

## TACIT KNOWLEDGE, SELECTIVE ATTENTION, AND INNOVATION

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### Abstract

Every day, businesses grapple with a multitude of challenges to meet their goals and retain their edge in an increasingly competitive landscape. One effective way to tackle these challenges is through innovation, with tacit knowledge playing a pivotal role in the process of innovation (López-Nicolás & Meroño-Cerdán, 2011). However, innovation necessitates a keen awareness and focus of individuals concerning alterations in their surrounding business environment (Yadav et al., 2007). They cannot address every issue they come across and must, therefore, judiciously choose specific matters that warrant their attention (Ocasio, 1997).

This research aims to intertwine Nonaka's (1994) knowledge creation theory with Ocasio's (1997) attention-based theory to delve deeper into the connection between tacit knowledge and selective attention, and the impact of this relationship on knowledge creation during the innovation process.

A comprehensive understanding of the nexus between tacit knowledge and attention can equip managers with insights into how the personal backgrounds of their team members may influence the organization's focus and its innovation endeavors, which ought to respond adeptly to market shifts.

**Keywords:** innovation, knowledge management, tacit knowledge, attention-based theory, knowledge creation theory.

### Introduction

In the innovation process, participants involuntarily employ their tacit knowledge, seeking solutions via subconscious processes (Okuyama, 2017). Simultaneously, innovation demands an alertness to shifts in the business milieu (Yadav et al., 2007).

The individual knowledge of participants in the innovation process is a significant component of its evolution (Chalmers & Balan-Vnuk, 2013). Nonaka's (1994) knowledge creation theory, along with the Spiral Model of knowledge conversion, posits that knowledge creation interlinks the knowledge synthesized by individuals with the organization's knowledge framework (Nonaka & Von Krogh, 2009; Nonaka et al., 2006). This theory encompasses both explicit and tacit knowledge.

The process incorporates a substantial degree of knowledge sharing, with tacit knowledge forming a significant part of this (Mirvis et al., 2016). The tacit knowledge of individuals steers innovation, as their decisions regarding what to prioritize and what to neglect guide the enterprise's trajectory (Yadav et al., 2007). Additionally, the values they uphold play a vital role in the innovation process (Stevens et al., 2015). The attention-based theory builds upon the premise of issues and answers. Here, issues represent a gamut of events, problems, opportunities, and threats discerned by individuals in their surroundings, while answers refer

to a range of actions, alternatives, proposals, projects, programs, routines, and procedures employed to navigate or solve these issues (Ocasio, 1997). Selective attention emerges as a key attentional mechanism when individuals encounter a barrage of potent stimuli vying for attention (Ocasio, 2011).

Despite this, there is a dearth of research on the interplay between tacit knowledge and the innovation process. Additionally, our understanding of the link between attention and innovation, including the manner in which this relationship might influence an organization's direction, remains limited. This leads us to our primary research question: **How does cognitive tacit knowledge intertwine with selective attention in the innovation process?**

The understanding of this relationship between tacit knowledge and attention, and its bearing on the selection of problems to address and strategies for problem-solving in the innovation process, is of utmost importance.

## **Literature Review**

### **Understanding Knowledge within an Organizational Context**

Knowledge is often conceptualized as actionable information steeped in experience, to some extent (Leonard & Sensiper, 1998, p. 113). This understanding of knowledge allows for its application in the creation of products, services, or processes, fostering the generation of innovative ideas (López-Nicolás & Meroño-Cerdán, 2011). The pivotal role of knowledge creation and management has driven scholars to reconsider their perceptions of innovation, encouraging exploration of the ways organizations engage in knowledge generation and processing (Nonaka, 1994). The individual competencies within a company and the structure and communication of such expertise are critical in defining the firm's capabilities (Zander & Kogut, 1995).

### ***Knowledge Management***

The concept of knowledge management refers to the process by which organizations generate, accumulate, and deploy knowledge to enhance their performance (Kinney, 1998). Bhatt (2001) envisions knowledge management as a multi-step process that includes knowledge creation, articulation, validation, application, and dissemination.

### ***The Dualism of Knowledge: Tacit and Explicit***

Knowledge encapsulates two interconnected dimensions: (1) explicit knowledge, which is expressible (Lam, 2000), codifiable, and accessible to individuals other than the original holder, and (2) tacit knowledge, which is innately personal and challenging to convey in a meaningful manner (Nonaka & Takeuchi, 1995; Nonaka et al., 2000). Explicit knowledge may take the form of data, scientific formulas, systematized linguistic rules, or manuals. In contrast, tacit knowledge is inherently intertwined with actions, procedures, routines, ideals, values, and emotions (Nonaka et al., 2000, p. 7).

Polanyi (1966), the pioneer of the tacit knowledge concept, emphasized its nature by stating, "We know more than we can tell," (Polanyi, 1966, p. 4). Tacit knowledge is fundamental to

human knowledge acquisition and learning, primarily through social interaction (Lam, 2000). Bhardwaj and Monin further amplified this concept, arguing that "Tacit knowledge is the starting point of all knowledge," (2006, p. 73).

Interestingly, some studies propose that tacit and explicit knowledge are not antagonistic but rather complementary. For effective adoption and application of tacit knowledge, explicit knowledge's support is indispensable and vice versa (Anu & Eerikäinen, 2010).

