See through Windows. That which you See is the greater and must be believed. If not, then you have gone wrong with your journey through Windows.

And So, It Goes…

The more I know the more I see. But what I See does not fit what I know. So, I go through the Window to make my Knowing fit my seeing…Think, Say, Do, See. In so doing I will See even more. But again, this Seeing will not fit my Knowing and so I will go through the Window once again…This repeats itself to infinity - sideways eight - throughout your life. This is called Lifelong Learning… If you are willing to move through the Window in this fashion, one will always be one step ahead of your rivals. You will come to realise the ever greater WHICH thereof.

If we do not accept what we see as greater than what we know and assimilate that which we see into our knowing and adapt our knowing to our seeing, then we will be continually in denial. We must acknowledge that what we see from our doing is the reality that we create from doing. (See Figure 29)

Tacit/Explicit Knowledge

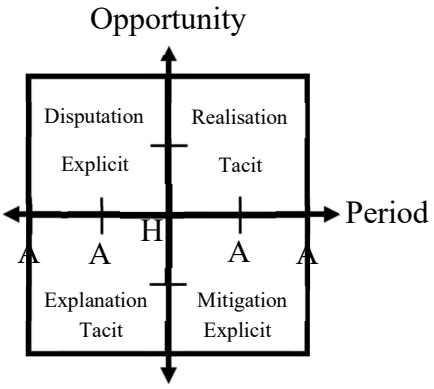
Tacit Thinking to Explicit Saying = Explanation

Explicit Saying to Explicit Doing = Disputation

Explicit Doing to Tacit Seeing = Mitigation

Tacit Seeing to Tacit Thinking = Realisation

Tacit/Explicit Knowledge



Explanation – Disputation – Mitigation – Realisation

Tacit – Explicit – Explicit - Tacit

Figure 29 **Garth Green 2025.**

4.4 The Windows Set Sequencer

Now that we have mapped each of the 7 questions to the Window, we can now determine the underlying Window Taxonomy for each question. These represent the sub-windows of the main window. This is where the Window becomes Windows. Each of these Taxonomies run according to the basic Window of Think, Say, Do, See.

These Taxonomies are derived for each of the Mental Applications and come from well-known Taxonomies of Knowledge Application. However, all of them are 'Open Source' Taxonomies as they have no Authorship assigned to them. They came about within the literature through a process of Dialogical Disputation...As the Academic Fraternity is forced to Dialogically Dispute their findings for them to withstand the rigors of argument, Taxonomies of Knowing have emerged over time. Many of them are taught tacitly to students at university - they have become the unwritten expectation of academic discourse – meta-knowledge. (See Table 9)

The realisation of these Taxonomies takes time and is the reason why University has been structured the way that it has. It is for this reason that this model has been developed. To send all employees to 'university' to become aware of these Tacit Taxonomies of Mental Application so that they are all looking through the same Window as those that did.

However, it would be wonderful if a simple model could be created that explicitly lays these Taxonomies out in an easy-to-understand Conceptual Framework so that all Employees, regardless of their formal/informal qualifying level, can apply to achieve Tacit Knowledge Elicitation so required within Business Administration.

The below table illustrates the reason for each level at university. See Table 9.

Table 9: The University Meta-Knowledge Levels		
Levels Of University		**Tacit Knowledge Elicitation**
Year/Level	**Mental Application**	**Taxonomy**
First Year	Analyse	Force Relationship Process Product
Second Year	Synthesise	Ethics Mores Morals Value
Third Year/Degree	Implement	Plan Organise Lead Control
Honours	Assess	Shape Form Function Style
Masters	Evaluate	Buy Sell Want Need
Doctorate	Improve	Meaning Truth Purpose Reason

Conceptualisation – Understanding of Windows – Conceptual Framework –The Window

Analyse the Capture

To break it down into its constituent parts to identify ones understanding thereof.

Synthesise the Organise

To bring together an explanation that can be stored along with the identified data.

Implement the Acquire

To implement the resultant knowledge to be implemented by the Team.

Assess the Distribute

With the applied knowledge one can Assess the advantage thereof as it is being implemented.

Evaluate the Transfer

The advantage thereof is Evaluated as to its suitability of result and an understanding is achieved.

Moderate the Use

The resultant understanding is then moderated over time to store the understanding.

Verify the Store

The refinement is verified as true through the creation of its laws of government.

Justify the Share

The Laws of Government enable the Justification of the greater Create of Understanding

Improve the Create

The Improved Understanding is then Applied by the Team across the Window of Understanding.

Enlighten the Apply

The entire window/windows are propagated through Applicable Enlightenment by the User to affect elicitation and abstraction within Knowledge Management within an organisation.

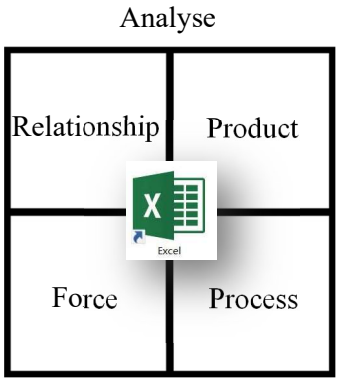
4.5 Knowledge Elicitation Taxonomies

Knowledge is full of Taxonomies and Windows is no exception. So far, we have considered a few of these Taxonomies. Now we need to complete these Taxonomies so that we can populate all the Windows appropriately such that they create meaning across the entire Window.

- **Capture the What with Excel and Analyse the Force, Relationship, Process, and Product.**

In Figure 30, the first Lifecycle Process is CAPTURE of the WHAT with the Computer Application EXCEL and the Mental Application ANALYSE of the Force, Relationship, Process and Product.

