Identifying Knowledge Management Processes in Futures Research

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Abstract: Governments and organizations utilize Knowledge Management to create, share, use, and manage their knowledge to gain competitive and strategic advantages. They also use Futures Research techniques, such as Foresight, technology assessment, and technological forecasting, to comprehend the forces that shape the future and consequently affect them. Despite Knowledge Management and Futures Research being two distinct subjects, they support decision-making processes and help people make the right decisions, sharing unexplored similarities. However, there is a lack of understanding regarding the relationship between Knowledge Management and Futures Research, the integration of Futures Research techniques to support Knowledge Management processes within organizations, and how specific Futures Research techniques align with different knowledge dimensions. A brief search showed us that academic literature that combines knowledge from both areas is quite scarce. By identifying the similarities between Knowledge Management and Futures Research, this work aims to demonstrate how to apply Futures Research techniques to Knowledge Management processes, particularly in the SECI (Socialization, Externalization, Combination, and Internalization) knowledge creation and conversion model. Therefore, this study analyzes 53 Futures Research techniques, such as Scenarios, Brainstorming, Expert Panels, Delphi, and Bibliometrics, among others, to establish a relationship between Knowledge Management and Futures Research. The proposal also includes exploring the relationship between different Futures Research techniques and the four knowledge conversion dimensions according to the SECI model, providing justification for how Futures Research techniques can be helpful for knowledge conversion activities. With the relationships between Futures Research techniques and Knowledge Management processes established, a framework is provided for further development of practical guidance on how organizations and governments can integrate the implementation of Knowledge Management and Futures Research techniques, particularly with methods that are useful for decisions regarding technological investments. Understanding the relationship between Knowledge Management and Futures Research is expected to provide valuable insights for governments and organizations seeking to improve their decision-making processes through Knowledge Management.

Keywords: Knowledge management, Futures research, SECI model, Decision-Making processes

1. Introduction

The VUCA (Volatile, Uncertain, Complex, and Ambiguous) acronym often describes our contemporary world, characterized by constant change, encompassing potentially harmful disruptions and beneficial advancements. However, uncertainty yields understanding, as it constitutes an opportunity for leaders to listen and understand, thus discovering new ways of thinking and acting (Johansen, 2007).

Knowledge Management (KM) is one of many tools organizations can use to deal with the so-called VUCA world. The primary purpose of KM is to share perspectives, ideas, experiences, and information (Colburn, 2012). Making sure that the correct information is available to the right people at the right time enables informed decisions, thus helping these people gain the necessary understanding to mitigate uncertainties. Another way to deal with uncertainty is by utilizing Futures Research. By applying a series of methodologies related to this area of Futures Research, one can forecast change and anticipate future threats or opportunities. Scenarios, Cross-impact Analysis, and SWOT are among other techniques in the Futures Researcher toolbox, which will help him tackle the lack of predictability in general. Despite KM and Futures Research's goal of assisting people in making the right decisions, literature combining both areas is limited.

This work explores how Knowledge Managers can use Futures Research methods in their processes, specifically in the SECI (Socialization, Externalization, Combination, and Internalization) model. We analyze 53 Futures Research techniques and establish parallels between them and the four modes of knowledge conversion in the SECI model and KM processes in a generic KM model.

Through this analysis, we aim to create an interface between KM and Futures Research, demonstrating how the latter can enhance KM processes and also how Futures Research can benefit from KM. This interface is expected to benefit both areas, particularly in decision-making processes related to forecasts and technological investments.

2. Literature

In this article, we will explore two different topics: KM and Futures Research. This section aims to provide the necessary theoretical foundation for the subsequent discussion in Section 3, in which we will establish a relationship between KM and Futures Research. Sub-section 2.1 will present some definitions of KM and explain the SECI model of knowledge dimensions. Sub-section 2.2 will focus on Futures Research, a transdisciplinary field that explores possible, plausible, and preferable futures using different methodologies and techniques. We will discuss the classifications of Futures Research methods based on their nature, approach, family, and capability.