Tacit knowledge, which individuals accumulate through firsthand experience (Nonaka, 1994) or practical expertise ("know-how") (Koskinen & Vanharanta, 2002), is deeply personal (Nonaka & Takeuchi, 1995) and sometimes challenging to articulate (Lam, 2000). It resides in an individual's subconscious or semiconscious mind (Leonard & Sensiper, 1998). Tacit knowledge comprises problem-solving approaches, hunches, physiognomies, skills, tool usage, indicative language (Polanyi, 1966, p. 2), subjective insights, intuitions (Nonaka & Takeuchi, 1995), and components linked to culture such as values, beliefs, ideals, and attitudes (Mohajan, 2016). Through learning and doing, supervised experimentation, problem-solving, and observation, with active assistance from supervisors and peers, tacit knowledge can be developed (Krylova et al., 2016). According to Puusa and Eerikäinen (2010), tacit knowledge is the consequence of personal experiences, including failures, concept progression, misunderstandings, and corrections.

The use of tacit knowledge as a tool for problem solving is essential (Leonard & Sensiper, 1998; Koskinen & Vanharanta, 2002). Experts use an amalgam of experience-based patterns for the analysis and resolving of organizational complexity. In addition to this, it is essential for problem framing, which calls for an innovative approach to problem-solving that aims to reject obvious presumptions or solutions. This strategy encourages the topic to be redefined from fresh angles and generates original questions. As a result, it assists in discovering novel solutions. Additionally, tacit knowledge is crucial for anticipation and prediction; two aspects of innovation (Leonard & Sensiper, 1998).

Tacit knowledge has two components: a technical component made up of skills, artisanship, and competence; and a cognitive component. This cognitive dimension incorporates each person's mental or working models, including their beliefs, paradigms, and perspectives on the present, the future, and the wider world (Nonaka, 1994; Nonaka & Takeuchi, 1995; Whyte & Classen, 2012; Mohajan, 2016). In addition, it also comprises instincts, viewpoints, and values that people gradually develop as a result of their experiences in life (Mohajan, 2016). The cognitive component reflects a person's sense of reality, future goals, and working models they create, which in turn constitute "perspectives" that help them understand and interpret the environment around them (Nonaka, 1994).

The main sources of tacit knowledge acquisition are unconscious experiences and immersive surroundings. Through an intuitive and inductive cognitive process, people unknowingly build a matrix that reflects how different contextual variables interact when they interact with their surroundings (Agbim et al., 2013). The wisdom gained from these experiences is known as

tacit knowledge, which is displayed in human actions including attitudes, perspectives, judgments, motivations, and commitments (Mohajan, 2016).

While tacit knowledge poses a challenge to sharing, it is not unattainable. It can become accessible when aligned closer to the explicit part of the knowledge spectrum (Nonaka & Von Krogh, 2009). Tacit knowledge can be transferred via experiential learning wherein individuals acquire knowledge from their colleagues through problem-solving exercises (Koskinen & Vanharanta, 2002). Tacit knowledge sharing can also be facilitated through staff meetings centered around problem-solving discussions, mentorship programs, employee rotation (Mohajan, 2016), and various other channels of informal communication utilized within an organization (Koskinen & Vanharanta, 2002). While tacit knowledge is often non-verbal, it can occasionally be articulated as distinct statements (Puusa & Eerikäinen, 2010).

In the realm of tacit knowledge sharing, stories linked to personal experiences play a pivotal role (Whyte & Classen, 2012). Listening to narratives within an organization aids individuals in understanding their roles and assimilating into the organization's culture (Peet, 2012). Storytelling brings to light the tacit aspects of knowledge and effectively portrays the experiences of employees that are a reflection of the organization's cultural, social, and psychological backdrop. Analyzing the narratives circulated within an organization provides insight into the tacit knowledge ingrained within it (Bhardwaj & Monin, 2006). Moreover, stories can stimulate understanding and recall, and aid in the articulation of tacit knowledge through discussions. They can spark the externalization process, catalyze the birth of novel knowledge, and contribute significantly to the emergence of innovative ideas (Sakellariou et al., 2017).

