



# Global Perspectives on Management Consulting Competitiveness: Analyzing Knowledge Brokers' Components

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## Abstract

Bridging a significant gap in knowledge broker research, this study addresses the challenges and difficulties in demystifying the roles and components of Knowledge Brokers (KBs) within the management consulting context. Despite their recognized importance, the specific functions, and components of KBs in this specific sector context, known for its intensive use of knowledge, have been unexplored. This study aims to narrow the research gap by identifying key components of KB that enable the knowledge brokerage process in management consulting. Utilizing a mixed methods approach with Structural Equation Modeling (SEM) and data collection from various geographies from global perspectives, the research offers an in-depth understanding of KBs in management consulting. The research findings confirm Interpersonal Skills and Cognitive Ability, along with sub-components like Interactive Skill, Motivational Skill, Hybrid & Anomalous, Neutrality, Professional Competence and Experiential Knowledge, as critical to KBs. The findings offer original contributions to theoretical implications by narrowing the research gaps within this specific context. On the practical front, this study provides strategic insights for organizations to significantly enhance sustainable innovation by integrating external knowledge into organizational decision-making processes, which could be extendable to other industries. Furthermore, it suggests the potential to evolve traditional knowledge brokerage into technology-driven platforms and enhance the innovation ecosystem. Finally, the research findings offer the foundations for future studies on similar professional and knowledge-intensive settings, contextual influences of KBs, and the interrelationships among KB components.

## Keywords:

Knowledge Broker;  
Knowledge Brokerage;  
Management Consulting;  
Knowledge Management;  
Knowledge Broker Innovation;  
Knowledge Management Technology.

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## 1- Introduction

Valuable knowledge is often dispersed, concealed, and embedded within persons, documents, and repositories in organizations [1]. The challenge is in identifying the right knowledge sources, especially tacit knowledge from personal experience and expertise, which is more difficult to locate and utilize compared to well-documented and easily managed explicit knowledge. Tacit knowledge plays a critical role in organizational success, specifically within knowledge-intensive environments like professional services. Tacit knowledge allows for the practical and unique insights held by tenured professionals to be converted into reliable ideas and services for clients [2].

While there are multiple studies on Knowledge Brokers (KBs) in diverse areas, their specific roles and the components that constitute KBs within management consulting context have not yet been examined. Most of the current literature

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focuses on components of KBs in general setting. Moreover, most of the existing research was conducted with qualitative methods and usually within a single geographic context. These represent significant gaps in existing literature and serve as the primary motivation for this study. The study aims to narrow such research gaps, enrich both theoretical and practical contributions in the Knowledge Broker (KB) domain. The main objective of this study is to identify the components of KBs in management consulting context, an industry where they are vital for knowledge management. By exploring these components, this study bridges the theoretical frameworks with the practical contributions that drive tacit knowledge transfer in management consulting.

Management consulting, classified as a form of Professional Service Firm (PSF) because of its knowledge intensity, low capital intensity, and professional workforce [3], presents unique challenges and opportunities on knowledge brokers. Deloitte's 2016 Organizational Network Analysis (ONA) report highlighted the essential role of KBs in improving knowledge acquisition and bridging the gap between internal and external sources of knowledge [4]. Bain & Company's 2002 study and McKinsey's 2010 research also emphasized the important role KBs play in transferring best practices and integrating innovative ideas into business processes. These contributions are key to elevating the quality of consultancy services and strengthening the competitive positioning of management consulting firms in the market [5, 6]. As a result, KBs are instrumental connectors in synthesizing and applying diverse knowledge streams, aligning them with the unique challenges and opportunities inherent in the knowledge-intensive setting of management consulting.

The study's theoretical contributions on Knowledge Broker differ from existing literature based on three key academic novelty and values. Firstly, the research focuses specifically on Knowledge Brokers within the context of strategic management consulting firms, which are known as intensive users of new knowledge [7]. The study thoroughly examined the components of Knowledge Brokers (KBs), in a highly specific context, as opposed to a more general setting of existing literature.

Secondly, the study employs mixed-methods research, integrating both qualitative and quantitative approaches, including Structural Equation Models (SEM) to ensure the rigor and robustness of the findings. This is important in a field where quantitative methods are much less common. According to Cerruti et al. (2019) [7], in fifty years review of scholarly research on management consulting from 1971 to 2017, only 22% of empirical studies used quantitative methods. In addition, this research adopts Structural Equation Models (SEM), a method used in just 3% of previous studies, as its primary quantitative analysis technique to confirm the components of KBs. The use of both research methods adds a unique layer of empirical rigor and depth, innovative approach and contributes to a more comprehensive and rigorous understanding of KBs in management consulting.

Finally, the research was conducted from global perspectives, collecting data from eight different geographical regions around the world, and experimented with two different sets of parameters. The study's global perspectives and coverage mark a significant contribution to Knowledge Broker (KB) research which often focuses on a single region. The study's examination of two distinct sets of parameters, both managerial and non-managerial level consultants within these firms, also enriched the analysis. By including diverse geographical areas and parameters, the study offers a richer, more globally representative view to enhance the understanding of KBs across different cultures, organizational hierarchy, and business environments.

In addition to its theoretical contributions, this research presents several practical implications with the potential to revolutionize the knowledge management industry which is forecasted to reach a market size of USD 1.1 trillion by 2026, expanding at a 19.8% Cumulative Annual Growth Rate (CAGR) [8]. This study opens significant opportunities from applying knowledge brokers to effectively enhance organizational capacity for sustainable innovation and learning by integrating KBs into decision-making processes [9]. The research findings can also boost innovation as knowledge brokers are pivotal in fueling innovation ecosystems acting as intermediaries for the acquisition and dissemination of external knowledge among participants [10]. Moreover, knowledge broker innovation can transform the current traditional human-centric knowledge broker model to technology-driven knowledge broker platforms.

This study's significant contributions in Knowledge Broker (KB) and Knowledge Management (KM) research help set the stage for further research in this dynamic area. It presents various opportunities for upcoming academic study including examining KBs in other Professional Service Firms (PSFs), and knowledge-intensive contexts, investigating contextual influence of KBs, exploring the interrelations among KB components, and innovating technology-oriented KB platforms.

Following the introduction, the paper is structured into five main sections. Section 2 reviews the literature on Knowledge Brokers (KBs), examining their evolving roles and key components. Section 3 describes the mixed-method research methodology, detailing data collection and analysis approaches. Section 4 presents the research findings, offering insights from interviews and survey data on KBs in management consulting. Section 5 discusses both academic and practical contributions of the research findings. The final section, Section 6, concludes the paper, synthesizes the findings, highlights theoretical and practical implications, addresses study limitations, and suggests future research directions.

## 2- Literature Review

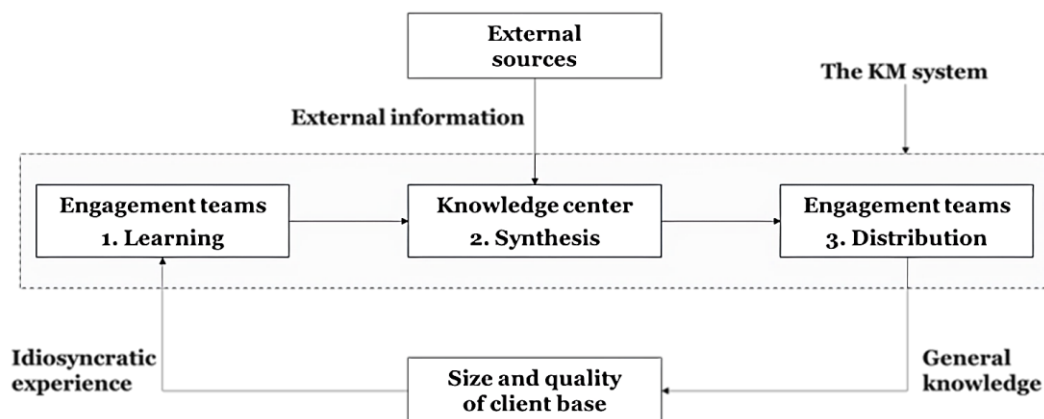
### 2-1- Management Consulting Overview

According to von Nordenflycht (2010) [3], management consulting is classified as a category of Professional Service Firm (PSF) based on three primary characteristics: knowledge intensity, low capital intensity, and a professional workforce. Knowledge intensity refers to the elaborate set of expertise connections that forms the basis for value-added contributions by these firms. Low capital intensity indicates that these firms can provide their expertise to clients without heavily relying on significant physical assets like machinery equipment, supply, or property. The professional workforce aspect pertains to employees being associated with specific professions that are characterized by a substantial knowledge depository, significant rules and governance, a code of ethics governing their members, and competition based on quality rather than price [3, 11].

Management consulting firms were categorized based on specialization, resulting in three main groups [12]. The first category is comprised of firms specializing in strategy and organizational restructuring. These firms heavily rely on tacit knowledge to render consultancy services and address various management issues for clients. Leading global consulting firms in this category, known as Tier 1 firms, include McKinsey & Company, Bain & Company, and Boston Consulting Group. Additionally, major players from the big four accounting and auditing firms, like PricewaterhouseCoopers (PwC), Ernst & Young (EY), Deloitte, and KPMG, have expanded into strategy consulting [13]. The second category includes firms offering management consultancy services focusing on technology, IT and operations. They utilize technical knowledge to deliver targeted solutions, often involving long-term implementation support. Accenture and IBM consulting divisions are examples of players in this category. The third category consists of niche management consulting specializing in particular areas, such as special sectors, functions, or technical domains. These firms offer consultancy services based on their expertise in the respective domains [12].