2.1 The SECI Model and Generic Knowledge Management Models

The role of knowledge as a critical source of potential advantage for organizations and hence whole economies has been a hotly debated topic over the last decades. It has become one of the essential factors in business strategies associated with technological innovation capacity, producing competitive advantages. It follows that for organizations, individuals, and society, the processes of knowledge creation or acquisition, communication, application, and usage, must be effectively managed (Quintas, Lefrere and Jones, 1997). In this way, KM has become necessary in this scenario.

There is a variety of definitions of KM in the literature. According to Davenport and Prusak (1998), KM is related to capturing, distributing, and effectively using knowledge. Later, Duhon (1998) considered KM a discipline that promotes an integrated approach to identifying, capturing, evaluating, retrieving, and sharing an enterprise's information assets, including databases, documents, policies, procedures, and expertise previously captured from workers' knowledge. This variety of studies of KM over the last years has resulted in the development of different techniques and methods.

In their different definitions and classifications, models and processes of KM have been the object of extensive analysis in the literature of the last years. Nonaka and Takeuchi (1995) developed the most widely known contribution, which expresses a shared knowledge creation process model. Figure 1 shows a straightforward representation of the SECI model. This model considers knowledge either tacit (unarticulated, non-verbalized, and intuitive) or explicit (articulated, specified by writing, drawing, among others) and evidences the ways of knowledge transformation: Socialization (tacit to tacit knowledge, e.g., a chat between colleagues), Externalization (tacit to explicit knowledge, e.g., formalizing a body of knowledge in the form of a document or audiovisual media), Internalization (explicit to tacit knowledge, e.g., translating theory into practical activity), and Combination (explicit to explicit knowledge, e.g., combining, merging existing ideas).

		TO	
		Tacit	**Explicit**
FROM	**Tacit**	**Socialization**	**Externalization**
	Explicit	**Internalization**	**Combination**

Figure 1: The SECI Model for Knowledge Creation and Conversion. Adapted From Nonaka and Takeuchi (1995)

Stollenwerk (1999) presents a survey that groups existing KM models in the literature based on similar concepts, as shown in Figure 2. This grouping evidenced equivalences between the processes present in the different works, bringing nine sets of KM processes, namely: (i) *Identification*, (ii) *Capture*, (iii) *Selection and Validation*, (iv) *Organization and Storage*, (v) *Sharing*, (vi) *Application*, and (vii) *Creation*. This broad study led to the development of a generic KM model that unifies and synthesizes the different aspects addressed by the literature, circumscribed by KM facilitating factors, which are: (a) *Leadership*, (b) *(Organizational) Culture*, (c) *(Information and Communication) Technology*, and (d) *Measurement and Reward*.

The *Identification* process involves identifying the knowledge that is needed and available, as well as mapping the sources of necessary knowledge. The *Capture* process is associated with acquiring the required knowledge

and can be done using internal or external sources. The *Selection and Validation* process filters the captured knowledge, assesses its relevancy and reliability, and consolidates valuable knowledge while discarding redundant, uncertain, and unhelpful knowledge. The *Organization and Storage* process ensures that knowledge can be retrieved quickly. This knowledge retrieval is usually done through software-based storage systems. The *Sharing* process is about facilitating access to the stored knowledge and disseminating it to others. It also relies on software to enable easy sharing. The *Application* process involves applying the knowledge to specific situations and sharing experiences and lessons learned. Finally, the *Creation* process involves knowledge externalization, creative thinking, research, experimentation, discovery, and innovation. These activities promote learning, help to generate new knowledge, and support the development of new ideas and solutions (Stollenwerk, 1999).

Leadership has a primary role as KM is a facilitating factor since corporate leadership is essential to sponsor Knowledge Management. The Organizational Culture is a facilitating factor focusing on excellence, flexibility, self-management, proactivity, and future vision. *Information and Communication Technology* provides KM systems for storing, sharing, and organizing knowledge. *Measurement and Reward* is the facilitating factor that improves the focus on the actions that achieve mensurable goals and performance indicators (Stollenwerk, 1999).

Section 3 will establish a relationship between some Futures Research methods, the SECI model dimensions, and the generic KM model processes in Figure 2. The SECI and generic KM models proposed by Stollenwerk (1999) will serve as interfaces between KM and Futures Research.