### **The Knowledge Creation Theory**

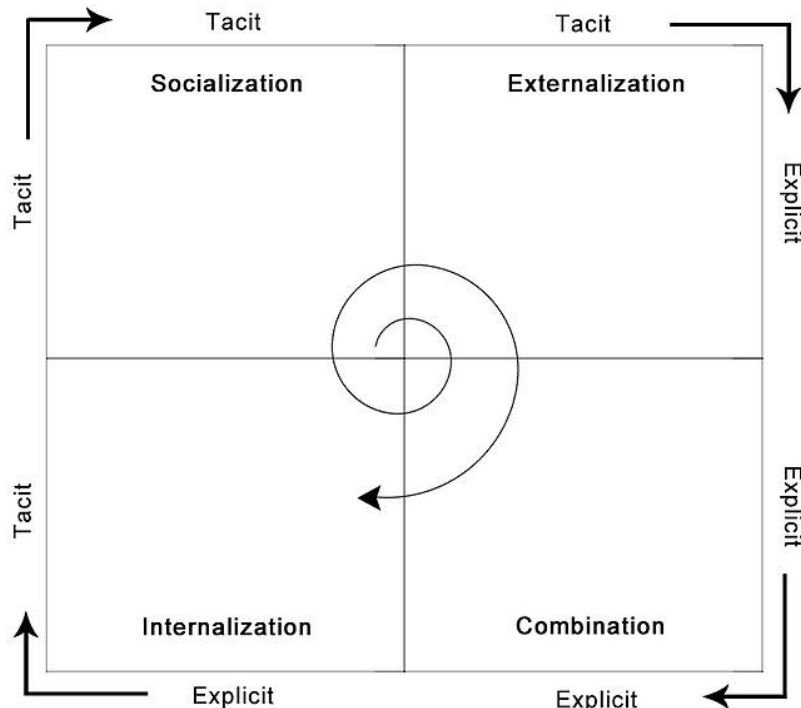
Nonaka's seminal work in 1994 brought forth the theory of knowledge creation and the Spiral Model for knowledge transformation. The act of creating knowledge within an organization is delineated as "the operation that enhances and magnifies knowledge that is the product of individuals, integrating and solidifying it within an organization's knowledge ecosystem," (Nonaka & Von Krogh, 2009; Nonaka et al., 2006, p. 1179). It is incumbent upon the organization to foster, disseminate, and integrate new knowledge into its systems and operational procedures (Nonaka & Takeuchi, 1995).

The genesis of knowledge creation within an organization involves the exchange of tacit knowledge among organization members with the aim of formulating a novel product or service concept. This process necessitates the exchange of knowledge - which is primarily tacit - on customer expectations, requisite skills, emergent technologies, and the sharing of perspectives, convictions, and personal experiences that contribute to the inception of innovative concepts or products (Von Krogh et al., 2000). Knowledge that has its origins within the organization carries particular value since it is tacit, unique, tailored to the organization, and challenging for competitors to replicate (Zack, 1999).

Nonaka's Spiral Model of knowledge transformation in 1994 articulated various interactive patterns between tacit and explicit knowledge. This model is founded on a dynamic interplay among the four modes of transformation (Nonaka & Toyama, 2003). The Spiral Model, also known as SECI (socialization, externalization, combination, and internalization), comprises:

(1) Socialization, where one individual's tacit knowledge becomes another's through non-verbal forms of communication such as observation or imitation; (2) Combination, which facilitates the transformation of explicit knowledge to explicit knowledge, exemplified by telephone conversations, databases, or meetings; (3) Externalization, converting tacit knowledge to explicit knowledge, often facilitated by metaphors or analogies; and (4) Internalization, where explicit knowledge becomes tacit knowledge, seen in activities such as reading documents or participating in simulations (Nonaka, 1994).

**Figure 1** Nonaka and Takeuchi Knowledge Spiral Model (1995)



### **The Theory of Attention-Based View**

Ocasio's work in 1997 introduced the attention-based view of firms, building on Simon's 1947 theories, proposing that an organization's conduct is formed by how it distributes and focuses the attention of its decision-makers. The attention-based view primarily delves into how attention shapes the adaptability of an organization and has been utilized as an overarching perspective in numerous theoretical and empirical studies (Ocasio, 2011). The chief elements of the attention-based theory comprise attention, issues and answers, and procedural and communication channels.

### **Issues and Answers**

Issues encompass the spectrum of events that decision-makers use to comprehend their environment, including organizational challenges, prospects, and potential risks. Answers consist of a catalog of actions and potential courses of action for existing issues, which may involve proposals, projects, programs, routines, and procedures. This catalog of answers is rooted in and underpinned by the organization's framework, which individuals use to comprehend and elucidate the organizational structure, operational procedures, routines, strategies, and programs, as well as any potential solutions they provide for the challenges and opportunities they encounter within the organization (Ocasio, 1997).

### ***Procedural and Communication Channels***

The channeling of procedures and communications refers to the environmental context encompassing all organizational activities, interactions, and communication aimed at encouraging individuals to act on a predefined assortment of matters. These channels hold a significant influence in directing the attention of individuals, and more widely, the distribution of attention within organizations. They function as conduits for organizational processing of problems, solutions, and decisions concerning strategic organizational initiatives (Ocasio, 1997).

This theoretical framework accentuates three key principles: the principle of focus of attention, the principle of situated attention, and the principle of structured allocation of attention, detailed as follows:

**The principle of focus of attention** posits that decision makers will identify and concentrate on problems and solutions at a given time. Their ensuing actions or organizational strategies depend on their choices and reactions (Ocasio, 1997). This implies that individuals devote their intellectual energy and effort to a confined set of elements within their consciousness. These elements shape their attention, leading individuals to display selective attention to certain issues, concepts, or objects. Concentration of attention thus directs perception and action towards these chosen matters. Additionally, individuals' capacity to attend to problems and solutions is limited within any given context, and their selection thereof influences their decision-making process (Ocasio, 1997).

**The principle of situated attention** pertains to the problems and solutions decision-makers elect to act upon, which are contingent on their organizational context and environment. The characteristics of the situations they encounter trigger and subsequently shape their behaviors', attention, and actions (Ocasio, 1997).