### 2-2- Knowledge Management (KM) in Management Consulting

The success of management consulting firms heavily relies on effectively managing the knowledge intensity within the industry [14]. It is crucial for these firms to proactively organize and optimize the flow of knowledge, particularly within their own organizations. In instances where internal knowledge is not sufficient to address clients' needs, management consulting firms seek and acquire knowledge from external sources. Sarvary (1999) [15] illustrates this concept in Figure 1, which showcases the role of external knowledge within the Knowledge Management (KM) system of management consulting firms.



**Figure 1. The KM System in Management Consulting Firms [15]**

Discovering external sources of knowledge, particularly tacit knowledge that is rooted in context, individual experiences, and difficult to convey, presents more challenges than identifying explicit knowledge, which can be easily expressed and documented. Explicit knowledge often benefits from established knowledge management systems, including online knowledge repositories and research teams, both internal and external, utilized by management consulting firms. On the other hand, acquiring tacit knowledge requires a different approach. The decentralized nature of knowledge in management consulting poses significant challenges. For example, when consulting teams work in diverse geographical regions and across various industries, there is a siloed accumulation of knowledge where teams do not benefit from the insights gained in other parts of the firm [16]. Very often valuable insights in consulting are not only drawn from documents but from the direct experiences and tacit knowledge of individual consultants and experts. This is especially true when the knowledge is context-specific, varies from one project to another, or evolves rapidly in response to changing business environments [17]. It is in these circumstances that knowledge brokers become crucial to the KM system, enabling the effective sharing of knowledge both within and around organizations [18].

Management consultants require assistance in linking sources of outside expertise for obtaining tacit knowledge. This process often involves an intermediary agent known as a Knowledge Broker (KB). The role of KBs in enhancing business processes, particularly in management consulting, is well recognized. McKinsey (2010) [6] discusses the concept of knowledge brokering as a systematic approach to sourcing external ideas from various industries and combining them in new ways to solve problems. The firm noted that this approach is used by forward-looking organizations to improve business processes and is considered more effective than traditional methods. This was also supported by Lind & Persborn (2000) [19] that KB helped facilitate communication and connections between the management consultants seeking knowledge and their sources. Knowledge brokers can take various forms, such as individuals, corporations, or platforms, acting as intermediaries to enable exchange, cross-pollination, translation, distribution, and connection of knowledge [18].

### ***2-3-Definition of Knowledge Broker (KB)***

In this section, the definition of Knowledge Broker (KB) in various contexts is examined. Knowledge brokers, whether individuals or organizations, play a crucial role in creating, matching, transferring, and utilizing knowledge [20]. They serve as connectors between researchers and diverse audiences, facilitating the transfer of knowledge [21]. Knowledge brokers involve in interpretation, collaboration, and orientation of perspectives [22].

The definition of a Knowledge Broker (KB) can be approached from two main perspectives, as knowledge transfer facilitators [23] and as innovators [24, 25]. As knowledge transfer facilitators, knowledge brokers connect communities of practice, transfer knowledge from one practice to another, promote coordination, and create new learning opportunities [22]. By doing so, they make knowledge easier to access and understandable throughout communities, bridging the intellectual gaps between sources of knowledge and their users [26]. They perform the responsibilities of knowledge acquisition, integration, adaptation, and distribution of findings [27]. Alternatively, knowledge brokers can be seen as inventors who act as agents or brokers in the innovation process [28]. According to Hargadon (2002) [24], a knowledge broker is an individual who gains entry to, connects, learns, links, and eventually develops knowledge. Combining these perspectives, a knowledge broker can be described as an individual or corporation that links, arbitrates, interprets, and bridges cognitive differences between different entities.

### ***2-4-The Roles of Knowledge Brokers***

Dating back to the late 18<sup>th</sup> century, knowledge brokers have served as facilitators, particularly in bridging the gap between universities and industries [29]. As facilitators, knowledge brokers guide practices, assist knowledge users in integrating and applying knowledge, and steer knowledge into the decision-making process [30]. Over time, this facilitative role of knowledge brokers has been described using various terms, such as intermediary and infomediary [26].

Oldham & McLean (1997) [31] and Ward et al. (2009) [18] further described knowledge brokers have three roles as knowledge manager, linkage agent (connecting resources and users), and capability builder (improving knowledge access for users). As knowledge managers, knowledge brokers assess needs, scope problems, conduct searches, retrieve knowledge, and evaluate its quality to identify and acquire the appropriate knowledge. They link stakeholders to knowledge resources and pinpoint areas to combine and enhance practices [31]. In their role as linkage agents, knowledge brokers connect their clients to the sources of knowledge, using various communication methods, including digital tools and in-person interactions. They make sure that knowledge users comprehend the information given by educational meetings and may customize knowledge to meet users' specific needs. Furthermore, knowledge brokers manage and cooperate with different participants to facilitate knowledge distribution and foster the development of strong Communities of Practice [18]. In their role of capacity builder, knowledge brokers assess the value of knowledge with the goal of fostering and advancing analytical and cognitive abilities, alongside promoting the exchange of knowledge within the communities of both knowledge sources and users [31].

Glegg & Hoens (2016) [30] and Lomas (2007) [29] describe knowledge brokers in the evaluator role. Within this role, they partake in tasks like accessing, combining, and evaluating connections, experiential insights, and results, while they facilitate the transfer of knowledge among individuals, organizations, and sectors. In addition to facilitating knowledge transfer, knowledge brokers play a vital role in fostering innovation. They achieve this by offering novel solutions to projects through a mixture of existing knowledge, new insights and experiences [32].

In more recent years, according to Cross et al. (2023) [33], leveraging knowledge brokers (KBs) has become a prominent strategy for knowledge translation. These KBs, either individuals or groups, play a role as bridges to facilitate the transfer of knowledge from their originators, such as researchers and creators, to their practitioners, for instance, professionals. Furthermore, knowledge brokers perform this role by situating themselves at the nexus between two distinct communities, fostering strategic positioning to facilitate learning and knowledge exchange within both groups. Their role involves acting as conduits, interpreters, and translators of knowledge, effectively easing the process of knowledge integration and dissemination [34].

### 2-5- Knowledge Brokerage Process

The knowledge brokerage process involves people, corporations, and networks [24]. Knowledge brokerage is based on the inherent structural disconnects within communities of practice and the communication methods of the knowledge broker. The aim is to obtain, consolidate, and interpret essential knowledge from sources to users through various approaches [35].

According to Malinovskyte et al. (2014) [35] there are three steps within knowledge brokerage process as shown in Figure 2. The initial phase in the knowledge brokerage process is Knowledge Acquisition. As intermediaries between sources and users of knowledge, brokers must possess broad access to information, perpetually learning novel practices and subjects to adeptly respond to inquiries across various sectors or themes. When acting as facilitators for knowledge transfer, brokers concentrate on acquiring the foundational structure and principal tasks associated with the handover [36]. On the other hand, those playing an innovator role need to thoroughly obtain knowledge to understand the activities of each stakeholder within the group [35]. The subsequent phase in the knowledge brokerage process is Knowledge Integration. In this phase, brokers compile and consolidate knowledge, subsequently modifying and framing it into appropriate solutions for users. They highlight existing connections and recognize how to link their insights with those of others. The utilization of effective communication methods is crucial during this stage [36]. The final phase of the knowledge brokerage process is Knowledge Translation. Here, brokers are tasked with transforming the knowledge into a format that is understandable and usable by the knowledge recipients. This stage focuses on overcoming the intellectual disparities between the sources of knowledge and its users [36]. The intricacy of knowledge translation is based on the intellectual gap between the knowledge sources and the intended users [26].

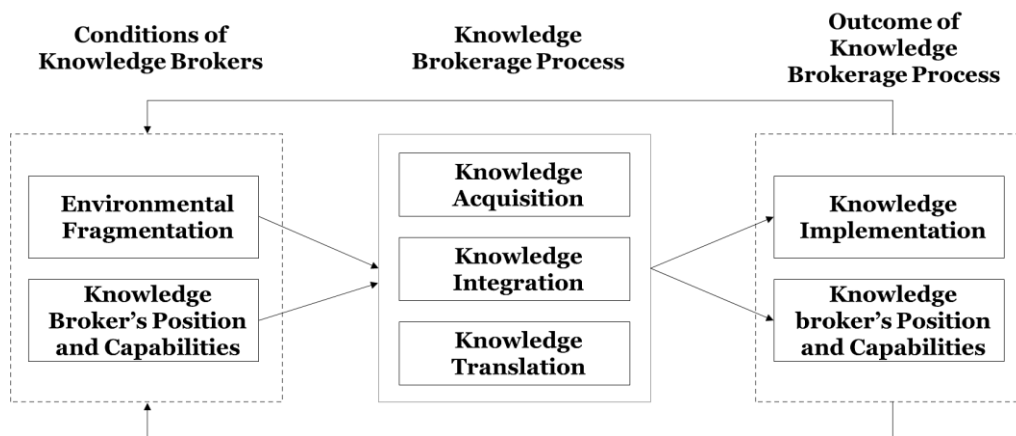


Figure 2. Knowledge Brokerage Process [35]

### 2-6- Knowledge Brokers (KB) as an Organization's Competitive Advantage

In the dynamic landscape of management consulting, Knowledge Brokers (KBs) are increasingly recognized as catalysts for competitive advantage. Deloitte's Organizational Network Analysis (ONA) report in 2016 highlights the significance of KBs in streamlining knowledge acquisition and distribution. Knowledge Brokers are an important connection to external knowledge and help enhance communication and collaboration across organizational structures. These brokers excel in bridging the gap between tacit and explicit knowledge, which is crucial for expanding organizational knowledge perspectives and enhancing competitiveness [4].

Bain & Company's study by Horwitch & Armacost (2002) on knowledge management also explored the role of KBs and emphasized their importance in creating value-added services for clients in management consulting. It discussed how KBs act as critical intermediaries in the transfer of best practices, innovative solutions, and insights from past experiences to current projects in management consulting firms. This process significantly boosts the quality of consultancy services and contributes to establishing a competitive edge for management consulting firms [5].