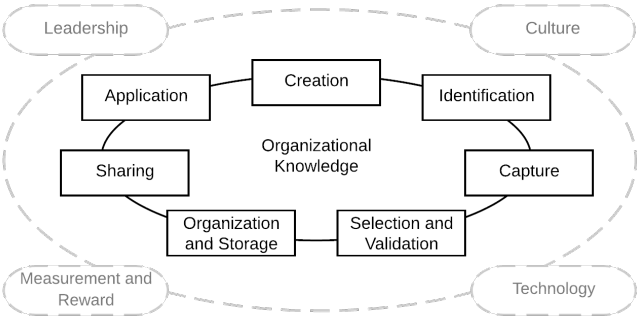

Figure 2: KM Processes And their facilitating factors. Adapted From Stollenwerk (1999).

2.2 Futures Research

Futures Research is a transdisciplinary field that uses various methods to explore possible, plausible, and preferable futures (Bengston, 2019). Its activities involve the analysis of technology futures and impacts (Johnston, 2008). These activities aim to formulate and test possible and desirable futures to assist decision-making, including analyzing how these conditions can change from implementing policies and actions (Reis, Vincenzi and Pupo, 2016).

Because of its broad definition, involving a variety of methodologies and techniques for the analysis of technology future, different classifications for Futures Research methods are present in the literature. Futures Research methods may be classified in different ways according to:

- *Nature*: Popper (2008) classifies methods as qualitative (soft), quantitative (hard), or semi-quantitative. Qualitative methods deal with the subjective and creative perception of events and their meanings. Quantitative methods comprise statistical analyses of datasets, such as historical series or economic indicators. Semi-quantitative methods rely on mathematical models to reduce the subjectivity of opinions from non-professionals or experts.
- *Approach*: Porter et al. (2004) divide Futures Research methods into normative or exploratory. Normative Futures Research methods start from perceiving future needs and aim to delimit the decisions and actions leading to the desired scenario. Explorative methods produce possible future scenarios from the extrapolation of the present situation.
- *Family*: Porter et al. (2004) offer a classification of the individual methods into nine families as follows: (i) *Creativity*, (ii) *Descriptive and Matrices*, (iii) *Statistical*, (iv) *Expert Opinion*, (v) *Monitoring and Intelligence*, (vi) *Modeling and Simulation*, (vii) *Scenarios*, (viii) *Trend Analyses*, (ix) *Valuing/Decision/Economic*.

- *Capability*: Another kind of classification, developed by Popper (2008), is related to its ability to gather or process information based on evidence, expertise, interaction, or creativity – attributes not exclusive or restrictive but quantified together in a polar multidimensional way. Evidence-based methods are based on knowledge usually already public, such as statistics or documentation, that is, explicit knowledge. Methods based on creativity are strongly influenced by imaginative thinking, such as science fiction and simulation games; therefore, they are based on tacit knowledge. Expertise-based methods rely on expert opinions and the data underlying those opinions; interaction-based methods involve knowledge exchange and discussion. Thus, both methods can depend on both tacit and explicit knowledge. This classification is the basis of the widely known Foresight Diamond, represented in Figure 3.

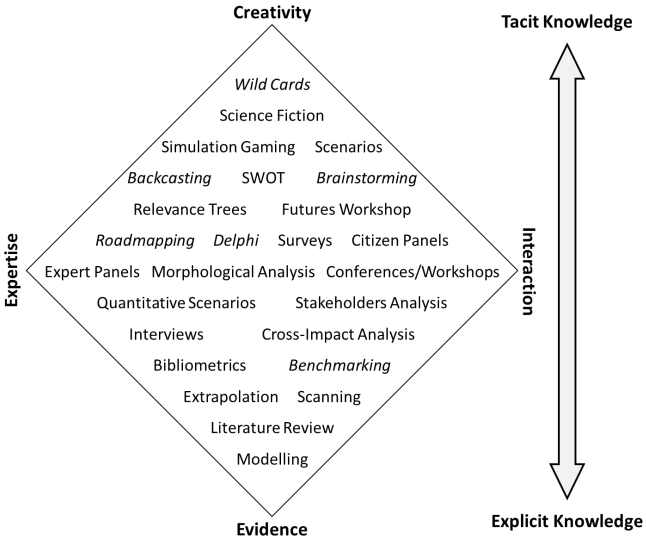

Figure 3: Adaptation of the Foresight Diamond (Popper, 2008) to Highlight the Knowledge Types Involved