Capture the What with Excell



1. Capture the What

Figure 30 **Garth Green 2025.**

- **Organise the Who with Word and Synthesise the Ethics, More, Morals, and Values.**

In Figure 31, the second Lifecycle Process is ORGANISE of the WHO with the Computer Application WORD and the Mental Application SYNTHESISE of the Ethics, Mores, Morals, and Values.

Organise the Who with Word

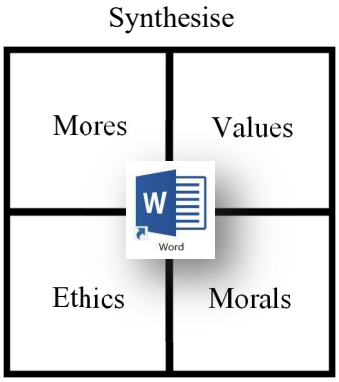
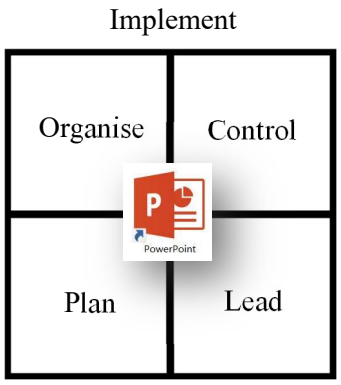


Figure 31 **Garth Green 2025.**

- **Acquire the When with PowerPoint and Implement the Plan, Organise, Lead, and Control**

In Figure 32, the third Lifecycle Process is ACQUIRE of the WHEN with the Computer Application POWERPOINT and the Mental Application IMPLEMENT of the Plan, Organise, Lead, and Control.

Acquire the When with PowerPoint



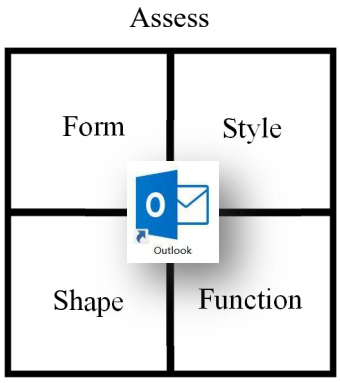
3. Acquire the When

Figure 32 **Garth Green 2025.**

- **Distribute the Where with Outlook and Assess the Shape, Form, Function, and Style**

In Figure 33, the fourth Lifecycle Process is DISTRIBUTE of the WHERE with the Computer Application OUTLOOK and the Mental Application ASSESS of the Shape, Form, Function, and Style.

Acquire the Where with Outlook



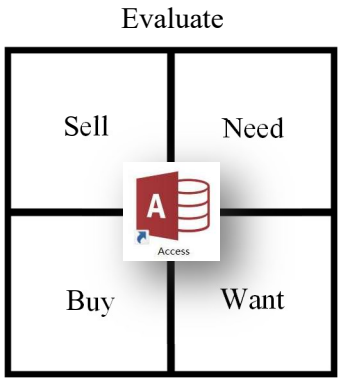
4. Distribute the Where

Figure 33 **Garth Green 2025.**

- **Transfer the Past Why with Access and Evaluate the Buy, Sell, Want, and Need.**

In Figure 34, the fifth Lifecycle Process is TRANSFER of the PAST WHY with the Computer Application ACCESS and the Mental Application EVALUATE of the Buy, Sell, Want, and Need.

Transfer the Past Why with Access



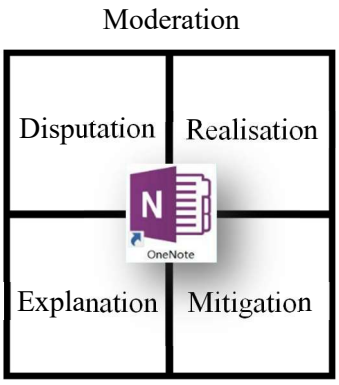
5. Transfer the Past Why

Figure 34 **Garth Green 2025.**

- **Use the Present How with OneNote and Moderate the Explanation, Disputation, Mitigation, and Realisation of Elicitation.**

In Figure 35, the sixth Lifecycle Process is USE of the PRESENT HOW with the Computer Application ONENOTE and the Mental Application MODERATE of the Explanation, Disputation, Mitigation, and Realisation of ELICITATION.

Use the Present How with OneNote



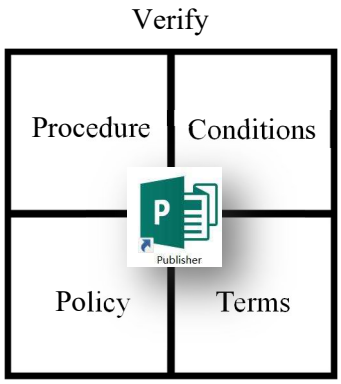
6. Use the Present How

Figure 35 **Garth Green 2025.**

- **Store the Tacit Which with Publish and Verify the Policy, Procedure, Terms, and Conditions.**

In Figure 36, the seventh Lifecycle Process is STORE of the TACIT WHICH with the Computer Application PUBLISH and the Mental Application VERIFY of the Policy, Procedure, Terms, and Conditions.

Store the Tacit Which with Publish



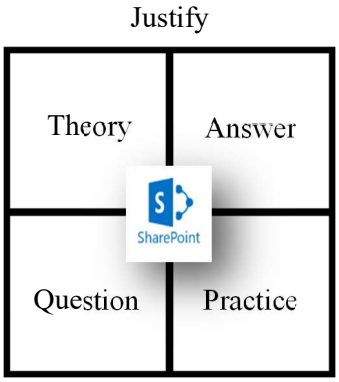
7. Store the Tacit Which

Figure 36 **Garth Green 2025.**

- **Share the Explicit Which with SharePoint and Justify the Question, Theory, Practice, and Answer.**

In Figure 37, the eighth Lifecycle Process is SHARE of the EXPLICIT WHICH with the Computer Application SHAREPOINT and the Mental Application JUSTIFY of the Question, Theory, Practice, and Answer.