Similarly, McKinsey's study in 2010 on knowledge brokering revealed the transformative impact of integrating external ideas into business processes. The study discussed how this integration by knowledge brokers can help foster innovation and improve business operations which eventually advance a firm's competitiveness in markets. McKinsey's insights specifically highlight how knowledge brokering can lead to more innovative solutions and efficient problem-solving methods [6].

In addition, the roles of knowledge brokers can go beyond management consulting. They offer cross-industry applicability due to their universally relevant components. For example, knowledge brokers can help accelerate innovation by cross pollination of ideas in sectors like biotechnology, software development, and pharmaceuticals [37]. For industries with increasingly complex supply chains, knowledge brokers can help in transfers of best practices to



drive operational efficiency and reduce costs [38]. In highly dynamic sectors like technology and finance, knowledge brokers can help organizations remain agile, ensuring that they are in touch with the latest trends, regulatory changes, and technological advancements [39]. Additionally, as most industries globally are pivoting towards sustainability and ESG practices, knowledge brokers can facilitate efficiently and innovatively for knowledge transfers around best practices, technological solutions, and stakeholder engagement strategies [40]. Lastly, in the education sector, knowledge brokers can assist in joining the gaps between evolving industry workforce demands and curriculum design for professional development and training [41].

Accordingly, knowledge brokers (KBs) are key in driving success across various sectors, particularly vital in the fast-paced, knowledge-intensive business environment. Their expertise is crucial for fostering innovation, driving collaboration, and ensuring competitiveness through knowledge utilization. Ultimately, the engagement of KBs is indispensable for organizations striving to establish and maintain a leading market position.

## ***2-7-Components of Knowledge Brokers***

### ***2-7-1- Interpersonal Skills***

Various academic literature has been reviewed to comprehend the knowledge broker components. Interpersonal skills are the key factor according to Jessani et al. (2016) [42]. It consists of several elements. Interactive skills represent the ability to establish networks and connections, effectively communicating and persuading various audiences using several communication methods. They should recognize the requests of their audience, and understand their interests, knowledge base, and expertise. Knowledge brokers should be competent in summarizing key information and delivering it in a clear and understandable manner. They need to be proficient in using different communication methods and have excellent interpersonal skills. A few other attributes of knowledge brokers include charisma, humbleness, approachability, and negotiation expertise. Being extroverted and familiar with social etiquette is also common among knowledge brokers. Furthermore, they should possess diplomatic abilities to manage conflicts and effectively convince both knowledge sources and knowledge users [42].

Motivational skills are required as knowledge brokers need to excel in arbitration and teamwork development. They should possess adaptability, diplomatic ability, business acumen, and effective communication skills. It was accentuated on how individuals in knowledge broker roles need to not only demonstrate technical knowhow but also a range of motivational skills to effectively mediate between different stakeholders and build productive collaborations [43]. Additionally, knowledge brokering involves dealing with various complexities that require individuals and organizations to use a mix of skills and perform different roles, allowing them to balance different identities effectively. Hybrid and Anomalous attributes therefore enable knowledge brokers to institute trustworthiness and authority in these different settings. Being hybrid and anomalous allows knowledge brokers to execute, adjust, and balance diverse roles and identities by navigating various functions and adopting different domains and professional competencies [44]. Finally, Neutrality is of paramount importance for knowledge brokers because the knowledge they deal with is generally not meant for their own use. Knowledge brokers solely act as intermediaries between sources of knowledge and their users, assisting and enabling the exchange. Thus, maintaining neutrality is essential to be perceived as reliable and credible by stakeholders [44].

### ***2-7-2- Cognitive Ability***

Cognitive Ability refers to Professional Competence, Socio-demographics, and Experiential Knowledge. Professional Competence demonstrated by knowledge brokers signifies their domain or technical expertise, specialization, and leadership experience. Having a strong knowledge base enables these brokers to effectively facilitate the exchange of knowledge from various sources [42]. Likewise, higher cognitive ability contributes to enhanced knowledge acquisition and utilization [45]. Socio-demographics refers to professional experience within the knowledge brokering field, leadership position and academic qualifications. There was an implied correlation between knowledge brokers and their socio-demographic components e.g., strong professional experience, leadership position and higher academic backgrounds such as a doctoral degrees or professional degrees [42]. Furthermore, Experiential Knowledge leads knowledge brokers to actively seek learning opportunities on the job, maximizing their skill development. The nature of this knowledge is shaped by the organization culture and the motivation of knowledge brokers. Lastly, knowledge brokers must develop expertise in knowledge management, access, parameter, and strategic understanding to grasp the constraints and limitations of inquiries and decision-making processes more effectively [36, 42].

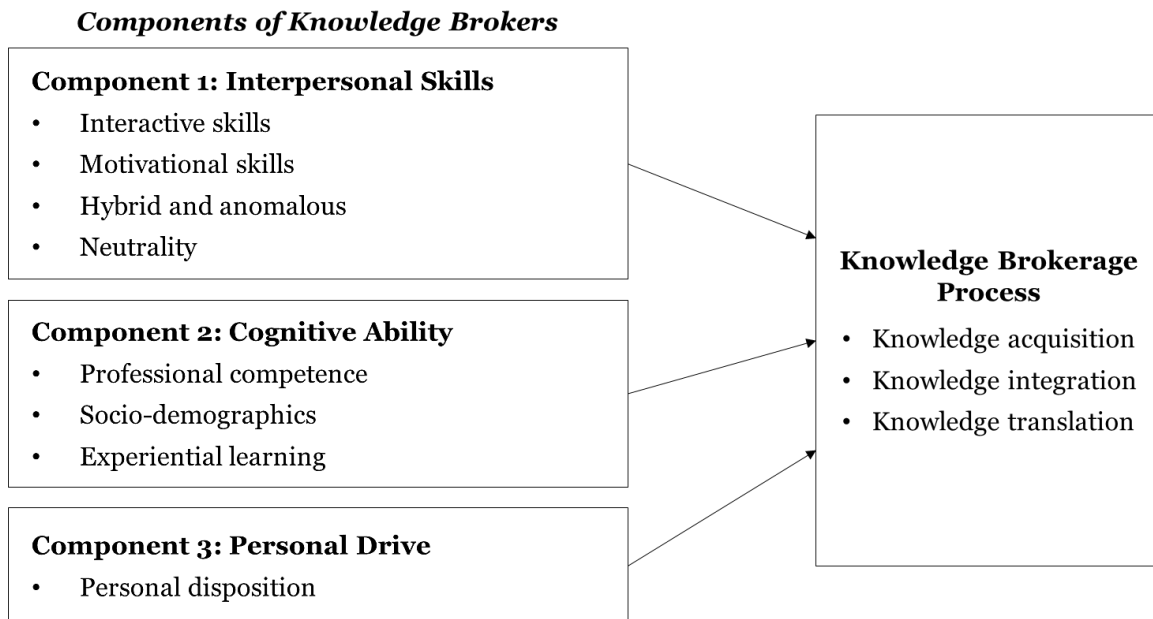
### ***2-7-3- Personal Drive***

Personal Disposition plays a critical role for knowledge brokers, encompassing a few attributes including moral and social conscience, determination, persistence, and respectfulness. Personal Disposition implies ethical motivation and moral obligation of knowledge brokers can drive actions with social conscience. Fortitude and preservation are linked to action-propelling ability, personal drive, proactivity, and dedication, which are demonstrated by knowledge brokers.

Lastly, respectfulness is a key quality of knowledge brokers. Arrogance or mocking attitudes from knowledge brokers result in a lack of interest or engagement by stakeholders. Shared respect and trust are key to the dynamic of stakeholder engagement [42].

## 2-8- Conceptual Framework

After conducting a literature review, a conceptual framework was developed to outline the components of knowledge brokers that enable the knowledge brokerage process specific to the management consulting context [46]. The components outlined in the literature review were carefully analyzed and organized for further validation. The conceptual framework for components of knowledge brokers within the management consulting context as shown in Figure 3 consists of three major elements of knowledge brokers - Interpersonal Skills, Cognitive Ability, and Personal Drive. Each component includes sub-components. In this framework, the three factors of knowledge brokers enable the knowledge brokerage process, as defined by Malinovskytė et al. (2014) [35].



**Figure 3. Conceptual Framework [46]**

The three principal elements of knowledge brokers begin with Interpersonal Skills, encompassing four sub-elements. Interactive Skills include recognizing and comprehending the audience, recognizing their knowledge, abilities, and interests. Knowledge brokers must be adept at communication, presenting messages in an accessible, simpler style, and concise context. Motivational Skills are critical for knowledge brokers in fostering and forming connections with both their customers and sources of knowledge. They must perform well as negotiators and team builders, demonstrating adaptability, tact, business insight, and good communication abilities. Hybrid and Anomalous include the capacity to engage, adjust, and maintain a balance among various roles and identities. Occasionally, knowledge brokers might have to assume diverse roles, adapting to different fields and professional capabilities. Furthermore, Neutrality is critical for knowledge brokers to uphold objectivity, thereby building reliability and trust among both sources of knowledge and its users. Hence, the initial hypothesis (H1) is proposed as follows.

**H1:** *Interpersonal Skills are a component of Knowledge Brokers that enables Knowledge Brokerage Process.*

Cognitive Ability constitutes another core component, divided into three sub-components - Professional Competence, Socio-Demographic factors, and Experiential Knowledge. This ability enables a better and faster grasp of project requirements. It is associated with academic backgrounds, leadership, and adaptability skills. Professional Competence as a sub-component signifies possessing specific knowledge in particular areas or the capacity for quick adaptation across various domains. Knowledge brokers are expected to have an adequate foundation of knowledge to effortlessly engage with or adjust to different knowledge sources. Socio-Demographic factor encompasses educational qualifications, professional experiences, levels of leadership, and the extent of experience in knowledge brokering. For instance, higher educational achievements facilitate the process of knowledge brokerage. Finally, Experiential Knowledge reflects the ambition for professional and personal development and the constant drive for learning and acquiring new knowledge and skills. Consequently, the next hypothesis (H2), is as follows.

