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Knowledge Management in Multilateral Diplomacy

The Case of the UN First Committee Cyber Negotiations

Lise H. Andersen

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Contents

Abbreviations

APRs	Annual Progress Reports
AV	Audio-Visual
ECOSOC	Economic and Social Council
EU	European Union
GGE	Group of Governmental Experts
ICTs	Information and Communication Technologies
KM	Knowledge Management
NSAs	Non-State Actors
OEWG	Open Ended Working Group
P5	Permanent Five
UN	United Nations
UNIDIR	United Nations Institute for Disarmament Research
UNODA	United Nations Office for Disarmament Affairs
US	United States

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CHAPTER 1

Introduction: Managing Multilateral Knowledge

Knowledge is the key asset of twenty-first-century statecraft. States rely upon it to govern effectively, maintain their security, advance their development and compete globally. Knowledge is, however, not an asset that is easy to tame nor maintain control over. In the past decades—in fact, centuries—the world has experienced rapid knowledge growth. Looking alone at the exponential surge in the launch of scientific journals (Mabe, 2003, p. 193), the immense increase in scientific publications (Jinha, 2010, p. 262; Powell et al., 2017, p. 4), as well as the rising number of globally granted patents per year (World Intellectual Property Organization, n.d.-a, n.d.-b), this rapid acceleration becomes clear. Indeed, the output of scientific knowledge has been estimated to double approximately every nine years (van Noorden, 2014). Navigating and keeping up with this acceleration in knowledge growth is of concern to any entity tasked with tackling issues of scientific and technical complexity, which have far-reaching societal consequences. This is particularly pertinent for States and their diplomats, as they are on the frontlines of identifying, defining and finding durable solutions to international issues affecting populations around the world.

This pertinence takes particular expression in the setting of multilateral negotiation processes conducted at the United Nations (UN), as this is the premier arena for international decision-making. It is through these processes that States together determine how issues of global governance

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are framed and addressed, ultimately defining the contours of world order and influencing the direction of policies implemented at the national level. How knowledge, as a vital asset, is managed in this context—against the backdrop of accelerating knowledge growth—therefore becomes of critical concern, given its definitional power.

Being in possession of knowledge privileges agenda-setting, problem definition, engenders credibility (Dunlop, 2016; Serdeczny, 2023), and can thus bestow a State with a high level of influence, potentially placing it in a leadership position within a particular negotiation process. Being in the know also enables a State to have greater control over the substantive or technical details characterizing a specific issue area (see, for example, Hornsby & Parshotam, 2018), and as such, it can contribute significantly to how elements in a negotiation process are understood (Sörlin & Paglia, 2024); how wording in final agreements is smithed; and how any implementation mechanisms are shaped. Moreover, knowledge can aid a State in protecting itself from being misled, outmaneuvered, or manipulated by counterparts. It also allows a State to act with more confidence and authority within a negotiation process.

Not only is the management of knowledge in the context of UN multilateral negotiations significant for the State itself, it is also vitally important in terms of understanding how diplomats conducting contemporary multilateral diplomacy are supported in doing their jobs. Diplomats face an increasingly challenging and complex operational environment. Previously, these professionals were occupied predominantly with questions of sovereignty, war and peace, while today they have to tackle a broad suite of scientifically and technically based issues ranging from climate change and biological weapons to cybersecurity. In addressing such niche issues of global governance at the UN, these professionals have to contend directly with accelerating knowledge growth, while generally being subject to periodic rotation—occurring on average every three to four years (Spies, 2019). This means that getting up to speed, as well as keeping up with developments in particular disciplines, becomes increasingly challenging. Moreover, with enhanced specialization and the proliferation of expertise away from traditional centres of knowledge production (such as universities) (see, for example, Barnett, 2000), locating and navigating channels of knowledge provision becomes more demanding for diplomats. Indeed, with the increased emphasis on engaging with (non-State) stakeholders, more input is being directed at negotiating diplomats. Additionally, as knowledge spreads and becomes more accessible via

digital technologies, the potential for knowledge misuse increases, placing additional pressure on diplomats to critique the legitimacy and rigour of input informing their decisions. Furthermore, the very nature of diplomacy itself leaves much room for the political distortion of knowledge, as diplomats have a high incentive to strategically share or withhold it. Moreover, some diplomats—particularly those representing smaller or less resourced countries—may not have access to the knowledge needed to be able to contribute to international discussions in an informed manner.