**The principle of structured distribution of attention** determines the manner and location in which organizations distribute and manage their problems and solutions. Alongside organizational activities, procedures, and communication. It influences the contexts that decision makers encounter and how they respond to these situations. Here, the structure of attention and its elements engender distributed attention amongst the individuals engaged in procedural and communication channels (Ocasio, 1997).

Individuals significantly impact the structure of attention, establishing the rules that connect the procedural and communication channels and consequently direct an organization's focus (Kumar & Demir, 2013). Generally, they favor certain problems and solutions and contribute to setting the organization's agenda. In reciprocation, the structure of attention offers individuals or decision makers an array of interests that generate motivations for specific subsequent actions (Ocasio, 1997). Although chief executives and top management are primary influencers of attention within an organization, other actors like middle management, employees, customers, suppliers, consultants, investors, and other stakeholders can also impact organizational attention (Ocasio, 1997).

### ***Selective Attention***

Multiple mechanisms of attention have been acknowledged, inclusive of three key forms. The first, selective attention, involves individuals' concentration of their information processing capabilities towards specific sensory stimuli, particularly relevant when faced with conflicting and diverting stimuli. Second, attentional vigilance refers to the enduring capacity to focus on particular stimuli. Lastly, executive attention, crucial to the processes of planning, decision-making, and problem-solving, is highlighted (Ocasio, 2011).

The study of organization, paired with an attention-based view theory emphasizes the roles of selective and executive attention. The limited capacity of an individual's brain to process all incoming stimuli due to constraints in information processing capacity forms the focus of selective attention. As the volume of information exceeds the processing capacity, the brain judiciously selects specific stimuli, disregarding others. This selective mechanism is particularly vital in situations inundated with conflicting and diversionary stimuli. Studies revolving around selective attention have probed its relationship with conscious experiences and underscored the significance of top-down or goal-driven attentional processes as well as bottom-up or data-driven attentional processes. Findings suggest that selective attention is fueled by an individual's objectives, pre-existing cognitive direction, task requirements, and motivation, implicating the crucial role of top-down attentional processes (Ocasio, 2011).

Several factors, influenced by the depiction of events in the external environment by individuals, organizations, or entire industries (Hoffman, 2001), can affect this attention, making certain issues and solutions more conspicuous. These factors often guide managers in allotting attention to particular environmental aspects while sidelining others during problem-solving processes (Li et al., 2013; Haas et al., 2014). Research has indicated that uniquely portrayed issues attract greater attention (Li et al., 2013; Haas et al., 2014). Individuals are likely to give more consideration to problems presented as novel, especially in unfamiliar settings. The context in which the problem is situated also affects the focus placed on it (Haas et al., 2014).

### **Attention and Innovation**

Chief Executive Officers (CEOs), as influential participants, substantially impact innovation, with their choice of focus significantly affecting organizational strategic movements (Yadav et al., 2007). Furthermore, CEOs' values play a vital role in innovation and shape the direction

of organizational attention (Stevens et al., 2015). Their focus influences innovation, even in scenarios where the direct objective is not innovation, but rather, attention to future or external occurrences. This attention assists in recognizing market shifts and fresh aspects (Yadav et al., 2007). The attention of individuals can determine the nature of the explicit knowledge collected in relation to the tacit knowledge within the attention focus (Li et al., 2013). Alternatively, it can guide attention towards specific details, subsequently impacting the process of innovation (Naveh & Erez, 2004).

### **Innovation**

Innovation is typically characterized as the introduction of novel value to consumers through modifications in products, processes, business methods, or marketing practices (Madrigal-Sanchez & Quesada-Pineda, 2012). It represents a deliberate and directed alteration in an organization's socio-economic potential and knowledge base (Drucker, 1998).

Innovation often follows a structured progression: firstly, the idea generating phase; a phase characterized by exploring novel concepts and untapped opportunities (Van de Ven, 1999; Boer & During, 2001; Eveleens, 2010). Secondly, the idea refinement and maturation phase, where potential ideas undergo a thorough evaluation, leading to the selection of the most promising ones (Van de Ven, 1999; Boer & During, 2001; Eveleens, 2010). Following this, the idea designing phase, whereby the selected concepts are transformed into applicable operations, or tangible products by means of manufacturing or prototyping (Eveleens, 2010). Lastly, the idea implementation phase, which could involve piloting, modelling, or direct execution, priming the market and potential customers (Van de Ven, 1999; Boer & During, 2001). This final stage allows for feedback accumulation and eventual concept reinvention (Eveleens, 2010).

Innovation springs from various sources such as customer input acquired through direct or indirect data collection, the ingenuity of employees yielding fresh ideas, and research hubs and institutions providing similar services (Madrigal-Sanchez & Quesada-Pineda, 2012).

Knowledge, especially the tacit kind, significantly fuels the innovation process (Drucker, 1998). It can morph into goods, services, or methodologies, thereby fostering creativity and innovation (López-Nicolás and Merono-Cerdan, 2011).