**H2:** *Cognitive Ability is a component of Knowledge Brokers that enables Knowledge Brokerage Process.*

Personal Drive constitutes the final element of knowledge brokers, featuring personal disposition as its sub-element. This personal disposition is crucial for knowledge brokers to be ethically inspired to act. It also pertains to the moral awareness, courage, and empathy aspects of any knowledge broker. Beyond these qualities, knowledge brokers are required to exhibit proactivity and perseverance, i.e., a strong inclination to convene and convince both knowledge sources and users. Thus, the third hypothesis (H3) is formulated as follows.

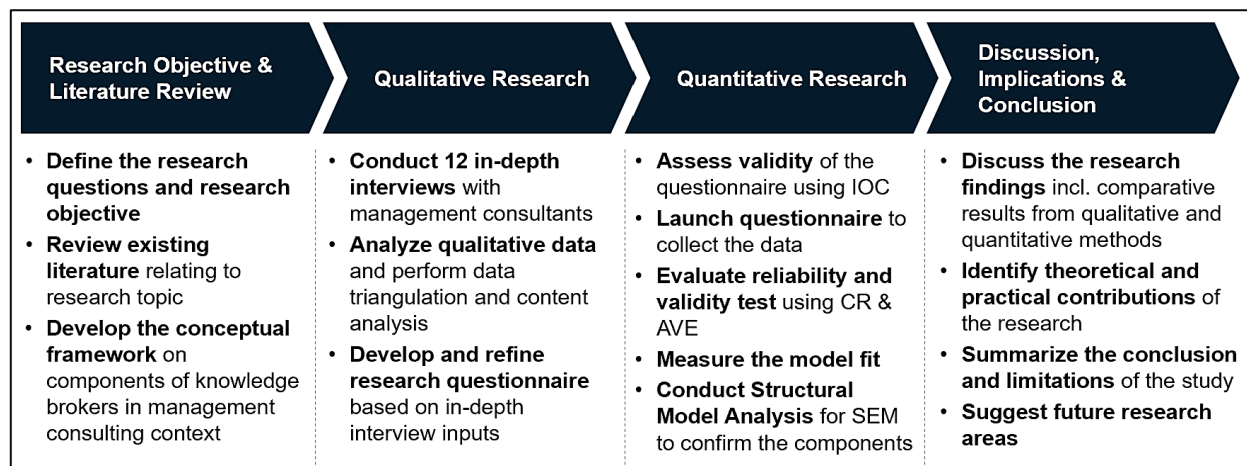
**H3:** *Personal Drive is a component of Knowledge Brokers that enables Knowledge Brokerage Process.*

And ultimately, the components of knowledge broker in management consulting context facilitate the knowledge brokerage process, which consists of knowledge acquisition, integration, and translation.

### 3- Research Methodology

The research objective is to identify the components of knowledge brokers that enable the knowledge brokerage process in management consulting context. This study employed a mixed research methodology, utilizing a sequential exploratory approach that combines qualitative and quantitative research methods. Mixed methods research was selected as it offers a more thorough comprehension of complex subjects. This approach increases the credibility and validity of research outcomes by corroborating data gathered from numerous sources and methodologies [47]. Furthermore, studies utilizing mixed methods and quantitative research approaches remain relatively limited, constituting only 16% and 22% of the empirical research conducted on management consulting topics over the past fifty years [7].

The study initially began with a qualitative phase, utilizing in-depth interviews to validate the conceptual framework and key components of knowledge brokers. This was followed by a quantitative step using a questionnaire as the primary instrument to collect data from various geographies around the world to achieve global perspectives. Structural Equation Modeling (SEM) was used as the statistical analysis technique to analyze quantitative data. The synthesis of results from both qualitative and quantitative stages significantly enhanced the robustness and rigor of the overall research findings. The flowchart summarizing the research methodology is presented in Figure 4.



**Figure 4. Research Methodology for this Study**

#### 3-1-Population Sample

The population for this research was management consultants who are working for or had prior working experience with global strategic management consulting firms. The targeted population was chosen because of their extensive experience engaging with knowledge brokers from various client engagements across many industries, and to ensure a representative sample from global perspectives.

The study targeted consultants from both managerial and non-managerial levels in order to capture diverse operational and strategic experiences with knowledge brokers. This deliberate dual-level selection of parameters was chosen with the aim to understand the multi-faceted role of KBs within the global management consulting firms and to examine the components of knowledge brokers across different decision-making capacities. Global exposure of the participants was considered critical to assess how cultural and regional dynamics inform the KB components and ensure the study's findings are reflective of varied business practices. The two sets of parameters, which are reflective of global management consulting firms' organizational hierarchy and decision-making capacities, were analyzed for sensitivity to confirm the robustness of the results across these dimensions.

Non-managerial level consultants are typically entry-level consultants and have less professional experience. Some of them are first-time jobbers. Years of professional experience generally ranges from 0-5 years in management consulting. Common job titles are Business Analyst, Consulting Analyst, Associate, Junior Associate, Consultant. Non-



managerial level consultants generally perform assigned tasks in their workstreams within an engagement under the supervision of managerial level consultants. Tasks include analysis, fact finding, research, junior-level client coordination, preparation of management presentations. For projects which require the assistance of knowledge brokers, they interact with KBs to find external experts in order to address specific questions or problems under their own workstreams. The process involves non-managerial consultants interacting with knowledge brokers, outlining requirements, requested expert profiles, and screening questions. However, these requirements and questions are generally reviewed and approved by managerial-level consultants. When knowledge brokers return with a shortlist of expert profiles, it is usually the managerial-level consultants who review and approve the selection of experts for further contact.

Managerial level consultants are tenured consultants with longer professional experience in the industry. The number of years of experience generally varies from 3-10 years and above. Common job titles are Engagement Manager, Manager, Project Leader, Principal, Associate Partner, Partner, Senior Partner. Managerial level consultants handle overall leadership of consulting projects, provide guidance and directions, counsel senior clients, supervise and ensure service delivery success. Generally, managerial level consultants interact with knowledge brokers indirectly, guiding and approving the efforts of non-managerial consultants. However, there are instances where they also engage directly with knowledge brokers. Additionally, many managerial level consultants have previously served in non-managerial roles, where they gained firsthand experience working with knowledge brokers before ascending to managerial roles.

Non-probability purposive sampling was initially used to target management consultants in global strategic management consulting. This was followed by snowball sampling where initial participants referred additional relevant individuals. This method ensured a diverse and comprehensive collection of insights for the research on knowledge brokers in management consulting.

The qualitative research, which adopted in-depth interviews as an instrument, requires ten to twelve management consultants to form a sample size representing the population. For the quantitative research, the sample size was determined using G\*Power software, specifically for a Linear Multiple Regression Fixed Model, with a focus on R<sup>2</sup> deviation from zero. The power analysis conducted with G\*Power, based on 0.95 desired power level, 0.05 significance level, 0.15 effect size, and 8 number of predictors, recommended a sample size of N=160. Hair et., al. (2010) [52] suggested a minimum sample size of 100 for models with less than five latent variables, each with more than three observed variables and high item communalities, and a minimum sample size of 150 for models with more than five but less than seven constructs with moderate item communalities. Based on G power analysis and Hair et., al. (2010) [52], the sample size for the quantitative research should range between 100-160 samples.

### ***3-2- Qualitative Research***

This is the first stage of this mixed-method research. The study commenced with a qualitative phase, involving in-depth interviews to verify the conceptual framework and knowledge broker components. The in-depth interviews were semi-structured, consisting of pre-defined questions with the option for follow-up questions in the discussions. The interview questions were carefully crafted based on the research objective and the conceptual framework established for this study. They were designed to explore specific elements of knowledge brokers in management consulting and to validate the conceptual framework of the research.

The interview questions were divided into three parts - 1.) Demographics/General information; 2.) Professional experience with knowledge brokers (KBs) in the context of management consulting; and 3.) Components of KBs. This categorization ensured a comprehensive understanding of the participants' backgrounds, their direct experiences with KBs, and their perceptions of the critical components of KBs in their field. The interviews were performed using an online VC platform and lasted between 45-60 minutes. The participants were invited to discuss their professional involvement with knowledge brokers, work dynamics, components of knowledge brokers that support the process of knowledge brokerage for management consultants, and additional relevant details [46].

After the interviews, the transcripts were carefully analyzed and evaluated using content analysis and data triangulation. The data coding process involved content analysis, with detailed notes taken from interview transcripts, followed by summarizing key information and extracting the insights. Recurring keywords, data, common ideas, recurring patterns, and connections among inputs pertinent to the research objective were then identified and reviewed to ensure robust analysis of the qualitative data. Subsequently, data triangulation which involves gathering data from multiple sources and observations such as time periods, settings, places, and individuals [48] was applied. This approach is typically used to mitigate the risk of misinterpretation and bolster the research findings [49]. Thus, it improves the validity and reliability of the study outcomes. In this research, observational data were gathered from two separate cohorts or parameters, management consultants in managerial and non-managerial roles.

Later, the findings obtained from both content analysis and data triangulation were summarized and discussed to validate the conceptual framework and key components of knowledge brokers in alignment with the research objective.

### 3-3-Quantitative Research

Building on the insights gathered from the qualitative phase, the study progressed to the quantitative research stage. This phase aimed to further validate the findings from the qualitative research stage.

The data for this quantitative research was collected using an online survey administered to participants recruited from professional networks. The online survey was chosen as the data collection method due to its efficiency, convenience, and ability to reach a wide and diverse audience. A link to the survey was shared through posts, emails, and direct messages to potential participants, inviting them to voluntarily participate in the study.