3. Identifying Knowledge Management Processes in Futures Research

The relationship between Knowledge Management and Futures Research is pertinent because Knowledge Management focuses on managing knowledge within a company, while Futures Research aims to predict future events. By incorporating upcoming trends into Knowledge Management, a company can gain a competitive advantage by identifying early market risks and opportunities. Ultimately, the goal is to effectively comprehend, store, and utilize information about the future (Castro *et al.*, 2019). According to Junior *et al.* (2019), using both Knowledge Management and Futures Research can provide three significant benefits to organizations. First, organizations that manage their knowledge tend to perform better in Futures Research activities than those that don't because much of the necessary knowledge is already identified and explicit. Second, Futures Research can help identify, create, acquire, store, transfer, and use organizational knowledge, generating feedback to improve Knowledge Management processes. Finally, organizations with structured knowledge tend to be more resilient, enabling them to deal better with uncertainty, develop innovation, and explore new business fields.

The methodology we used to establish the relationships between Knowledge Management and Futures Research was based on the works of Nonaka and Takeuchi (1995), Stollenwerk (1999), Eerola and Miles (2011), and Barbosa (2018). By thoroughly reading the 53 descriptions of Futures Research methods provided by Barbosa (2018), we were able to determine the type of knowledge conversion each method employed (according to the SECI model) and its corresponding Knowledge Management process (according to Stollenwerk's generic KM model). Furthermore, by analyzing the knowledge-based perspective proposed by Eerola and Miles (2011) for Futures Research methods, we connected it with the same 53 methods and their categories. Thus, the bridge between Knowledge Management and Futures Research was constructed through an in-depth analysis of each method based on the abovementioned authors.

Section 3 establishes our view of the relationship between Futures Research and Knowledge Management, based on the Futures Research and Knowledge Management processes and SECI Dimension. First, in Sub-section 3.1, we show how to apply Futures Research methods to KM processes. Then, in Sub-section 3.2, we show how

organizations can incorporate KM into Futures Research. We aim to provide practical guidance on integrating Knowledge Management and Futures Research techniques in organizations.

3.1 From Futures Research to Knowledge Management

A reflection on Futures Research's objectives, methods, and practices can point out that Futures Research is nothing more than a process that involves finding, developing, merging, using, and creating knowledge about the future (Eerola and Miles, 2011). Its primary purpose is to assist in decision-making about the future scenario, which involves both historical and contemporary knowledge and its implications for the future.

Table 1 presents a set of 53 Futures Research methods and their classification according to approach and family. While some methods, such as Brainstorming, are well-known and widely used by KM practitioners, others – like *TRIZ* and *FAR* – may be less familiar to those outside the Futures Research field. As Barbosa (2018) provides a detailed description of each of the 53 methods, this work will focus on establishing the relationship between these methods and the corresponding SECI model dimensions associated with a KM process. We can identify the relationship by analyzing these descriptions and comparing them with the works in Sub-section 2.1. This association is justified because all the listed methods involve some form of knowledge conversion and are thus relevant to the KM process. More specifically, as Futures Research often involves generating knowledge for strategic planning, the processes of *Identification*, *Capture,* and *Creation* of knowledge are the ones that can most benefit from applying a specific method.