Tacit knowledge embodies individuals' expertise. When tackling challenges, individuals rely on the knowledge they have accrued from previous encounters. The magnitude of their knowledge and expertise invariably enhances their problem-solving prowess (Koskinen & Vanharanta, 2002). Tacit knowledge's role in innovation is underlined by its dependency on hands-on experience and learning, elements tough to emulate or obtain by rivals. A direct correlation exists between an organization's tacit knowledge and its innovative capacity (Cavusgil et al., 2003). Additionally, research suggests that tacit knowledge's influence on organizational profitability via product innovation outweighs that of explicit knowledge (Lopez-Cabarcos et al., 2020). Consequently, sharing of tacit knowledge is pivotal to the innovation process and is crucial to attain successful innovative capabilities (Seidler-de Alwis, & Hartmann, 2008). Nonaka and Takeuchi (1995) proposed an interactive cycle involving tacit



and explicit knowledge in fostering innovation: a) exchanging tacit knowledge amongst organizational members, b) disseminating ideas, novel products, and technology among individuals from diverse yet complementary backgrounds, c) evolving knowledge into a more explicit form, amalgamating it into new products and prototypes, and d) reverting knowledge back to its tacit form as production achieves proficiency (Nonaka & Takeuchi, 1995).

To thrive in the highly competitive present-day markets, organizations must increase their awareness of their innovative capabilities. The sharing of knowledge, particularly tacit knowledge, is a vital competency to nurture. It ought to be part of their strategy to tap into the vast reservoir of tacit knowledge within the organization rather than solely banking on explicit knowledge (Talukdar & Chatterjee, 2019).

### **Gaps in the Literature**

Scholarly work involving tacit knowledge generally considers this subject as a unified entity, failing to delineate between cognitive tacit knowledge—comprising mental schemas, standpoints, beliefs, and principles—and technical tacit knowledge manifested as adeptness and proficiency (Nonaka, 1994; Nonaka & Takeuchi, 1995; Whyte & Classen, 2012; Mohajan, 2016). The existing corpus of research on the nexus of tacit knowledge and innovation tends to evaluate the ramifications of tacit knowledge exchange on organizational innovation and its subsequent effects on operational performance. Likewise, the influence of an executive's focus on current and prospective innovation, impacting the organizational strategy, issue selection, and solution determination is examined under the lens of attention and innovation. However, the predominant concentration on knowledge dissemination activities, the primary concerns of the organization, have been given due emphasis (Kumar & Demir, 2013). There is a conspicuous paucity of understanding on the interplay between attention and tacit knowledge. Consequently, there's minimal empirical evidence on how tacit knowledge dissemination is integrated within the innovation sequence or stages (Lawrence, 2014). Hence, in order to bridge these identified literature gaps, the study's primary research question is:

**What is the relationship between cognitive tacit knowledge and selective attention within the innovation process?**

### **Research Methodology and Design**

The core objective of this research is to unravel the interrelationship between tacit knowledge, attention, and innovation, grounding it in the knowledge creation theory and the attention-based view theory, with a specific focus on selective attention. The study will spotlight cognitive tacit knowledge and its association with selective attention, intending to elucidate how this interaction engenders innovative concepts during the idea generating, designing, and implementation phases within the innovation sequence.

A qualitative approach employing inductive analysis was selected, further incorporating thematic research for data analysis, yielding descriptive results (Merriam, 2002). This approach aims to meaningfully encapsulate concepts related to personal experiences, both for

the person experiencing them and at a theoretically scientific level. The research was executed through semi-structured, open-ended interview sessions.

The innovation yardstick was any novel concept, or a fresh or enhanced product, procedure, system, or device (Koskinen & Vanharanta, 2002). Attention was gauged through interviews (Ocasio, 2011; Li, 2013), the primary data collection instrument, by interpreting the narratives shared by the participants. Tacit knowledge was detected based on the cognitive dimension, encompassing views, sentiments, beliefs, and intuitions. Factors such as individuals' varied experiences, either past or concurrent with the innovation process leading to the acquisition of this cognitive tacit knowledge were also examined (Nonaka, 1994; Nonaka & Takeuchi, 1995; Whyte & Classen, 2012; Mohajan, 2016).

The interview questions were designed to uncover the tacit dimensions of the participants' performances by asking them to elucidate the reasons behind their behavior. This prompted participants to introspect their actions, revealing connected aspects such as feelings, intuitions, beliefs, and perspectives, which constitute tacit knowledge. Narratives have proven to be an effective medium for documenting tacit knowledge and transforming it into a codified form. Narratives provide an explanation of events or sequences, enveloping rich contextual detail, evoking memory, and strengthening memory retention (Dalkir, 2017).

The assimilation and interpretation of the interview data were carried out using the inductive method, as we categorized, coded, and examined the data meticulously (Gioia, Corley, & Hamilton, 2012). With the assistance of thematic analysis, we were able to recognize themes, trends in behavior, and reactions (Creed et al., 2010). The versatility and ease of use that thematic analysis offers allowed us to adopt an inductive approach, where we allowed the data itself to guide our coding and analysis, leading to the emergence of themes and codes directly from the data (Braun & Clarke, 2012).

### ***Research Site***

Occupying the bulk of the Arabian Peninsula, Saudi Arabia holds the title of the second-largest Arab country, with an estimated populace of 35,163,323 in the year 2021 (World Population Review, 2021). However, the nation faces a plethora of economic, environmental, and societal issues, with unemployment being a prominent challenge (Alzalabani et al., 2013). The Saudi government has turned its focus towards innovation as a viable solution to these problems.