The survey consisted of a series of three parts of structured questions to collect demographic profiles, general information, and 5 Likert-scale items designed to gather relevant information on the participants' attitudes, behaviors, and experiences related to knowledge brokers and their components based on professional experience in management consulting. The questionnaire was reviewed and examined for content validity and reliability using Item-Objective Congruence (IOC) with four subject matter experts including two senior management consultants (partner level) in global management consulting firms with more than 10 years of consulting experience, one expert on Knowledge Management (KM) with more than 5 years of experience, and one expert in academic research methodology with more than 5 years of experience in mixed method research. The questionnaire was evaluated for its reliability using Cronbach's alpha coefficients. The outcome of the pilot test met the guideline stipulated by Sekaran and Bougie (2016) which suggests Cronbach's alpha should exceed 0.7 to indicate satisfactory internal consistency [50].

Data collection was conducted over a four-week period, during which regular reminders and incentives were sent to encourage participation and increase response rates. Structural Equation Modeling (SEM) was used for data analysis. SPSS with AMOS version 29 was utilized as the software for SEM to analyze relationships among variables.

## 4- Research Findings

### 4-1-Qualitative Findings

In-depth interviews were carried out with 12 management consultants who are either currently engaged or have prior work experience in global management consulting companies. 9 out of 12 held managerial positions with 5-9 years working in global management consulting firms. The remaining 3 interviewees were on non-managerial level and had experience of 2-4 years. The profiles of interview participants are summarized in Table 1.

**Table 1. In-depth Interview Participant Response**

Knowledge Broker (KB) Engagement	No. of Participants
Have engaged Knowledge Broker service	8
Never engaged Knowledge Broker service	4
<b>Total</b>	<b>12</b>

From in-depth interviews, 8 out of the 12 interviewees have used the knowledge broker service. These knowledge brokers were individuals employed by global knowledge or expert sourcing network companies such as GLG, AlphaSights, GuidePoint, Third Bridge, Arbolus, and other similar entities. These knowledge brokers were employed when internal knowledge sources within their global management consulting firms were inadequate in addressing client requests and completing consulting projects [46].

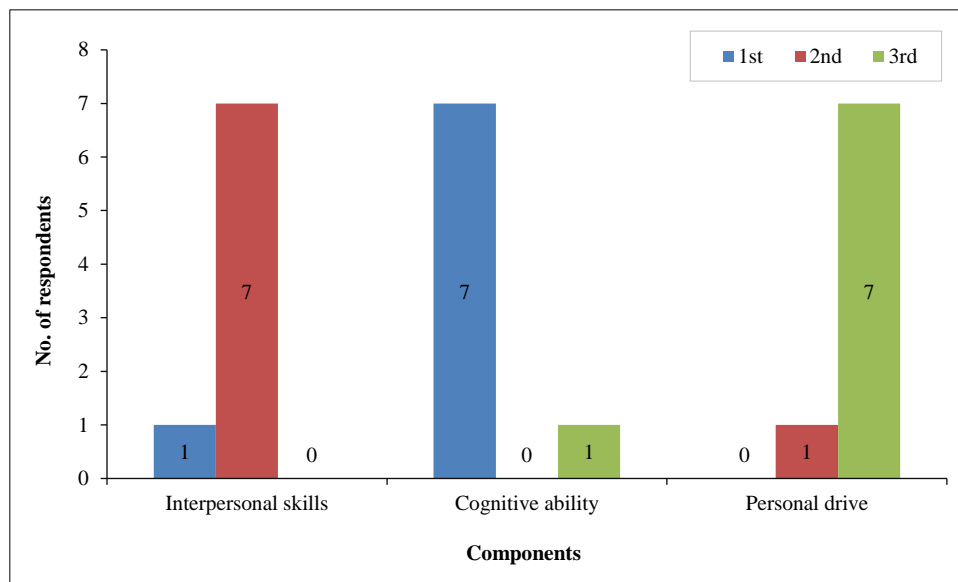
All the 8 participants who had employed knowledge brokers are those working for global management consulting firms that regularly work on projects relating to strategy and due diligence. In line with the 8 interviewees, knowledge brokers were predominantly employed for engagements related to strategic consulting and due diligence. These categories of projects are in general characterized by a substantial requirement for new knowledge, novel expertise, emerging trends, niche benchmarks, and are under tight timelines. The engagement of knowledge brokers by management consultants was aimed at sourcing and facilitating discussions between external experts i.e., knowledge sources, and management consultants i.e., knowledge users. The objectives were to rapidly acquire knowledge on new subjects, access insights into market trends and industries, validate hypotheses, obtain benchmarking data for specific industries or functions, gather case studies or best practices, and idea generation [46].

4 interviewees out of 12 have never engaged knowledge brokers. These interviewees were working in global management consulting firms that specialize in different types of consulting such as long-term execution consulting projects. Within this subgroup, the majority of interviewees conclusively expressed a sentiment that they have lower level of necessity to employ knowledge brokers to source outside experts and knowledge than their counterparts. This contrast could be attributed to the inherent characteristics of the consulting projects that their respective firms primarily work on which have extended timelines, similar topics over prolonged period. The 4 interviewees stated that within their organizations, management consultants leverage internal subject-matter experts to acquire tacit knowledge. These

internal experts are adequate to fulfill client requests and engagement delivery. Senior consultants with substantial professional experience, such as those at the Partner level, undertake the role of internal knowledge brokers. They facilitate knowledge brokering between consultants and the internal experts within their firms [46].

From content analysis and data triangulation, findings from the qualitative research validate the theoretical framework and the components of knowledge brokers that enable the knowledge brokerage process in management consulting context. In addition, these components were also placed based on their significance, with a hierarchy from utmost importance (1st) to moderately importance (2nd), and finally, lesser importance (3rd). This summary is illustrated in Figure 5. Cognitive ability emerged as the most crucial (1st) component of knowledge brokers according to management consultants. Nonetheless, one sub-component, Socio-demographics, was identified as less relevant compared to others. Interpersonal Skills were classified slightly below Cognitive Ability, as the 2nd most vital component. Personal Drive was perceived as the 3rd component having relatively less importance compared to Cognitive Ability and Interpersonal Skills [46].

Lastly, the qualitative findings from both managerial and non-managerial participants were consistent, which highlights the effectiveness of the data triangulation. This uniformity suggests that the experiment of different parameter sets, and their sensitivities upholds the reliability of the data collected from the distinct interviewee groups. [46].



**Figure 5. Ranking of Knowledge Broker Components [46]**

## 4-2- Quantitative Findings

### 4-2-1- Respondent Profile

The participants in this study comprise of a diverse cohort of management consultants in global management consulting firms, thereby contributing to a comprehensive representation of the population which addresses the research objective. The number of respondents according to the targeted sample size of 100-160 samples in 3.1 was achieved. A total of 161 respondents, hailing from global management consulting firms from various levels, years of experience, identification, geographies, and education backgrounds, participated in the survey as shown in Table 2. The sample encompassed individuals with diverse designations, including 58% managerial level and 42% non-managerial level consultants. Their professional experience exhibited considerable variability, with fairly distributed among groups with 28% in 1-3 years, 34% in 3-5 years, 27% in 5-10 years, and 11% in 10+ years groups.

In terms of demographic profile, the respondents were relatively well-educated with 66% of the respondents having master's degrees while 27% and 7% have undergraduate degree and doctoral degree education respectively. 42% of research participants are identified with female, 55% with male, 2% with LGBTQ+ and 1% preferred not to answer.

The respondents were from highly diverse multinational professional backgrounds working in more than one country. 67% of respondents have worked primarily in Southeast Asia, 7% in Eastern Asia, 4% in Southern Asia, 9% in Europe, 7% in North America, 4% in Middle East & Africa, 1% in Latin America and 1% in Oceania. Approximately 17% of participants have worked on more than one continent.

**Table 2. Questionnaire Respondents' Specifications**

Level in management consulting	Frequency	%
Managerial	93	58%
Non-Managerial	68	42%
<b>Total</b>	161	100%
<b>Years of experience in management consulting</b>		
1-3 years	45	28%
3-5 years	55	34%
5-10 years	43	27%
10+ years	18	11%
<b>Total</b>	161	100%
<b>Education level</b>		
Undergraduate degree	43	27%
Master's degree	107	66%
Doctoral degree	11	7%
<b>Total</b>	161	100%
<b>Most identified with</b>		
Female	67	42%
Male	88	55%
LGBTQ+	4	2%
Prefer not to answer	2	1%
<b>Total</b>	161	100%
<b>Geographical coverage (multiple selection allowed)</b>		
Southeast Asia	140	67%
Eastern Asia	15	7%
Southern Asia	8	4%
Europe	18	9%
North America	15	7%
Latin America	2	1%
Middle East & Africa	8	4%
Oceania	3	1%
<b>Total</b>	209	100%

#### 4-2-2- Measurement Model

The measurement model was evaluated for internal consistency reliability using Composite Reliability (CR) and Cronbach's Alpha. Convergent and discriminant validity were assessed using the Average Variance Extracted (AVE). Measurement model indicators are in Table 3.

The CRs for the measurement model are within 0.70 – 0.80 value which pass the minimum thresholds. According to Hair et al. (2021) [51], CRs within the range of 0.60 to 0.70 are acceptable in exploratory research, while values spanning 0.70 to 0.90 signify a satisfactory range. However, figures surpassing 0.90, particularly 0.95, pose concerns, suggesting possible indicator redundancy which can compromise the model construct validity.

AVE for the measurement model were higher than the minimal threshold of 0.50 which can show that the construct accounts for 50% or more of the variance found in the indicators comprising the construct [51]. This implies that the constructs adequately justify the variations from the relevant indicators, supporting the robustness of the measurement model in the research.