Share the Explicit Which with SharePoint



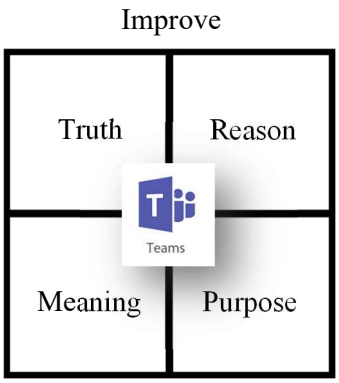
8. Share the Explicit Which

Figure 37 **Garth Green 2025.**

- **Create the Future Why with Teams and Improve the Meaning, Truth, Purpose, and Reason.**

In Figure 38, the nineth Lifecycle Process is CREATE of the FUTURE WHY with the Computer Application TEAMS and the Mental Application IMPROVE of the Meaning, Truth, Purpose, and Reason.

Create the Future Why with Teams



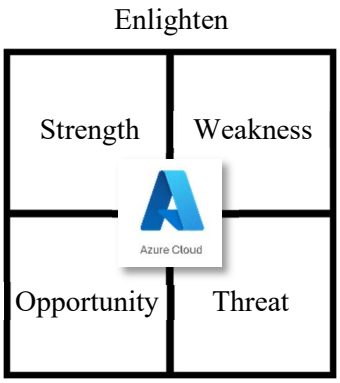
9. Create the Future Why

Figure 38 **Garth Green 2025.**

- **Apply the Holistic How with Azure and Enlighten the Opportunity, Strength, Threat, and Weakness.**

In Figure 39, the tenth Lifecycle Process is APPLY of the HOLISTIC HOW with the Computer Application AZURE and the Mental Application ENLIGHTEN of the Opportunity, Strength, Threat, and Weakness.

Apply the Holistic How with Azure



10. Apply the Holistic How

Figure 39 **Garth Green 2025.**

- DATA is the Force of Ethics that Plans the Shape of Buy into the Explanation of the Policy that gives the Question its Meaning within OPPORTUNITY.

- INFORMATION is the Relationship of Mores that Organise the Form of Sell into the Disputation of the Procedure that gives Theory its Truth within STRENGTH.

- KNOWLEDGE is the Process of Morals that Leads the Function of Want into the Mitigation of Terms that gives Practice its Purpose within THREAT.

- WISDOM is the Product of Values that Controls the Style of Need into the Realisation of the Conditions of the Answer its Reason within WEAKNESS.

4.5 Conclusion

The above Knowledge Taxonomies develop a knowing across Windows that achieves a level of enlightenment such that the User achieves a worldview of their cognitive self in relation to the work they perform.

It is important to realise that each employee within an organisation must create their own Artificial Intelligence (AI) of their work environment so that they can contribute more effectively to the overall strategy of the organisation.

It is for this reason that *Windows for the Mind* should be taught to all employees that make use of an Office Suite of Applications to affect their daily work as it is through this suite that their worldview is generated, and that tacit knowledge will become explicit knowledge though the process of elicitation. (See Figure 40 and 41)