### **Findings:**

#### **Idea Generation Phase, Tacit Knowledge, and Attention**

The phase of the innovation process where the genesis of an idea takes place is termed the idea generating phase (Van de Ven, 1999; Boer & Doring, 2001). The cognitive facet of tacit knowledge comprises feelings, beliefs, hunches, perspectives, and opinions, generally acquired via accrued experiences in which the individual partakes and their level of engagement and commitment to these experiences influence their knowledge acquisition (Nonaka, 1994). Our study indicated that certain factors, which seemed to impact the creation of tacit knowledge, are related to selective attention. These factors appear to shape perspectives

that eventually become tacit knowledge through the process of knowledge convergence. Personal interests, needs, and environmental observation were identified as these factors and are believed to influence an individual's selective attention within the innovation process.

### ***Personal Interests and Needs***

An individual's personal interests pertain to topics that they find intriguing and can span across areas of personal needs, academic history, passions, contemporary trends, past successes, or childhood experiences. These interests pave the way for the formation of unique perspectives and opinions on the topic, enhancing its appeal compared to related or analogous topics.

### **Personal Interest and Needs and Selective Attention.**

It seems that a specific personal need at a given time triggers selective attention towards the topic of interest. Such personal needs act as beacons, guiding the individual's selective attention to consider this need as a pressing issue that warrants a solution.

Dana and Jana, united by their vision, embarked on a venture to create a magazine specifically tailored for expectant mothers. Their own journeys through pregnancy revealed an information void. Amidst a plethora of English language resources, they discerned a lack of relatable and comprehensible content in Arabic. This observation was further accentuated by their realization of the need for information localized to their region, given its unique health characteristics distinct from the rest of their nation. The dearth of region-specific health advisories marked a glaring omission.

In their own words, "During our pregnancies, we found an abundance of resources in English addressing pregnancy, but none in Arabic. We felt this was particularly significant in our part of the world, here in Jeddah, Saudi Arabia, which is quite distinct from any other location globally or even within the GCC."

Their observation laid the groundwork for their enterprise, establishing the problem and its solution. The concept of selective attention comes into play when aligning with individuals' immediate needs. Tacit knowledge that is relevant to these personal needs can guide selective attention, transforming perceived issues into catalysts for social entrepreneurship. The resolution to these issues is inherently linked to the same tacit knowledge.

### ***Observations of the Surrounding Environment***

People are invariably shaped by the societies they inhabit. Observing societal shifts and forming perspectives is a natural consequence of this interaction. The observations can span various aspects identifying societal issues, discerning market demands, drawing inspiration from the environment, and considering successful strategies employed by other organizations. Through our research, it is evident that such societal observation seeds the creation of tacit knowledge, which is later leveraged in the process of innovation. However, not every observation made about the environment feeds into selective attention.

**Observation of the Surrounding Environment and Selective Attention. Further into this text, we will discuss types of environment observation that fuel selective attention.**

***Social Problems and Selective Attention.*** Community-related problems and needs often serve as potent stimuli that channel individuals' attention towards finding solutions. This stands particularly true for enterprises founded with a social purpose. Although these social crises and issues might not impact individuals directly, they affect the broader society and environment. Such problems, given their salience, naturally draw the attention of entrepreneurs, nudging them towards identifying suitable solutions. There's a marked inclination among individuals to address these prominent issues, directing their selective attention towards issues worthy of resolution.

A case in point is Ibrahim, who helms an organization specializing in volunteer programs. The impetus to launch his enterprise was a series of socially relevant problems plaguing his city. The city was grappling with devastating floods, and he observed unorganized yet eager volunteers offering help. This stark scenario sparked his drive to set up a professional organization to manage volunteering efforts.

"The foundation of (My enterprise) originated from a societal predicament known as the Jeddah Torrents. This calamitous event revealed an alternative representation of our youth (both male and female), one where they were competent and could make significant contributions to society.

This event fostered an understanding that our country's younger population possess an untapped potential, requiring only an organized and systematized platform to cultivate their capabilities.

The societal challenges that individuals encounter have a profound influence on their worldview, shaping their interpretation of how such dilemmas should be managed. This often sparks an inspiration to initiate a specific program or to form an enterprise committed to tackling these issues.

***Observation of Target Market Needs and Selective Attention.*** The process of observing Target Market Needs and exercising Selective Attention is paramount. The current market landscape and the needs of prospective customers guides an individual's focus, recognizing these needs as matters requiring resolution. This, in turn, triggers a retrieval of specific tacit knowledge pertinent to the issue, in an effort to devise appropriate solutions. Ibrahim discerned that volunteer teams typically have a brief lifespan and lack continuity. He postulated that this might be due to volunteer leaders shifting their focus towards other life goals:

"The voluntary groups operating in the field today, anyone who has experience in this sector will confirm that the average lifespan of any volunteer team ranges between 3-5 years. Should the founders vacate their posts or resign for any reason, the team dissolves."

For Ibrahim, this was a problem that needed a solution, aligning with his enterprise's mission to bolster volunteer initiatives.

***Trending Stories or Success of Other Organizations and Selective Attention.*** The success of other organizations and current trends can significantly influence Selective Attention. Individuals can be guided by the success stories of other enterprises, leading them to emulate these models or their components. For example, when Ammar resigned from his job and sought new business ideas, he found that online training was gaining significant traction and media attention, particularly as an entrepreneurial model. This trend piqued his interest and fueled his passion for education:

"Reflecting on the period of 2012-2013 when public awareness about entities like Khan academy started to increase and RWAQ, the Arabic online training platform, had just launched. We started hearing about online education, massive open online courses (MOOCs), and others, so I decided I want to engage in something similar, but focus on what I am adept at, which is mathematics and science for high school students."