Lastly, the use of Cronbach's Alpha aims to evaluate internal consistency, offering supporting evidence to CRs. Cronbach's Alpha coefficient of more than 0.70 means good internal consistency. Cronbach's Alpha higher than 0.6 is acceptable under specific conditions with additional reliability validation of the model constructs [52]. For this empirical study, all latent variables pass the 0.7 Cronbach's alpha coefficient thresholds defined by Hair et al. (2010) except Personal Drive which once rounded up meet the 0.70 value threshold.

**Table 3. Measurement Model**

Latent Variable	Items	Standardized Estimates	CR	AVE	Cronbach's Alpha
INT_PERS	NEUT $\leftarrow$ INT_PERS	0.580	0.810	0.654	0.857
	HYB_ANO $\leftarrow$ INT_PERS	0.721			
	MOVT_S $\leftarrow$ INT_PERS	0.800			
	INT_ACT $\leftarrow$ INT_PERS	0.621			
COG_ABI	EXP_KNO $\leftarrow$ COG_ABI	0.748	0.794	0.937	0.832
	SOC_DEM $\leftarrow$ COG_ABI	0.689			
	PRO_COMP $\leftarrow$ COG_ABI	0.722			
PER_DRIVE	RESP_N $\leftarrow$ PERS_DRIVE	0.558	0.665	0.676	0.682
	PRO_AC $\leftarrow$ PERS_DRIVE	0.633			
	MOR_CON $\leftarrow$ PERS_DRIVE	0.762			
KNOW_BROKER	KNOW_AC $\leftarrow$ KNOW_BROKER	0.838	0.738	0.811	0.918
	KNOW_INT $\leftarrow$ KNOW_BROKER	0.919			
	KNOW_TRAN $\leftarrow$ KNOW_BROKER	0.883			

#### 4-2-3- Model Fit Assessment

In assessing the goodness of fit in this study, various fit indices have been employed to evaluate the congruence between the hypothesized model and the observed data including Chi-square ( $\chi^2$ ), Degree of Freedom (df), p-value, Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), Numbered Fit Index (NFI), Tucker-Lewis Index (TLI), and Comparative Fit Index (CFI) as shown in Table 4.

**Table 4. Goodness of Fit Measurement**

Goodness of Fit Criteria	Value Threshold	Statistical Value
Chi-Square ( $\chi^2$ )	-	70.32
Degrees of Freedom (df)	-	52.00
Chi-Square/Degrees of Freedom ( $\chi^2/df$ )	Less than 3 (should be close to 0)	1.35
p-value	More than 0.05	0.05
Goodness of Fit Index (GFI)	Between 0 to 1 (should be close to 1)	0.93
Adjusted Goodness of Fit Index (AGFI)	Between 0 to 1 (should be close to 1)	0.88
Numbered Fit Index (NFI)	Between 0 to 1 (should be close to 1)	0.93
Tucker-Lewis Index (TLI)	Between 0 to 1 (should be > 0.90)	0.97
Comparative Fit Index (CFI)	Between 0 to 1 (should be > 0.90)	0.98

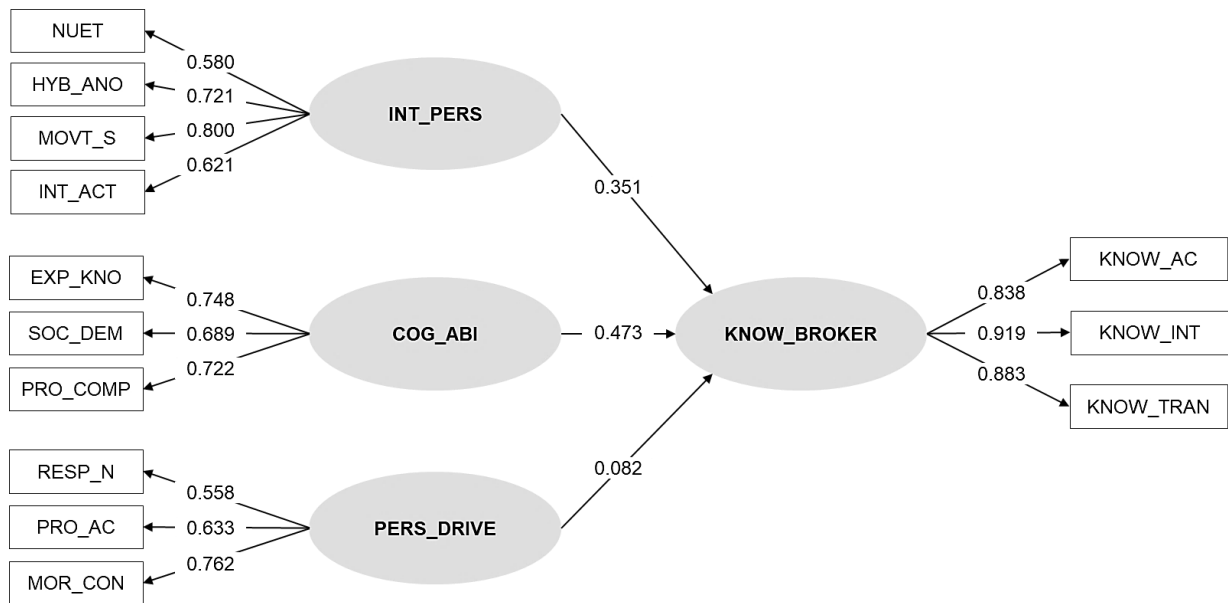
The model fit was assessed against the selected parameters for the overall fit and identify if adjustments are needed for a more accurate portrayal of observed relationships [53, 54]. For Chi-Square/Degrees of Freedom ( $\chi^2/df$ ), Jöreskog and Sörbom (1993) proposed that a smaller ratio indicates a well-explained dataset without unnecessary complexity. A ratio close to 1 suggests a strong fit, indicating consistency with the observed data. Values between 1 and 3 indicate reasonable model fit, and ratios higher than 3 signal poor model fit. For GFI, ratio nearer to 1 suggests the model can explain a significant portion of the data's variance [55]. Similarly, for AGFI, the higher values denote a stronger fit between the model and observed data. An AGFI close to 1 implies a good fit while values closer to 0 indicate a poor fit. Researchers commonly utilize AGFI alongside other fit indices for a comprehensive evaluation of model fit [56]. As for NFI, a high NFI ratio nearing 1 suggests a strong fit as well. This means the model can effectively justify a substantial portion of the data's variance [56]. For TLI, the ratios which fall between 0.90 and 0.95 or above are considered acceptable for good fits, although guidelines may vary depending on the research context [57]. Lastly, CFI values, ranging from 0 to 1, signify better model fit. Typically, values exceeding 0.90 are deemed acceptable, while those surpassing 0.95 indicate a good fit [57].

The presented model fit indices in Table 4 collectively affirm the robustness and validity of the hypothesized SEM. With a Chi-Square/Degrees of Freedom ratio at 1.35, the model demonstrates an optimal balance of simplicity and explanatory power. For p-value, although it is precisely 0.05, the fact that other model fit indices fall within acceptable ranges suggests that a thorough evaluation of the model indicates good alignment with the observed data. With GFI and AGFI ratios of 0.93 and 0.88, the model shows a strong fit to account for the observed variance. NFI, TLI and CFI ratios are all above the acceptable threshold which confirms the model's excellent fit to the data and supports the hypothesized relationships between the latent constructs and observed variables.



#### 4-2-4-Structural Model Analysis

The Structural Equation Modeling (SEM) analysis reveals a comprehensive understanding of the relationships among latent variables within the framework of this research as shown in Figure 6. The hypothesis findings are summarized in Table 5.



**Figure 6. Structural Equation Modeling of this research**

The relationship between Knowledge Brokerage Process (KNOW\_BROKER) and Interpersonal Skills (INT\_PERS) is statistically significant ( $\beta = 0.351$ , T statistic  $> 1.96$ ,  $p < 0.05$ ), indicating that higher levels of knowledge brokerage process are associated with enhanced interpersonal skills. Therefore, Hypothesis 1 (H1) is supported. The statistical results pertaining to the observed variables within the domain of Interpersonal Skills are also interpreted as shown in Table 3. The relationship between Neutrality (NEUT) and Interpersonal Skills exhibits a unitary effect with standardized estimate of 0.580, signifying a substantial impact. Hybrid & Anomalous (HYB\_ANO) with a standardized estimate of 0.721 validates its relevance. Motivational Skill (MOVT\_S) displays a positive link with Interpersonal Skills, with a standardized estimate 0.800. Interactive Skill (INT\_ACT) also demonstrates a positive connection, with a standardized estimate 0.621. These results collectively confirm the relationships between the observed variables and the latent construct of Interpersonal Skills (INT\_PERS).

**Table 5. Hypothesis Findings**

Hypotheses	Path's Coefficient	T-Statistics	P-Value	Conclusion
H1: Interpersonal Skills → Knowledge Brokerage Process	0.351	2.750	0.006	Supported
H2: Cognitive Ability → Knowledge Brokerage Process	0.473	4.418	*** <sup>1</sup>	Supported
H3: Personal Drive → Knowledge Brokerage Process	0.082	0.678	0.498	Not supported

<sup>1</sup>:  $p < 0.001$

Similarly, the path from Cognitive Ability (COG\_ABI) to Knowledge Brokerage Process (KNOW\_BROKER) is also statistically significant ( $\beta = 0.473$ , T statistic  $> 1.96$ ,  $p < 0.05$ ), suggesting that cognitive ability is a component that enable knowledge brokerage possess. Therefore, Hypothesis 2 (H2) is supported, emphasizing cognitive ability as a contributing factor in enabling effective knowledge brokerage process. The interpretation of the observed variables under Cognitive Ability shows distinct relationships as displayed in Table 3. Experiential Knowledge (EXP\_KNO) and Cognitive Ability reveals a unitary effect with a substantial standardized estimate of 0.748. Social Demographics (SOC\_DEM) exhibits a positive relationship with Cognitive Ability, as indicated by a standardized estimate of 0.689. Likewise, Professional Competence (PRO\_COMP) confirms a positive connection with Cognitive Ability with a standardized estimate of 0.722. These outcomes collectively reaffirm the relationship between the observed variables and the latent construct of Cognitive Ability highlighting it as a component that enables knowledge brokerage process.