The Enlightenment of Windows

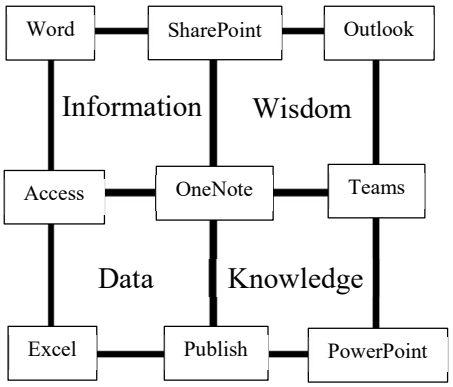


Figure 40 **Garth Green 2025.**

Windows Knowledge Management

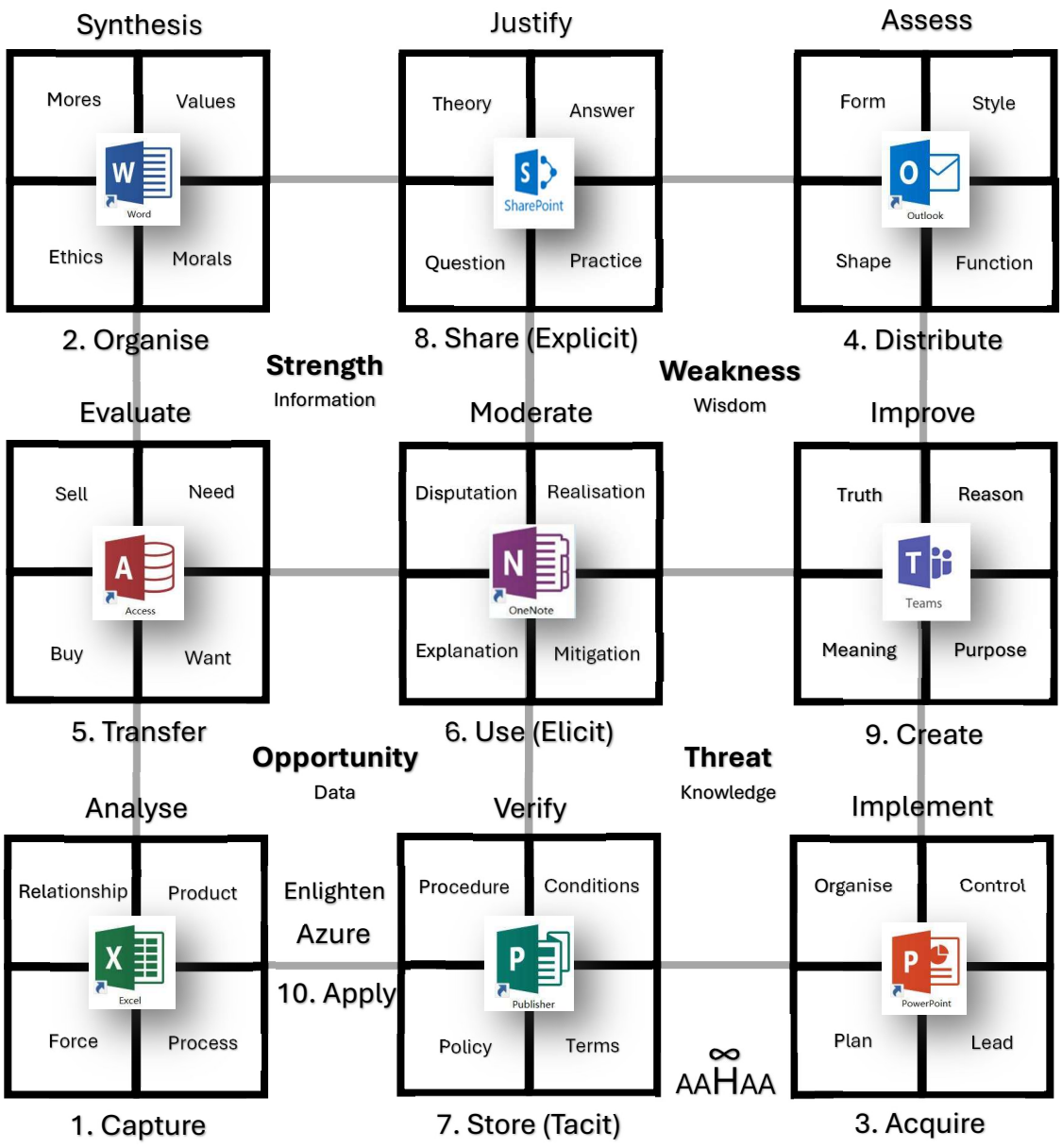


Figure 41 **Garth Green 2025.**

CHAPTER V

DISCUSSION

5.1 Introduction

Now that the model is complete, what needs to be followed is a step-by-step guide on its implementation within an organisation. For this to be easily facilitated a key has been provided that will show the reader – using an arrow – the location on the model the explanation refers to. It is advisable to have the full diagram present for ease of reference.

As an added feature, a working example of an organisation will be used to illustrate the steps covered. The company is called Gearhouse South Africa (Pty) Ltd and is situated in South Africa. The company operates within the Live Event Industry specializing in the technical side of the Live Event Industry. It provides the Stage complete with Lighting, Sound, Audio-Visual, Rigging, Structures and Power. The client brings their requirements for the production element of their live event and Gearhouse will design the stage complete with the required technical elements. Gearhouse has also created their own 'Client Value Chain' which will be used along with the following discussion.

5.2. The Client Value Chain

Before embarking on a detailed discussion, it is important to understand the Client Value Chain of the business adding value. A Company sits within the 'gap' of production between a Supplier and a Client. In the case of Gearhouse, the supplier provides products in the form of Lighting, Sound, Audiovisual, Rigging, Structures and Power equipment. This equipment is not homogeneous to the Client's needs, but rather individual elements that require authentication in relation to the client's requirements. It is for this reason that Gearhouse exists to provide this authentication in relation to the client's needs.

The Client Value Chain (CVC) runs as follows…

- Through an ongoing Marketing Campaign, potential Clients become aware of Gearhouse and its ability to provide them with the necessary technical requirement for their live event.
- They then get in touch with Gearhouse and provide Gearhouse with their requirements through a 'rider'. A rider is a list of technical requirements that a client provides the production company.
- Gearhouse then generates a quote as per the rider and submits it to the client.
- The client along with the Gearhouse Sales Team then refines the quote until the client is happy with the final price along with the deliverables.
- Once the client has accepted the quote and deliverables and paid either the entire amount or part thereof as per agreement, the quote is then handed over to Production for execution.

During the execution stage, there follows a sequence that proceeds as follows.

- Crews are booked to come in to prep the gear.
- Equipment is then selected, connected, and tested within the workshop to determine component compatibility and system integrity.
- The kit is then dismantled and placed into Flight Cases for transport to site via trucks.
- On site the flight cases are distributed to their respective location about the staging area via a colour coding of the flight case.
- The kit is unpacked, and installation commences.
- Once each system is complete, it is switched on and fault finding commences until the system is fully operational.

- Once the entire stage is complete and working, the stage is then handed over to the Client so that they can commence rehearsals and main show.
- Once the Live Event is complete, the kit is switched off and made safe, disconnected/dismantled, and placed back into Flight Cases, and sent back to the warehouse where it is unpacked, checked again for operation and if working placed back onto the shelf for reuse. If broken it is sent for repairs and then placed back on the shelf.
- Throughout the entire production process, the Project Manager/Shift Boss communicates necessary requirements with the Client/Gearhouse and adjusts the process accordingly.
- Once the entire event is complete, the sales team then communicates to the client, to rectify any abnormalities and shortfalls in delivery and request final payment as required.

The above CVC requires the following Departments, Marketing, Sales, Production (Lighting, Sound, Audiovisual, Rigging, Structures and Power), Maintenance and Transport. Also required are Accounts, Human Resources, Legal, and Occupational Health and Safety. Each of these departments require an 'Access' programme to run. This programme is the 'go-to' programme for the departmental transactions.

Each of these departments have a list of available transactions that have been mandated for the department to deliver upon. This set of transactions is the Departmental Operating Procedure and is the Products each Department has on offer. As an example, if we take the Operations Department, the list of available products on offer to the Client is created through the Quote that is generated using the Departmental Access Programme. This

programme is called HireTrack, and its task is to create the Quote along with the kit/equipment that each subdepartment (lighting. Audio and so on) is to provide to the event.