In our efforts to draw parallels between the methods chosen and knowledge conversion activities, we concluded that methods from the *Expert Opinion* and *Creativity* families, as well as methods that involve the elaboration of alternative futures – *Brainstorming*, *Delphi*, *Focus Groups*, *Interviews*, *Options Analysis*, *SWOT*, *Science Fiction Analysis*, *TRIZ*, and *Vision Generation* – are related to the *Externalization* mode of knowledge conversion because their main goal is to convert the tacit knowledge to be expressed by the participants into explicit knowledge. On the other hand, methods that deal with structured data, whether numerical or not, established by databases, documents, and other subsidies, are associated with the *Combination* mode. Examples include *Bibliometrics*, *Cross-Impact Analysis*, *Demographic Analysis*, *Trend Extrapolation*, and *Trend Impact Analysis*. The *Socialization* mode and *Externalization* mode are often used together in workshops or group-related methods to convert tacit knowledge into both tacit and explicit knowledge. Since none of the methods listed in the table convert explicit knowledge into tacit knowledge, *Internalization* is omitted. However, it is important to note that the classification of methods according to their relationship with knowledge conversion activities may vary depending on the theoretical framework or perspective adopted.

The last column of Table 1 suggests the KM processes where the methods can be best applied. We used the generic KM model proposed by Stollenwerk (1999), which includes the *Identification* process for identifying critical knowledge, the *Capture* process for acquiring essential abilities, experiences, and knowledge, and the *Creation* process for generating new knowledge through learning, research, experimentation, and innovation. *Scenarios* can be used across all three processes. Other methods such as *Action Analysis*, *AHP*, *Decision Analysis*, *and Relevance Trees* do not focus on generating new knowledge but instead, identify necessary knowledge to prepare for more complex knowledge generation processes. We could not relate the other processes in Sub-section 2.1 to any of the listed methods.

Table 1: Futures Research Methods, Classifications, Corresponding SECI Model Dimension, and KM Process. Methods and Categories Adapted From Porter et al. (2004) and Barbosa (2018)

Method	Approach [1]	Family [2]	SECI Model Dimension [3]	KM Process
Action Analysis	N/Ex	V	C	Identification
Agent Modeling	Ex	Mod	C	Creation
Analogies	Ex	Desc	C	Creation
Analytical Hierarchy Process (AHP)	N	V	C	Identification
Backcasting	N	Desc	C	Identification Capture
Bibliometrics	Ex	Mon/Stat	C	Creation Identification
Brainstorming	N/Ex	Cr	E	Creation Capture
Brainwriting	N/Ex	Cr	E	Creation Capture
Causal Models	Ex	Mod	C	Creation

Method	Approach [1]	Family [2]	SECI Model Dimension [3]	KM Process
Checklists for Impact Identification	Ex	Desc	C	Creation
Complex Adaptive System Modeling (CAS)	Ex	Mod	C	Creation
Correlation Analysis	Ex	Stat	C	Identification
Cost-Benefit Analysis	Ex	V	C	Identification
Creativity Workshops	Ex/N	Cr	S/E	Creation Capture
Cross-Impact Analysis	Ex	Mod/Stat	C	Creation
Decision Analysis	N/Ex	V	C	Identification
Delphi	N/Ex	ExOp	E	Capture
Demographics	Ex	Stat	C	Creation
Diffusion Modeling	Ex	Mod	C	Creation
Economic Base Modeling	Ex	Mod/V	C	Creation
Field Anomaly Relaxation Method (FAR)	Ex/N	Sc	C	Creation Identification
Focus Groups	N/Ex	ExOp	E	Capture
Future Workshops	N/Ex	Cr	S/E	Creation Capture
Futures Wheel	N/Ex	Desc/V	C	Creation
Interviews	N/Ex	ExOp	S/E	Capture
Life Cycle Assessment	Ex	Desc/Mod	C	Identification
Long Wave Analysis	Ex	Tr	C	Identification
Mitigation Analysis	N	Desc	C	Identification
Monitoring (Environmental Scanning)	Ex	Mon	C	Identification
Multicriteria Decision Analysis	N	V	C	Identification
Morphological Analysis	N/Ex	Desc	C	Identification
Multiple Perspectives Assessment	N/Ex	Desc	S/E	Capture
Nominal Group Technique	N/Ex	Cr	S/E	Creation Capture
Options Analysis	N/Ex	ExOp/V	C	Identification
Organizational Analysis	Ex	Desc	C	Creation
Participatory Techniques	N	ExOp	S/E	Capture
Precursor Analysis	Ex	Tr	C	Identification
Relevance Trees	N/Ex	Desc/V	C	Identification
Requirements Analysis (PATTERN)	N	Desc/V	C	Identification
Risk Analysis	N/Ex	Desc/Stat	C	Identification
Roadmapping	N/Ex	Desc	C	Identification
Scenarios	N/Ex	Sc	C	Creation Identification Capture
Science Fiction Analysis	N	Cr	C	Creation Identification
Social Impact Assessment	N/Ex	Desc	C	Identification
Stakeholder Analysis	N	Desc/V	C	Capture
State of the Future Index (SOFI)	N/Ex	Desc	C	Identification
SWOT	Ex	ExOp	E	Identification
Technological Substitution	Ex	Mod	C	Identification
Technology Assessment	Ex	Desc, Mod	C	Identification
Trend Extrapolation	Ex	Tr	C	Identification
Trend Impact Analysis	N/Ex	Tr/Stat	C	Creation Identification
TRIZ	N/Ex	Cr	C	Creation Identification
Vision Generation (Aspirational Futures)	N/Ex	Cr	E	Creation Capture