Individuals are inherently linked to their environment, and societal problems, market needs, or issues affecting those around them are likely to attract their attention. These observations usually lead to the formation of specific perspectives and viewpoints regarding these issues and guide individuals to select these problems as the objectives to be addressed through their social enterprises. These observations also inform certain intuitions that individuals base their suggested solutions on.

Selective attention is influenced by societal issues and individuals aspire to address these problems through the mission of their social enterprises. Observing the current needs of the target market during the innovation process seems to guide selective attention towards these needs as problems to be solved. However, the associated responses might be influenced by other elements of tacit knowledge. Concurrently, trending narratives direct selective attention towards particular solutions or responses.

### **The Idea Designing Phase, Factors of Tacit Knowledge, and Attention**

During the designing phase of the innovation cycle, an idea, product, or service is meticulously elaborated and refined (Van de Ven, 1999; Boer & Doring, 2001). This stage invariably engages tacit knowledge, typically meshing with other explicit knowledge resources such as research literature, readings, or training sessions. Various elements of tacit knowledge also play a role in the conceptualization process. Within this stage, these elements amalgamate with focused attention to tap into tacit knowledge, thereby influencing the choice of problems and solutions, and subsequently affecting the conceptualization of an idea.

### ***Personal Interest and Needs***

Individual interests and requirements at a particular moment are integral to the designing phase. These interests are regarded by individuals as credible bases for deliberation and acceptance by others.

### **Personal Interest and Needs and Selective Attention.**

At a given moment, personal necessities tend to guide an individual's focused attention towards these requirements, presenting them as issues worth addressing. Consequently, schemes and initiatives are conceived to fulfill these requirements.

Nadia, who was conceptualizing an application to assess schools, had a specific list of comparison criteria, which shaped her perspective on what was necessary for a dependable comparison between schools. In her view, these criteria formed the foundation of her proposed solution. "Firstly, I aim to choose schools that are appropriate for my child, considering the vast differences between schools, particularly at the academic level." Individual requirements at a particular moment steer the individual's attention and form the basis for conceiving a solution.

During the designing phase, tacit knowledge relating to individual needs at a given moment can incite focused attention to problem-solving, and guide individuals to conceive products or services with the understanding that their personal needs may be shared by others.

### ***Observation of the Surrounding Environment***

The examination of the immediate environment, including societal issues, target market necessities, trending success stories, and sources of inspiration, often highlights problems and desired solutions within the conceptualization phase.

***Observations of Social Problems and Selective Attention.*** Observing social issues as perceived by individuals at the time of the innovation process often stimulates focused attention. The associated cognitive tacit knowledge might prompt them to modify the design of their product to better suit the prevailing circumstances. Manal and Maram, who co-founded a magazine for mothers and children, realized that during the "Al Hajj" season (when pilgrims gather in Makkah), many children fall ill:

"We noticed a surge in diseases among children and schools during the Al Hajj season, which sets us apart. We capitalized on the sparse availability of Arabic content addressing this health issue through Saudi doctors across the country. Hence, we decided to create something in Arabic, emphasizing Saudi doctors."

Their observation led them to believe that since they live in a city that serves as the primary gateway for all pilgrims, the topics discussed in their magazine should be localized to their city. Consequently, they dedicated a special health section in their magazine to diseases prevalent in the Kingdom of Saudi Arabia following every Hajj session."

***Observations of the Target Market Needs and Selective Attention.*** The course of identifying the needs of a target audience or market during the conception of a solution can serve as a powerful catalyst, directing individuals to concentrate on those requirements. In doing so, they evaluate and internalize various viewpoints, perceptions, and convictions to better comprehend the situation, subsequently generating appropriate remedies while formulating innovative concepts.

Take Wedad, an environmental enthusiast, who spearheaded a "no littering" campaign. She undertook regular tours of an old neighborhood to promote environmental consciousness. Her excursions often led her to a local park, where she noticed a pattern of the same residents assembling:

"I drove around the unstructured neighborhood, characterized by compact, one or two-bedroom homes. I noted a recurring scene of the same women and children congregating each weekend for an afternoon tea session, with the girls socializing."

Wedad surmised that these individuals regarded the park as an extension of their private living space, which prompted their frequent gatherings. Based on this observation, she crafted her initiative to convey a simple yet powerful message: "The park is an extension of your home, and it warrants your care and respect". The specific perspective she developed from their habitual behavior influenced the genesis of her campaign, encouraging the locals to refrain from littering.

The act of paying attention to the target demographic during the innovation process can invoke selective attention and unlock relevant tacit knowledge. Although selective attention can guide the selection of problems to address, the resulting solutions may not necessarily correlate with the initial observations. Conversely, observations could also direct one's focus towards unique solutions to unrelated problems.