Each of these ‘transactions’ are logged within HireTrack and at the end of each month, the month is closed off and the data within HireTrack is made available to evaluate its ‘Why’ content. ‘Why’ is the data within HireTrack for this past month the way that it is in relations to all other months prior. This will enable all departments that have a vested interest in this data to become aware of their respective ‘Why’. The ‘request for knowledge’ is brought about through accessing the data within HireTrack over time.

The data that is held within HireTrack is not homogeneous, but rather split up into ‘data narratives’ that will require different people to track. Also, when it comes to third party data from suppliers, this data is being generated by their own Access programs.

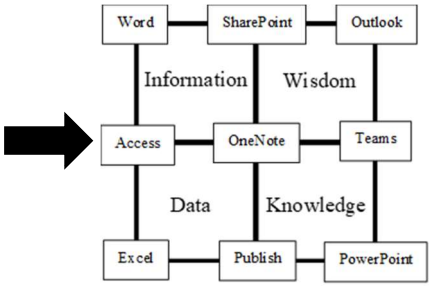
It is out of these data narratives that Knowledge Elicitation must proceed so that at the end of the entire elicitation process, everyone that has a vested knowledge request become aware of the knowledge to be applied and apply it so that the data narrative can be changed to achieve and maintain the Vison and Mission of the organisation.

Should it be found that data is missing within the relevant Access programme in question and that data from other sources was required, the Access programme should be improved upon so that all relevant data is held within the Access program itself.

It is for this reason that ‘Windows for the Mind’ has been created. To make all staff that make use of an Access programme along with the Microsoft Office Suite, be able to engage themselves within the Knowledge Elicitation Process that underpins the outcome of moving through the Microsoft Office Suite. So let us begin…

5.3. The Window Application Process

To Begin…



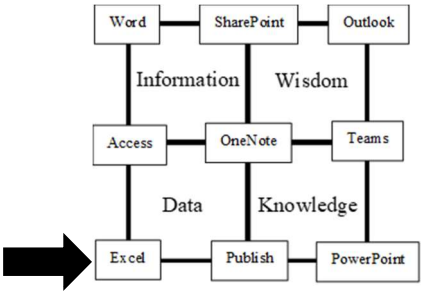
Every Department within an organisation must function using an Access Programme. An Access Programme is the 'go-to' programme used for all Departmental Transactions. All Departments are created to facilitate a required set of Transactions and it is an Access Programme that facilitates these Transactions.

One can make use of Microsoft Access, however, there are a plethora of other 'Access" programs available. Access itself is a very simple version and is perfect to start with but will become very limiting over time. It is therefore imperative that a fit-for-purpose Access programme be acquired as soon as possible.

The use of an Access Programme is there as a given and runs continually throughout the life of a department. However, there is a Window Period that exists between each set of transactions. This is usually set monthly. Thus, at the end of each month, the Access Programme is closed off and the data downloaded into an Excel Spreadsheet for analysis.

When Analysing the data in Excel, the User tries to create the present Why as best as they can. This Why exists as an explanation of the present why in relation to all other past Why's. This narrative progresses until an Aaha moment is reached where the data realises itself.

Step 1…Excel



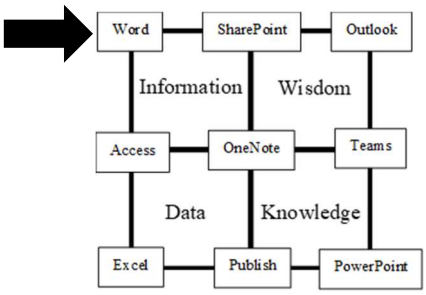
The Data from Access is downloaded into an Excel Spreadsheet and added to all other previous data of the same type from previous months. The Data is 'Captured' into an Excel Spreadsheet and 'Analyzed' to determine the Force, Relationship, Process and Product thereof.

A Force is the Data itself and each Data Force has a specific Relationship to all other Data Force preceding it. This Data Stream creates a Process the outcome of which is a Resultant Product. Thus, we arrive at a Product of Forces. This will enable the User to be able to Declaire the *What of all Things* as they currently stand. The User will then be able to generate a suitable Explanation as to why the current data is the way that it is in relation to all other previous Data of the same type from all other previous monthly downloads.

This data, once 'excelled', becomes the data that 'proves' the existence of the 'thing' itself. This data is therefore of greater value than the original data as found in Access. It has been 'cleaned-up' and compartmentalized using various formulae to give it structure.

From this data, a suitable explanation for its existence in relation to all other data from previous months can be generated and applied in the next step.

Step 2…Word



Now that a suitable explanation has been created, the explanation is explained into a Word Document explaining the Data History Trend.

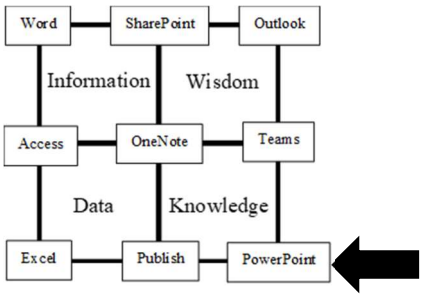
Here the Data Explanation is being Organised into a coherent Explanation whereupon the User Synthesises the explanation in terms of its Ethics, Mores, Morals and Values. It is here that the *Who* is the Author of this Explanation is being Defined as the Word Document has a specific author attached.

Once the explanation has been authored into a Word Document, the resultant information can be provided to all within the department. There may well be other authored Explanations of the same Data Stream, and so these different and even contradictory Explanations provide a rich source of Information to the Department.

Each of these differing Explanations are then Disputed between each other to create a final Synthesised Body of Information that the entire Department as well as the Organisation as a whole, may find conclusive for Implementation. The Information is Disputed into Knowledge.

Therefore, staff must not become too attached to their respective explanations but allow for their thinking to be altered in the presence of other like explanation though different in nature.