All of these factors together challenge the competency of contemporary multilateral diplomacy and underscore the extraordinary shift that has taken place in its knowledge landscape. Given that the UN is the premier arena for conducting multilateral diplomacy, and with 80 years of experience, it can reasonably be expected that mechanisms for managing knowledge as an asset have been embedded within its highly proceduralized negotiation processes. However, when consulting the literature (as further discussed ahead), this remains surprisingly unclear. As such, a novel research angle emerges, and the following question arises—to what extent, and in what form, have knowledge management (KM) practices been implemented to handle inputs contributed to UN multilateral negotiation processes?

By taking a single case study approach, this book acts as a critical first step towards answering this question. It does so by studying the UN multilateral negotiations on *developments in the field of information and telecommunications in the context of international security*. The case study is fully introduced in Chap. 2, and will be referred to throughout this book in short as the UN First Committee cyber negotiations.[1] In consulting these negotiations initially, it was found that an explicit KM strategy, policy or approach had not been articulated for this process. This finding was not, however, taken to mean that practices had not been implemented which could be conceptualized as acts of KM, even if they were not explicitly labelled as such. With this in mind, and in addressing the research question in this context, this book has three objectives. These include:

[1] It should be noted that these negotiations have had various official names. The official name of the first five Groups of Government Experts (GGE) and the first Open Ended Working Group (OEWG) (further discussed in Chap. 2) was that mentioned in the main text. The title of the sixth GGE was *advancing responsible State behaviour in cyberspace in the context of international security* and that of the second OEWG was *on security of and in the use of information and communications technologies*.

1. Identifying any practices within the UN First Committee cyber negotiations that can be conceptualized as acts of KM, and thus
2. Characterizing the approach taken to KM in these negotiations, as well as
3. Analysing how these practices have evolved as the discussions have progressed through their lifetime.

To meet these objectives and undertake this study, the business literature focused on the established and mature concept of KM is drawn upon. By leveraging this concept, a new and fresh theoretical lens is added to the broad body of work that deals with questions of knowledge and expertise in international affairs and policymaking. So far, this existing work has drawn heavily upon other analytical approaches—such as evidence-based or informed policymaking (Cairney, 2016; Parkhurst, 2017), epistemic communities (Haas, 1992), knowledge brokers and boundary spanners (see, for example, Weber & Yanovitzky, 2021; Bednarek et al., 2018), advocacy coalition frameworks (Sabatier, 1988) and science diplomacy (Ruffini, 2017). In utilizing the business literature, a unique interdisciplinary methodology fit for the conduct of a procedural analysis is designed and laid out, catalysing the first empirical findings in the area as well as offering a blueprint for other scholars to take research in this area forward. As such, the developed methodology and its constituent theoretical framework are transferable, generally applicable, and can be used off the shelf to study vastly diverse examples of multilateral diplomatic negotiations. This study thus demonstrates the value of thinking laterally across disciplines to help understand how knowledge is managed at the cutting edge of international multilateral diplomacy.

The UN First Committee cyber negotiations were chosen as the case under study for several reasons. Firstly, these negotiations are conducted under the auspices of the UN, so they are contextually relevant. Secondly, this negotiation process concerns an issue area characterized by unprecedented technological advancements (Mitra et al., 2024). During the lifetime of these negotiations, there has been an explosive growth in the capabilities, possibilities, opportunities and threats associated with information and communication technologies (ICTs). There has also been a remarkable transformation in understandings of what ICTs mean for areas such as world order, international relations, international peace and security, war and conflict, the global economy and society, as well as human rights (see, for example, Lannon & Halpin, 2012; Kremer & Müller,

2014; Carr, 2017; Choucri & Clark, 2019; Reuter, 2019; Herberger & Dötsch, 2021; Nye, 2011, 2022). With these developments, these negotiations offer a powerful case for examining how an evolving knowledge landscape has been managed while negotiations have been actively undertaken on the topic. Thirdly, being relatively new to the UN agenda; undertaken through a limited amount of negotiation rounds; and still ongoing; the entire lifespan of the First Committee cyber negotiations to date (encompassing 1998 to 2025) could reasonably be studied in the allocated time, offering a comprehensive analysis of the KM approach in place as the first empirical case study on the topic. Finally, as aspects of UN multilateral negotiations tend to be highly confidential, it was important that the chosen case study was empirically accessible. While parts of these negotiations have been conducted confidentially, these discussions took place relatively recently, and so, professionals involved with them could still be approached for interviews to gain firsthand insight and compensate for this lack of access. Moreover, a wealth of material became available as the negotiation process changed format in 2019 (which will be further discussed in Chap. 2), and a cultural shift took place as professionals involved with the discussions started sharing their insights publicly.[2] Thus, a moment to break new ground in the study of these negotiations presented itself, further enhancing the novelty of this research.