Finally, the results on the relationship between Knowledge Brokerage Process (KNOW\_BROKER) and Personal Drive (PERS\_DRIVE) reveal a modest relationship ( $\beta = 0.082$ ) which does not achieve statistical significance at the conventional threshold (T statistic  $< 1.96$ ,  $p > 0.05$ ). The evidence is not substantial enough to support the hypothesis. Hence, Hypothesis 3 (H3) is not supported.

## 5- Discussion

The quantitative research has highlighted the complex nature of knowledge brokers in management consulting, accentuating the importance of Interpersonal Skills and Cognitive Ability. The findings indicate that robust Interpersonal Skills which covers Interactive Skill, Motivational Skill, Hybrid & Anomalous, and Neutrality are essential to enable the knowledge brokerage process. These findings are in congruent with the perspectives of Jessani et al. (2016) [42], who emphasized the impact of such skills on mediating both knowledge sources and users, and with Hartwich & Von Oppen (2000) [43], who noted their significance in arbitrating and building productive collaborations. The correlation between Hybrid & Anomalous skills and knowledge brokerage process reflects Fisher (2010) [44]'s observation that adaptability and ability to balance different roles and tasks are core to KBs within the management consulting context. Moreover, Deacon as cited in Fisher (2010) [44]'s emphasis on Neutrality resonates with the research findings that suggest its importance in maintaining trust and credibility for KBs.

Cognitive Ability is another central component in the research findings with sub-elements including Professional Competence, Socio-Demographic, and Experiential Knowledge. These components agree with existing literature by Jessani et al. (2016) [42] and Ziam (2010) [45], who indicated the importance of professional expertise, leadership, knowledge background and experiential learning for KBs. The study's findings confirm Professional Competence significantly impacts the knowledge brokerage process which agrees with Hargadon (1998) [36]'s work that suggested deep domain knowledge, leadership and experience is critical for KBs. The research's findings offer a different perspective on Socio-Demographic factors and indicate its smaller role. This may imply that while socio-demographics like education and professional background are significant, they do not solely determine the success of knowledge brokerage, underlining the complex nature of skill deployment in this field.

Furthermore, the study did not find statistical significance for Personal Drive (H3) in relation to the knowledge brokerage process. This suggests that the structural and relational components of knowledge brokerage in management consulting may not be significantly influenced by personal disposition like ethical motivation, social conscience, moral obligation, determination, persistency, and respectfulness as described by Jessani et al. (2016) [42]. Hence, it requires a deeper investigation into how Personal Drive interacts with other components in varying contexts.

### 5-1- Comparative Analysis of Qualitative and Quantitative Findings

As stated in the earlier section, the research employed a sequential exploratory approach, initially utilizing qualitative analysis to reinforce the variables examined in the subsequent quantitative phase. This methodology was chosen to ensure a comprehensive and robustness in understanding of knowledge brokers within management consulting context.

Initially, the qualitative research findings validated the components of knowledge brokers as identified in the literature review. This phase particularly emphasized the significance of Interpersonal Skills, Cognitive Ability, and Personal Drive, along with their respective sub-components. An exception was noted for Socio-Demographic under Cognitive Ability, which, based on insights from the population sample, was deemed not relevant [46]. This qualitative phase was crucial in setting the stage for the variables and hypotheses to be tested quantitatively.

Following this, the quantitative results offered a different perspective. While they empirically supported the significance of Interpersonal Skills and Cognitive Ability, and their sub-components, they deviated in terms of Personal Drive as defined by Jessani et al. (2016) [42]. Contrary to the qualitative findings and literature review, the quantitative analysis did not support Personal Drive or H3 as a significant component enabling the knowledge brokerage process.

This combination of findings from the qualitative and quantitative phases highlights how the two approaches complement each other. The qualitative results provided depth and context, setting the groundwork for the quantitative analysis. The quantitative phase then added empirical rigor, testing, and sometimes challenging the insights gained from the qualitative research.

### 5-2- Theoretical and Practical Contributions

The contributions of this study extend to both academic and practical domains.

#### 5-2-1- Theoretical Contributions

This research contributes significantly to bridging the gaps in existing literature and creates theoretical understanding of components of Knowledge Brokers (KBs) within the management consulting context. The study achieves academic novelty and contributions firstly by meticulously exploring components of KB in a specific and unexamined context. The study offers unprecedented comprehensive analysis and validated framework for components of KB in strategic management consulting context which is recognized for intensive use of new knowledge and knowledge brokers. Hence, it expands academic contributions in Knowledge Brokers (KB) and Knowledge Management (KM).

Secondly, the adoption of mixed method research including SEM which was used sparingly in prior research further distinguishes this work [7]. It demonstrates the robustness of the empirical approach and adds rigor and depth to the findings from both qualitative and quantitative data. This contributes to a more comprehensive and sophisticated academic setting in the KB and KM fields.

Lastly, the study contributes theoretical findings from global perspectives with data collection from samples in global strategic management consulting firms from eight geographical locations around the world. The study also experimented with two different parameter sets from non-managerial and managerial level consultants to ensure comprehensive representation of organizational hierarchy and cultural diversity. It also underwent sensitivity analysis to verify the robustness of the outcomes across these aspects.

Overall, this offers a richer and more globally represented perspectives about components of KBs in management consulting from various business contexts and cultures. As a result, this study not only provides a detailed understanding of KB roles and components but also helps establish the foundation for future research in similar knowledge-intensive domains.

### **5-2-2- Practical Contributions**

The study's practical implications align with Caduff et al. (2023) [9] and Magliocca et al. (2023) [10]'s discussions on the potential of KBs in propelling organizational innovation and decision-making processes, and their role in bridging knowledge divides within innovation ecosystems.

Firstly, the study provides strategic insights for both management consulting and knowledge broker industry to enhance organizational capacity for innovation [9] and guiding strategies for effective knowledge brokering processes. Additionally, by leveraging KBs in decision-making and innovation ecosystems, global firms can address knowledge gaps and support sustainable innovation and learning [10]. The research findings of key components such as Interpersonal Skills and Cognitive Ability can guide strategies for optimizing knowledge brokering processes as well as recruitment and training of knowledge broker individuals in a global setting.

Furthermore, this research could lay the foundation for the creation of innovations in knowledge brokerage such as tech-enabled knowledge broker platforms shifting from traditional human centric KBs to tech-enabled innovation. By grounding the development of this tech-enabled service platform on the empirically validated components of knowledge brokers and innovation development framework such as Cooper (1990) [58]'s Stage Gate System, the potential for impactful and more enhanced knowledge broker service innovations could be developed. This study's contribution could revolutionize knowledge management and knowledge brokerage with innovative KB platforms suitable for multiple sectors across the globe.

### **5-2-3- Limitations**

This research, while granting important insights, has several limitations that should be acknowledged. Primarily, its focus on global management consulting firms may limit the transferability of the findings to other sectors. This specificity suggests the need for further research across diverse organizational contexts to validate and potentially broaden the applicability of these findings. Additionally, the study's reliance on cross-sectional data presents a limitation in firmly establishing causality. While the nature of knowledge brokers in management consulting is presumed to be relatively stable over time, thereby justifying the use of data from a single time point, longitudinal studies in future research could provide a more dynamic perspective and validate the findings over time.

The use of self-reported data in this study also raises the possibility of common method bias. Future research could enhance the robustness of findings by incorporating multiple data sources. Moreover, the use of non-probability purposive sampling, while beneficial for obtaining in-depth information from a specific group, may not fully represent the broader population. Consequently, these results should be interpreted with caution, and further studies employing different sampling methods could help in confirming and expanding upon these findings.

## **6- Conclusion**

In conclusion, this study addresses and narrows significant research gaps introduced in the introduction, specifically regarding the roles and components of Knowledge Brokers (KBs) within the management consulting context. By conducting comprehensive research, especially incorporating both qualitative and quantitative methods, the study discovers and highlights the intricacies of KBs in an area that was previously underexplored in existing academic literature. This approach has enabled a more complete understanding of KBs roles and components within the highly knowledge-intensive field of management consulting. The identification of key components such as Interpersonal Skills and Cognitive Ability highlights their crucial role in enabling the knowledge brokerage process and enhancing the competitiveness of management consulting firms.

The theoretical contribution of this research lies in narrowing the research gaps of a previously unexamined academic domain of Knowledge Broker (KB), thus expanding the theoretical understanding of KB within this sector. It not only explains the roles and components of KBs in an in-depth manner but also establishes a robust theoretical framework that can be applied to future research in similar knowledge-intensive fields. The study's global perspectives, involving responses from various global regions, its methodological robustness, and comprehensive parameters, also contributes to a more inclusive understanding of KBs across different cultural and business contexts.

The practical contributions of this research offer a transformative shift in knowledge brokerage, highlighting the roles of KB in sustainable innovation, its ecosystem and technology-driven platforms. The research offers opportunities to leverage knowledge brokers to significantly boost organizational capabilities for sustainable innovation and learning through the incorporation of KBs into decision-making frameworks. This progression, supported by the study's validated components, could also enable the innovative shift from traditional, human-centric knowledge broker model to the dynamic tech driven platform. This could promise to redefine knowledge broker practices across various sectors, extending the impact of this research beyond academic boundaries and into practical, industry-wide applications.