Step 3…PowerPoint



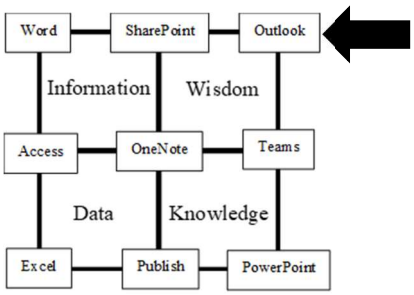
The Resultant Disputation of Information becomes the Knowledge that must be Implemented. This knowledge will Mitigate the Unknown Do for the Department. However, this knowledge can only be Implemented once the User Acquires the Conditional When.

This Conditional When is defined by a suitable Plan, Organise, Lead and Control being Acquired by the User to Implement the Mitigation Knowledge. Knowledge is only made available if there is something to be mitigated which is often in the form of a Threat (to be covered later) If there is no Threat, there will never be any knowledge on it. Knowledge is only required/created if there is a Threat. We create knowledge to mitigate the Threat thereof.

Once the knowledge has been defined regarding a perceived threat, the User then creates a PowerPoint presentation covering how this knowledge will be implemented. The PowerPoint presentation must cover the Plan, Organise, Lead and control for the Implementation of the required knowledge to mitigate the threat. This knowledge implementation is to alter the narrative of the data stream as it is perceived to be erroneous.

To provide the When of application through PowerPoint is created as the User is expectant that the Team will implement the Knowledge directly after the presentation. No team member will spend the time creating a PowerPoint presentation only to find that the team will refuse to implement the knowledge.

Step 4…Outlook



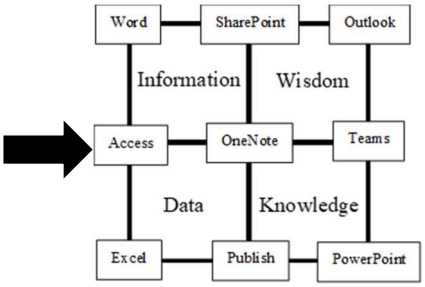
As the knowledge is being Implemented, the result is the Distribution of Knowledge across a plethora of Transactions within the Department. Each Transaction has its own Shape, Form Function and Style that is Assessed through Outlook.

As the resultant application of the knowledge unfolds, we use Outlook to affect the next transaction as the reality of the applied knowledge unfolds. This has the effect of creating Wisdom of the realised 'Blind See' thereof.

Through Emails, the User Assesses their Outlook of the knowledge being implemented and modifies their Wisdom accordingly as they 'see' fit. As knowledge is being implemented the outcome is being assessed to determine the level of weakness that is being achieved. It is this weakness that is governed by the User's Wisdom.

By using emails sent to all Team Members implementing the knowledge, the outcome of the implemented knowledge can be modified to ensure the desired outcome is reached at every stage in the knowledge implementation process.

Step 5…Access



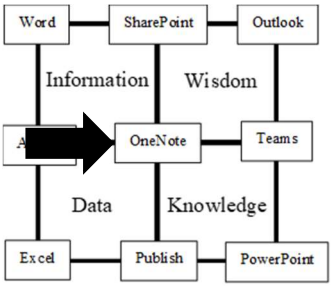
As the Knowledge is being Implemented and the Resultant is being Assessed throughout the ensuing Month. A new set of data within the Access Program is being generated that will become available at month end for download into an Excel Spreadsheet.

Therefore, the cycle repeats itself repeatedly each time creating another WHY. These Why's will form a sequence such that there will come a time that the User will realise the Data Trend and achieve an Aaha Realisation.

The data within the Access Programme is Evaluated and so the question WHY is asked as to its content. It is from an Access Programme that a 'Request for Knowledge' is generated. This data within the Access Programme is the Buy, Sell, Want and Need of the Client making use of the Department in question.

Each Department has its clients to attend to. These Clients Buy, Sell, Want, Need the Product(s) that the Department has on offer. This becomes the Causal-Why of the Future Effectual-Why.

Step 6…OneNote



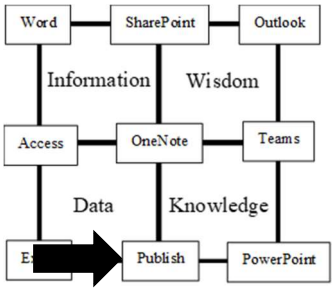
As each month plays out and as each Why is achieved, The Departmental procedural How is made known. How well is the Department able to Moderate its Data Use over time to become aware of the resultant Opportunity, Strength, Threat, and Weakness.

As Data is being generated, the Department in question must be able to Moderate their Transactions in such a way that through its Use it can generate the required Opportunity, Strength, Threat, and Weakness. The idea being that over time – 5 Whys/5 Months - a data trend is achieved, and the User will achieve an Aaha Realisation of the trend towards an overall Meaning, Truth, Purpose, and Reason thereafter.

To achieve this, the User makes use of OneNote. OneNote allows the User to take note of the resultant Explanation, Disputation, Mitigation and Realisation that is unfolding over time. The User takes note of this unfolding Why narrative that should derive a resultant Aaha realisation.

This unfolding realisation narrative is called Knowledge Elicitation. This is a process by which the User moves from the Past Why, through the Present How on to the Future Why. This narrative creates the required explanation, disputation, mitigation, and realisation needed to achieve the outcome of Windows.

Step 7…Publish

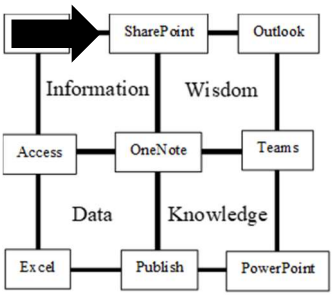


As the Window Period Unfolds, the changing Explanation, Disputation, Mitigation, and Realisation is being verified by Policy, Procedure, Terms, and Conditions. This is how the Knowledge is stored within the organization. The knowledge stored must make the User aware of the working Polies, Procedure, Terms and Conditions that must be adhered to. This is called the Tacit Which of the Collective.