[1] N – *Normative*, Ex – *Exploratory*
[2] Cr – *Creativity*, Desc – *Descriptive and Matrices*, Stat – *Statistical*, ExOp – *Expert Opinion*, Mon – *Monitoring and Intelligence,* Mod – *Modeling and Simulation*, Sc – *Scenarios*, Tr – *Trend Analyses*, V – *Valuing/Decision/Economic*
[3] S – *Socialization*, E – *Externalization*, C – *Combination*, I – *Internalization*

Futures Research has many diverse methods, drawing on various research traditions and areas. Practically any source of insight about science and technology – their production, communication, and application – can be utilized as knowledge inputs into Futures Research (Eerola and Miles, 2011). Futures Research is an iterative, multi-step work that uses multiple quantitative and qualitative methods to complement each other (Porter *et al.*, 2004). For example, the TIAMAT framework (Barbosa *et al.*, 2022) consists of generalizing Futures Research activities in workflows of Futures Research methods. The organization can use the best method or set of methods.

3.2 From Knowledge Management to Futures Research

If an organization plans to walk the other way and incorporate KM into Futures Research, Figure 4 summarizes how to conduct Futures Research exercises using a knowledge-based approach. The work adapted from Nonaka and Takeuchi (1995) and Eerola and Miles (2011) enables the Futures Researcher to be a Knowledge Manager, helping to incorporate KM into Futures Research.

The first step of a knowledge-based Futures Research exercise, design, and planning, in which the work's subject, scope, methods, workflow, and responsibilities are defined, corresponds to the *Socialization* and *Externalization* modes of the SECI model. This step involves dynamic interaction and sharing information about the views, opinions, expected results, responsibilities matrix, and definitions of the work itself. The workflow process, composed of multiple and diverse Futures Research methods, covers mainly the *Externalization* and *Combination*, consisting of eliciting and sharing information, expertise, and opinions from experts, stakeholders, or general participants. Such Future Research methods capture information to formulate posits, combined or not with structured information like statistical data, economic indicators, or trend extrapolations. We should highlight that, in Figure 4, the families of methods listed in the *Externalization* and *Combination* modes may differ from our previous classification shown in Table 1 because we're dealing with the methods belonging to a specific family more generically. As Table 1 deals with each method individually, the relationship between a family and a SECI model dimension may differ.

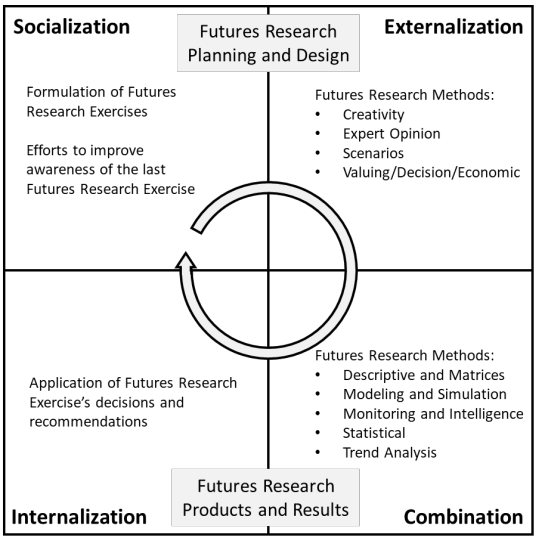

Figure 4: KM Processes in a Cycle of Futures Research Exercises. Adapted From Nonaka and Takeuchi (1995) and Eerola and Miles (2011)

As each method produces its results, new posits are put into context, providing feedback to the workflow. Future Research methods can be used for formulating clear priorities, recommendations, and decisions, covering the phases of *Combination*, *Internalization,* and *Socialization* again, indicating a cyclical process of knowledge exchange.