Despite the study's numerous contributions, some limitations of the research should be recognized. The study's focus on global management consulting firms and use of cross-sectional data may limit its generalizability and ability to establish causality. In addition, reliance on self-reported data and non-probability purposive sampling could introduce bias and affect representativeness. These limitations suggest the need for cautious interpretation and further research using diverse methodologies to broaden the findings' applicability.

Lastly, this research opens avenues for future development in three key areas. Firstly, further academic research is recommended to explore the contextual influences on Knowledge Brokers (KBs), which can enrich the theoretical understanding and practical application of KBs in different settings. Secondly, future research of the interrelationships among KB components is recommended, as understanding these interactions can offer valuable insights for the academic domain and future practical contributions in organizational settings. Lastly, on a practical front, the development of innovative, technology-driven KB services and platforms, inspired by the findings of this study, holds the potential to transform the KB industry. Such advancements could significantly enhance the efficiency and reach of KBs across various sectors, marking a key step in the advancement of knowledge broker practice.

## **7- Declarations**

### **7-1-Author Contributions**

Conceptualization, S.A., M.W., and S.S.; methodology, S.A., M.W., and S.S.; software, S.A.; validation, S.A., M.W., and S.S.; formal analysis, S.A., M.W., and S.S.; investigation, S.A., M.W., and S.S.; resources, S.A.; data curation, S.A.; writing—original draft preparation, S.A., M.W., and S.S.; writing—review and editing, S.A., M.W., and S.S.; visualization, S.A.; supervision, M.W. and S.S.; project administration, S.A. All authors have read and agreed to the published version of the manuscript.

### **7-2-Data Availability Statement**

The data presented in this study are available on request from the corresponding author.

### **7-3-Funding**

The authors received no financial support for the research, authorship, and/or publication of this article.

### **7-4-Acknowledgements**

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### **7-5-Institutional Review Board Statement**

The study was conducted in accordance with the Declaration of Helsinki and approved by the Institutional Review Board of Chulalongkorn University (protocol code: 650285 and date of approval: 17 January 2023) for studies involving humans.

### **7-6-Informed Consent Statement**

Informed consent was obtained from all subjects involved in the study.

### **7-7-Conflicts of Interest**

The authors declare that there is no conflict of interest regarding the publication of this manuscript. In addition, the ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancies have been completely observed by the authors.

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## Appendix I: Questionnaire for Quantitative Research

### Section 1 General Information

**Instruction:** Please select what is most relevant to you in each question

No.	Questions	Answer
1	Are you working or have worked in a management consulting firm?	Yes.... No....
2	Please select your current position, or the last position you have worked in management consulting firm(s). Non-managerial role e.g., consulting analyst, business analyst, associate, consultant.... Managerial role e.g., project manager, engagement manager, project leader, partner....	
3	How many years of experience do you have in management consulting? 1-3 years.... 3-5 years.... 5-10 years.... 10+ years....	
4	Please select the geography you have spent the most time working in as management consultant. Southeast Asia e.g. Thailand, Singapore, Malaysia, Vietnam, Indonesia, Myanmar.... East Asia e.g., China, Japan, Taiwan, Korea.... Southern Asia e.g. India, Pakistan, Bangladesh.... Europe e.g. UK, Germany, France, Sweden, Netherlands North America e.g., USA, Canada.... Latin America e.g. Brazil, Argentina.....	
5	Have you engaged a service of Knowledge Brokers (KBs)? In this context, KBs are professional individuals working in expert network/sourcing firms such as GLG, AlphaSights, Lynk etc. Yes.... No....	
6	Please select what applies to you. Female.... Male.... LGBTQ+.... Preferred not to answer	
7	What is your education level? Undergraduate degree.... Master's degree.... Doctoral degree.... Others....	

***Section 2 Components of Knowledge Brokers for Knowledge Brokerage Process***

**Instruction:** Please select answer in the comment column based on your level of agreement with each statement about the components of Knowledge Brokers (KBs) which enable knowledge brokerage process (knowledge acquisition, knowledge integration, and knowledge translation) in the context of management consulting.

5= Totally Agreed; 4= Mostly Agreed; 3= Agreed; 2= Disagreed; 1= Totally Disagreed.

No.	Questions	Comment				
		1	2	3	4	5
	<b>Interpersonal Skills</b>					
	<b>A) Interactive skills</b>					
1	KBs should have own networks and contacts to identify knowledge sources and acquire knowledge.					
2	KBs should have the ability to convince and communicate to various networks with different communication tools.					
3	KBs should be able to identify and understand audience's requests thoroughly					
4	KBs should be able to translate and concise audience's message into better accessible, easier language, and short context.					
5	KBs should be extroverts and are familiar with social etiquette					
	<b>B) Motivational skill</b>					
1	KBs should be skilled mediators e.g., mediating exchanges between parties.					
2	KBs should be experienced team builders i.e., convincing different stakeholders, leading and playing as a team					
3	KBs should possess diplomatic skills i.e., employing tact and conciliation in different situations.					
4	KBs should have good communication skills					
	<b>C) Hybrid Anomalous</b>					
1	In order to build credibility and leverage as brokers, KBs should be hybrid i.e., able to perform different roles and responsibilities					
2	KBs should be able to balance different roles and identities as brokers e.g., intermediaries, motivator, negotiator, translator					
3	KBs should be anomalous i.e., highly adaptive into various disciplines and professional skills.					
	<b>D) Neutrality</b>					
1	KBs can act as intermediaries between knowledge source and knowledge user by maintaining neutrality					
2	Maintaining neutral position helps KBs in performing a role in supporting and facilitating knowledge exchanges					
3	KBs build reliability and credibility in stakeholder's perceptions through maintaining neutrality position.					
	<b>Cognitive Ability</b>					
	<b>A) Professional Competence</b>					
1	KBs should have expertise or knowledge in their fields i.e., having technical knowledge, professional experience, leadership experience.					
2	KBs should have strong knowledge base to acquire/ identify knowledge from knowledge sources,					
3	The higher cognitive ability by KBs proves the higher knowledge acquisition or utilization i.e., understand scope of requests, fulfil requirement in sourcing knowledge sources/experts for management consultants.					
	<b>B) Socio-Demographics</b>					
1	KBs should have leadership position in the knowledge brokerage field					
2	KBs should possess certain level of experience in the knowledge brokerage field.					
3	KBs should have proper academic qualifications e.g., higher education, professional degree.					
	<b>C) Experiential Knowledge</b>					
1	Organization culture and drive influence KBs to capture opportunities for skill development i.e., experiential knowledge					
2	Having applicable experience in knowledge management or knowledge acquisition is important for KBs to comprehend requests, scope and decision making.					
3	Experiential knowledge such as strategic insights, policies, help KBs comprehend scope of requests, boundaries and decision making better					
	<b>Personal Drive</b>					
	<b>Personal disposition</b>					
1	Having moral and social conscience is important for KBs to be ethically motivated and do propel action.					
2	Proactivity and persistence are required attributes for KBs to encourage knowledge usage in knowledge users.					
3	KBs should be respectful to all related stakeholders to ensure effective knowledge brokerage process.					

### **Section 3 Knowledge Brokerage Process**

**Instruction:** Please select answer in the comment column based on your level of agreement with each statement about the *components of Knowledge Brokers (KBs) which enable knowledge brokerage process (knowledge acquisition, knowledge integration, and knowledge translation) in the context of management consulting.*

5= Totally Agreed; 4= Mostly Agreed; 3= Agreed; 2= Disagreed; 1= Totally Disagreed.

No.	Questions	Comment				
		1	2	3	4	5
	<b>Interpersonal Skills</b>					
1	Interpersonal skills e.g., interactive, motivational, hybrid anomalous, neutrality, are important for KBs to continuously learn or acquire new knowledge and develop new skills in various practices					
2	Interpersonal skills help KBs develop a broad access to knowledge sources by continuously exploring new practices and territories					
3	Interpersonal skills are important for KBs in interpreting knowledge acquired from sources into solutions for knowledge users.					
4	Interpersonal skills are essential component for KBs to know how to identify the right linkage, or how to connect one's knowledge to the knowledge of others.					
5	Interpersonal skills help KBs interpret and translate knowledge into something knowledge users can comprehend and apply					
6	Interpersonal skills help KBs bridge the cognitive gaps between knowledge sources and knowledge users e.g., disparity between depth of understanding in certain topics between knowledge source and users.					
	<b>Cognitive Ability</b>					
1	Cognitive ability e.g., professional competence, socio-demographics, experiential knowledge, are important for KBs to continuously learn or acquire new knowledge and develop new skills in various practices					
2	Cognitive ability helps KBs develop a broad access to knowledge sources by continuously exploring new practices and territories					
3	Cognitive ability is important for KBs in interpreting knowledge acquired from sources into solutions for knowledge users.					
4	Cognitive ability is essential component for KBs to know how to identify the right linkage, or how to connect one's knowledge to the knowledge of others.					
5	Cognitive ability helps KBs interpret and translate knowledge into something knowledge users can comprehend and apply					
6	Cognitive ability helps KBs bridge the cognitive gaps between knowledge sources and knowledge users e.g., disparity between depth of understanding in certain topics between knowledge source and users.					
	<b>Personal Disposition</b>					
1	Personal disposition e.g., personal drive, are important for KBs to continuously learn or acquire new knowledge and develop new skills in various practices					
2	Personal disposition help KBs develop a broad access to knowledge sources by continuously exploring new practices and territories					
3	Personal disposition is important for KBs in interpreting knowledge acquired from sources into solutions for knowledge users.					
4	Personal disposition is essential component for KBs to know how to identify the right linkage, or how to connect one's knowledge to the knowledge of others.					
5	Personal disposition helps KBs interpret and translate knowledge into something knowledge users can comprehend and apply					
6	Personal disposition helps KBs bridge the cognitive gaps between knowledge sources and knowledge users e.g., disparity between depth of understanding in certain topics between knowledge source and users.					