This Tacit Which is Published for the Team to know and is how Knowledge is Stored for future use and then published for all to read and know. All knowledge is defined in the form of Published Policy, Procedure, Terms and Conditions that must be always adhered to.

As an example, if we consider the knowledge pertaining to a works schedule for the replacement of a manufactured part within a machine, there is a manual that has been Published on how this is to be done so that the manufactures Warranty can be maintained. This also applies to parts of machines that have been authorised by an authoritative body to be installed in a specific manner. This procedure has been published by the authoritative body and must be always adhered to. If not, and something goes wrong, there must be a paper trail of signed off authority to show where the mitigation of authority was adhered too.

Step 8…SharePoint



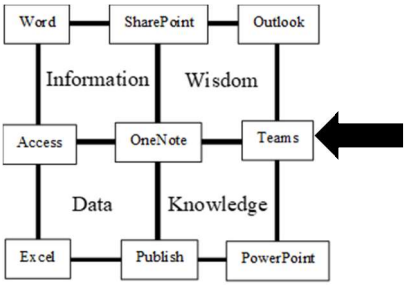
As the window unfolds and the explanation, disputation, mitigation, and realisation can no longer be contained within the Policy, Procedure, Terms, and Conditions, the greater which unfolds whereupon a justification of the greater Question, Theory, Practice, and Answer becomes louder and louder over time.

When Excel Spreadsheets, Word Documents, PowerPoint Presentations and Published Policy, Procedure, Terms and Conditions are Shared on SharePoint, the User begins to ask Questions, Theories, Practice and Answer that becomes justified over time.

It is imperative that the organisation must allow for staff to Question, Theorise, Practice, and Answer freely so that Greater Future in the form of Meaning, Truth, Purpose, and Reason can be achieved. This is how the Overton Window works that has been superimposed over Windows for the Mind.

The Overton Window has the Right Side (bottom of the Window) as conservative which is correct as per Policy, Procedure, Terms, and Conditions that must remain conservative by nature to ensure the User adheres to the established Policy, Procedure, Terms, and Conditions. However, the left Side of the Overton Window is where there is freedom for the User to Share their own Justified Question, Theory, Practice, and Answer.

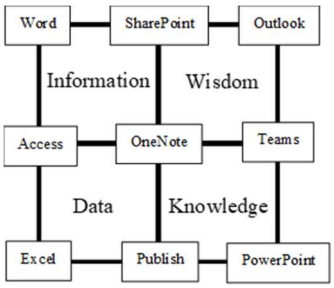
Step 9…Teams



Finally, As the Window Period evolves into the future, the Departmental Staff come together in their Teams Meetings to Create the Effectual Why of Meaning, Truth, Purpose, and Reason. This will ensure that the Departmental How remains on course regardless of what the future has in store.

The Department is continually improving the Effectual Why such that they create a future greater than the present. Explanation unfolds to create greater meaning, a Disputation unfolds to create greater Truth, a Mitigation unfolds to create greater Purpose and a Realisation unfolds to create a greater Reason. This is all discussed within a Team's reality.

Step 10…Azure



This step is the entire Window operating as a Sum Total of all the Sub Windows that make it up. That Data Explains the Hidden Think and Information Disputes the Open Say and Knowledge Mitigates the Unknown Do and Wisdom Resize the Blind See.
This Window therefore Comes Together to achieve Enlightenment for the User(s) of the Microsoft Office Suite in its Sum Total. This is the result of the process of Knowledge Elicitation through a step-by-step process of incremental steps of added levels of awareness.

At the final step, the User should be in the position to speak to their peers within a Teams Application to present an autobiography of the entire knowledge acquisition process and how they came to the conclusions that they do. Thus, the Chief Executive Officer (CEO) of the company can rely on the Knowledge Elicitation Process in such a way that they can rely on the justification of their staff.

5.4 Conclusion

The entire Knowledge Management Lifecycle plays itself out in waves across the entire Window. There are ten windows that make up the Lifecycle and each have their own Computer Application along with their respective mental application.

Knowledge Elicitation is not a simple ‘quick step’ process. It requires all ten of these steps as outlined above to achieve. All the respective Taxonomies for each Lifecycle step are very well known and should be relatively easy to understand as well as master over time.

These Taxonomies originate from tried and tested, peer reviewed sources that may be well understood already by staff within an organisation as all of them come from well-placed sources. The way in which the Window and Windows unfolds may not be very familiar to staff, it is easily and understandably explained. After explanation, the window almost takes on a simplified aaha realisation as to its simplicity. It becomes ‘obvious’ to the staff member.

If the User understands the model and how it applies to their own working environment, it will become Tacit Knowledge and the User will become automatic in its implementation. It must be explicitly taught and then become tacit in its application.

CHAPTER VI

SUMMARY, IMPLICATIONS AND RECOMMENDATIONS

6.1 Summary

Now that the Model is complete, its ability to transform the Organisational Knowledge Elicitation landscape within an organisation should become apparent. Here is a model that provides a substantial departure from the current Knowledge Management (KM) landscape. We finally have an Integrated KM Model that offers a substantial Epistemology to a well-established Ontology that exists across the Meta-Knowledge Field.

For the first time we now have a model that can be taught to staff throughout an organisation regardless of their position that have access to the Microsoft Office Suite to engage and participate in Knowledge Elicitation and Awareness processes that will elevate their status as an active provider of knowledge content across the organisation.