4. Discussion

One of our primary objectives was to facilitate mutual contributions between the areas of KM and Futures Research. By establishing an interface between the SECI model and the generic KM model proposed by Stollenwerk (1999), organizations can adapt their own KM models to deal with future knowledge and manage all the knowledge generated during Future Research exercises more effectively. We consider this objective to have been accomplished in Section 3.

Regarding using a knowledge-based approach, Eerola and Miles (2011) point out a "microcosm" of a Futures Research exercise. Scenario workshops typically consist of a sequence of activities, with periods of extensive exchange and debate of ideas, annotation, listing, combining different lists, and narrative construction. Thus, several rounds of the SECI processes are needed to accomplish this step of the Futures Research activity. This cyclical movement, therefore, consists of many sub-cycles within the grand cycle that covers the SECI model, as described by Eerola and Jorgensen (2002).

Integrating Knowledge Management and Futures Research requires organizational commitment, support, and readiness for change. As in any organizational cultural change, it often involves overcoming resistance to new ways of thinking and working and establishing collaborative structures and processes that foster knowledge-sharing and future-oriented thinking. Nevertheless, this combination's potential to offer complementary perspectives, enhance strategic planning, facilitate anticipatory knowledge creation, and improve decision-making.

Although we have achieved the objectives outlined in the introduction of this work, some limitations need to be addressed. Firstly, the methods presented in Table 1 do not fully apply to the remaining processes in our generic KM model. Processes such as *Selection and Validation*, *Organization and Storage*, *Sharing*, and *Application* of knowledge do not appear to align with or benefit from any of the Futures Research techniques listed. Another limitation is that we could not establish a clear relationship between the ways of classification – *Nature*, *Approach*, *Family*, and *Capability* – of Futures Research methods and the SECI model or the processes in the generic KM model. For instance, we suggested that methods from the *Creative* family were linked to the *Externalization* mode, but exceptions such as *Science Fiction Analysis* and *TRIZ* exist. Finally, there are inherent limitations in combining two distinct areas of knowledge. Futures Research deals with the uncertainty and complexity of anticipating future developments, while Knowledge Management focuses on managing existing knowledge within a known context. Integrating these fields has challenges of uncertainty and complexity in future-oriented knowledge management.

5. Conclusion

Our contemporary world is fraught with uncertainty, which governments and organizations can alleviate through the efficient use of knowledge and forecasting techniques. In this work, our main objective was to establish a two-way interface between Knowledge Management and Futures Research. To achieve this, we established a relationship between the SECI model of knowledge conversion, a generic KM model, and 53 Futures Research methods. This interaction enables Knowledge Management to benefit from Futures Research methods in activities related to future knowledge generation. Conversely, to enable Futures Research to benefit from Knowledge Management, we presented a knowledge-based approach framework based on the work of Eerola and Miles (2011).

As we discovered that literature covering both Knowledge Management and Futures Research areas is hard to find, this work is our contribution to expanding the literature about future knowledge management. Futures Research can help identify, create, acquire, store, transfer, and use organizational knowledge. Futures Research generates feedback to improve Knowledge Management processes, making organizations more resilient, enabling them to deal better with uncertainty, develop innovation, and explore new business fields. Understanding the relationship between Knowledge Management and Futures Research is expected to provide valuable insights for governments and organizations seeking to improve their decision-making processes through Knowledge Management.

To further advance this research, we recommend that researchers consider expanding the classification of Futures Research methods and explore ways to integrate methodologies with high applicability, such as Scenarios, into their KM models and processes for forecasting.

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