***Trending Stories or Success of Other Organization and Selective Attention.*** In the phase of idea designing, trending narratives can direct selective attention, stimulating other tacit knowledge to devise a solution. Ola, an entrepreneur who established a freelancing application, encountered difficulties implementing various digital payment systems and integrating them with her application. Compounded by other challenges typical of an E-commerce platform in her country, she stumbled upon a solution upon receiving a WhatsApp message about the concept of time banks for swapping favors:

"This idea appeared to be a panacea for our payment conundrum. Given our target demographic of non-profit organizations, the notion of considering work as volunteering sparked the thought: why not create our proprietary system, a unique time bank, thereby circumventing the challenges of e-payment?"

Ola's interest was piqued by this story. She believed it could serve as a plausible alternative to standard online payment systems, particularly applicable to her volunteering-centric freelancing concept. Trending success stories emerging during the design phase capture selective attention and lay the groundwork for requisite solutions.

Observations of societal issues, even those that do not personally affect individuals, can influence one's perceptions, beliefs, and viewpoints, leading to a perceived truth and consequent action. The ebb and flow of trending stories and the triumphs of others can alter an individual's selective attention, potentially affecting their initial perception of problem-solving approaches.

### **Idea Implementation Phase, Factors of Tacit Knowledge, and Attention**

Data analysis provided no evidence of a direct influence from tacit knowledge in the stage of idea implementation. However, during this stage, the preliminary idea and its structural design are put to the test. Depending on the results gleaned from this testing phase, a novel or updated iteration of the idea and its design are either generated or reshaped. The reinterpretation of individuals' learnings post-implementation gives birth to a fresh batch of tacit knowledge,

directing a focused concentration towards these outcomes as problems requiring solutions. The related tacit knowledge, evoked by implicit attention, lays the foundation for problem-solving strategies. Interview data failed to bring to light any direct influence from elements of tacit knowledge or selective focus during the execution of new ideas. This influence seems to manifest only once the execution stage has concluded and the results are under evaluation.

### **Discussion and Conclusion**

Tacit knowledge is a pivotal component of innovation, owing its significance to its inherently personal characteristics, which render it difficult to replicate (Cavusgil et al., 2003). However, it is not the sole factor; contemporary studies suggest a key role of individuals' focused attention in innovative processes (Yadav et al., 2007).

The narrative sequence revealed the temporal evolution of this tacit knowledge, under the sway of a multitude of factors spanning years. These factors encapsulate the rich tapestry of individual experiences (Nonaka, 1994; Nonaka & Takeuchi, 1995; Whyte & Classen, 2012; Mohajan, 2016), shaped further by personal interpretations of these experiences. These interpretations exhibit personal variations, adding to the uniqueness of tacit knowledge.

The investigation revealed that during the quest for an innovative idea or groundbreaking solutions, cognitive tacit knowledge, utilized or shared in the innovation journey and related to selective attention, is invariably connected to influential factors or themes of experiences, such as personal interests, needs, and environmental observations. These themes function as external stimuli for the individual. These stimuli garner the individual's attention and evoke tacit knowledge related to these stimuli. This retrieved cognitive tacit knowledge, in the guise of viewpoints, convictions, intuitions, and subjective opinions, bolsters the selection of pertinent issues and lends weight and validity to these chosen matters. Conversely, certain prominent stimuli will seize selective attention as a prospective solution to an existing problem, subsequently provoking related tacit knowledge. A continuum of tacit knowledge can be formed by a sequence of events under a common theme. For instance, a sequence of personal events for an individual can result in multiple lessons learnt, thereby culminating in the formation of tacit knowledge within the recurring theme of 'environmental observation'. Data dissection demonstrated that the selection of externalized tacit knowledge by individuals, or the decision on what knowledge to share within the innovation process, is governed by the interaction between these themes, attention, and particularly selective attention.

In the scope of our scholarly inquiry, we discerned the noteworthy role of temporality concerning the manifestation of cognitive tacit knowledge elements and their consequential influence on selective attention. We found that the concurrent or proximal emergence of tacit knowledge, coinciding with the innovation process, typically exerts an impact on selective attention, behaving akin to vivid stimuli that guide attention towards correlated matters. Such issues then seize the focal point of attention, prompting individuals to seek solutions. The resultant solution may vary, contingent on the specific element of cognitive tacit knowledge in play.



In the context of innovation, tacit knowledge elements and their associated cognitive dimensions bear a profound nexus with emotional states. Such cognitive facets of tacit knowledge influence the selection of issues and solutions, endowing meaning, rationalization, and significance to the elected issues and responses. In turn, they marginalize alternative issues and responses, while broadening associated viewpoints to others, and grounding chosen solutions in an individual's intrinsic intuition or suppositions.

In the realm of organizational management, it is crucial for leaders to comprehend the implicit knowledge possessed by the workforce, its consequential impact, and its integral role in fostering innovation. Leaders must also appreciate the pivotal function that attention performs for those engaged in the innovation process. A clear understanding of how values-driven attention steers the organizational trajectory is vital. This study will provide valuable insights for managers to comprehend how an employee's tacit knowledge may be swayed by their selective attention. An inclination to fixate on specific issues could inadvertently result in valuable organizational opportunities being overlooked.

Tacit knowledge possessed by organization members constitutes a vital ingredient of the innovation process. The attractiveness of problem-solving for individuals is directly influenced by their perception of the importance and worth of these issues. This is where attention assumes its vital role in the innovation process.

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