Up until now, Microsoft has been unable to provide staff with a clear mandate as to how to apply their Office Suite in its entirety and why it is so important that the entire suite is made available to all staff. Or, if not, at least everyone understands the limited role a staff member will play should full access not be provided. This is not wrong in and of itself, but at least it provides the correct scope for future elaboration rather than keep it as a silent endeavor.

The application of this model allows all staff within an organisation that have access to the Microsoft Office Suite, to provide the necessary Data, Information, Knowledge, and Wisdom necessary for effective organisational development over time. Transparency is key to any organisational success and this model provides that transparency and openness that the Johari Window expects of all employees.

6.2 Implications

This model has been created to provide Users of the Microsoft Office Suite with the understanding of how to generate a Worldview based on the content across the entire Office Suite of Applications.

The reason why this methodology was adopted was to keep to a 'Windows Theme' so that the User can assimilate the knowing thereof. Windows for the Mind makes use of a Window such like that of the Microsoft Windows Logo. Thus, the Microsoft Windows Logo can trigger the User's Mind to 'think' along the same lines as per each application for both the Computer and the Mind.

This Thesis has enabled the following Theoretical Implications to become apparent.

- Establish the need to 'open a window' within the organizational context as postulated by Sakichi Toyoda founder of Toyota when he said to his staff "Open the Window It's a big world out there" and to realise this window as the 'meta-knowledge window' to the field of Knowledge Management.
- Link this 'window' to the Cartesian Plane and establish the 'field of knowledge, the field of study and the field of work' with the creation of the window within the Cartesian Plane, the four 'frames of reference' and the 'window-period.'
- Number and sequence the four 'frames of reference' in the correct order to realise the window as the window unfolds through time and to name each quadrant per the 'Johari Window' by Joseph Luft and Harrington Ingham (1955) as Hidden, Open, Unknown and Blind.
- Through the application of logical thought, derive the 'frames of reference' for each quadrant to Think, Say, Do and See from the Johari Window.

- Apply the concept of ‘Aaha Learning’ and ‘Cogmotics’ as presented by Dr. Bruce Copley (1995) to the Window so that the Window becomes an ‘Aaha Realisation’ of the Knowledge that lies within it.
- Discuss the work of John Berger’s ‘Ways of Seeing’ and the relationship we have with ‘seeing’ and that the more we know the more we see, but what we see we do not know (Berger 1972). This is how we open the window and accumulate knowledge within it through time.
- Establish a working definition of knowledge which, in this dissertation will be ‘knowledge leads to action.’
- Cover the work of various authors to populate the Window with different taxonomies to realise its significance within the field of Knowledge Management: Spender (1992), Nonaka (1994), and more recently Mousavizadeh et al (2015) among others.
- Cover the work of Zack (1998) and his ‘taxonomy of questions’ to realise the need to populate the Window with questions for the Window to realise and become aware of itself: What, Who, When, Where, Why, How, Which.
- Explore the Five Whys Technique of Root Cause Analysis of Taiichi Ohno of Toyota and equate this as the Window Period. Then to surround these Five Whys with the remaining questions of What, Who, When, Where, How and Which.
- Explore a range of Knowledge Management Lifecycle Frameworks from Huber (1991) to Evans, Dalkir and Biden (2015) and include the final analysis by Shongwe (2016).
- Map the entire Microsoft Office Suite to the Window and explain how to apply the model to affect Knowledge Management throughout the organisation using **the** Microsoft Office Suite of Applications and to the Windows Avatar for quick reference.

Knowledge Management can finally become a recognised training programme for all staff making use of a computer for Business Administration purposes.

Staff will become aware of knowledge acquisition practice and how knowledge elicitation is achieved.

Staff will become more involved in knowledge acquisition as a function of their daily work requirements and should become more accepting of the need to apply their minds to more complex concepts and ideas that require deeper thought.

Organisations will become ‘learning organisations’ whereupon a culture of ‘dedication to one’s field of expertise’ will become the driving force.

With enhanced awareness across the board of employees within an organisation, less losses will occur, and greater efficiency will be achieved in knowledge acquisition.

6.3 Recommendations

Like all things, change is inevitable, and this model framework may well become dated over time. Therefore, to maintain its authenticity within its field, ongoing research is important. The types of research that may be considered are as follows.

As the Microsoft Office Suite increases, the additional Applications must be added to Windows of the Mind Framework. Although the framework is fixed by the number of windows it can hold, the additional applications can be added by removing obsolete applications or by amalgamating applications into one.

Another research option is to make the Windows three dimensional by adding ‘depth’ to the framework. Although there is a third dimension to the Cartesian Plane, so far this has not been considered by academics nor by Microsoft. This could be a challenging field of research, one that has not been considered to date.

Although the respective Taxonomies of the Framework have been set, many may argue as to their correctness of type and place within the framework. Therefore, there may be a need to run this as a Quantitative/Qualitative research problem such that feedback can be obtained from staff that are implementing this Framework. So far, this research has been purely conceptual in nature.

6.4 Conclusion

Research Methodology is often taught to students in the form of a Quantitative/Qualitative study. However, this Thesis presents a Conceptual Research Methodology. The success of this Conceptual Thesis is because the Conceptual Ideas that were considered have all been Peer Reviewed in their own right. This Thesis simply brought them together and presented them within a novel Cognitive Framework.

When completing a Conceptual Framework Research Thesis, it is imperative that any concepts used must have been Peer Reviewed or, if not, must then be tested for authenticity though Quantitative/Qualitative Methodology and then Peer Reviewed before they are considered for a Conceptual Methodological Framework.

Since the above has been applied within this Thesis, the Windows Framework and it's Taxonomic features should hold true and can be taught to staff that make use of the Microsoft Office Suite of Applications.

It could be plausible to even go so far as to say that this Thesis has presented the first *Mental Operating System for the Mind* within Business Administration. It could even go so far as to define Business Administration itself.

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