To situate KM for the reader, the next section introduces its practical and scholarly context. Thereafter, the theoretical framework adopted and adapted for this study is outlined, clarifying the conceptual lens applied. This is followed by an overview of the methodology, where the research design is fully specified. The chapter concludes by highlighting the book's scholarly contribution and demonstrating how it will be developed throughout the following eight chapters.

[2] This is, for example, evidenced by verbal contributions made to the *Inside Cyber Diplomacy* podcast produced by the Centre for Strategic and International Studies (Lewis & Painter, 2020–2024) and by written contributions published in The Hague Centre for Strategic Studies' Cyberstability Paper Series on *New Conditions and Constellations in Cyber* from 2021 (Klimburg, 2021).

Practical and Scholarly Context of Knowledge Management

Managing knowledge is not a new phenomenon, having always been essential to human survival and development. From early in history, sustained succession was secured by transferring in-depth knowledge from one generation to the next (Wiig, 1997, p. 2). In more recent times, as economies changed and technologies developed, so too did the relationship between humans and knowledge (Ibid., pp. 4–5). Knowledge came to be a central element of the global economy, heavily influential in defining the shape and content of working life, as well as constituting a key strategic resource offering a competitive advantage (Ibid., p. 1; Prusak, 2001, pp. 1002–1003; Stewart, 2002, p. 9). With this, the business community realized that strategies were needed to systematically manage knowledge as a concrete asset, and thus, the concept of KM was developed, constituting a practice-based response to real events and emerging as an academic field of study in the 1980s (Wiig, 1997: 2; Prusak, 2001, p. 1002).

Broadly speaking, KM is a process or system put in place to ensure that the knowledge base—the body of knowledge upon which work is conducted and decisions are based—of a particular professional organization is up to date; robust and relevant; safeguarded for future use; practically and intellectually accessible to those in need of it; as well as usable for its intended purposes.

Various circumstances drive the need for KM within the contemporary workplace. With accelerating knowledge growth, professionals need assurance that they are basing their work and decisions upon the best available knowledge. Furthermore, with mobility in the workforce, it is essential for employers to capture and protect their organization's knowledge assets as employees move on to new opportunities. Moreover, with the enhanced integration and interconnectivity of many parts of global society, few professional fields are operating in a vacuum. Work done, decisions made and knowledge developed in diverse areas are influencing other professional spheres far beyond their own disciplinary boundaries. As such, professional organizations are having to navigate expanding knowledge horizons to ensure their continued competitiveness.

In order to respond to these circumstances, KM processes or systems are put in place to support professional organizations, with the aim of helping them function more effectively, safeguard their knowledge, remain

at the forefront of their field, make informed decisions and retain relevance within their operational environment. KM has been applied in a broad range of industries,[3] with many case studies in the literature documenting and demonstrating the visible, positive difference and successful impact the application of KM practices has had in a variety of professional settings.[4] Indeed, the creation of standards at the national, regional and international levels is indicative of the professionalization, standardization and embedment of these practices into broader global work culture.[5] Moreover, the publication of several extensive works on KM from a variety of perspectives in recent years (Liu, 2020; Massingham, 2020; Hislop et al., 2018) as well as a range of bibliometric studies (Ponzi & Koenig, 2002; Alajmia & Alhaji, 2018; Gaviria-Marin et al., 2019; Farooq, 2021) highlight continuing and increasing academic interest in the topic.

While KM has become pervasive across industries and is further maturing through ongoing academic research, business scholars have not, however, applied this concept to the professional context of diplomacy. Indeed, when examining the diplomatic studies literature, almost no attention has been given to KM there either—with a few exceptions.

In 1999, as a result of two conferences, a cluster of research was published on KM in the diplomatic context. In this work, consideration was given to how diplomatic documents themselves have acted as a form of KM as well as the traditional means through which these materials have been safeguarded—such as in libraries, archives, records and specific collections (Pandžic, 1999; Alston, 2002; Converse, 2002; Hamilton, 2002; Trigona, 2002). Other researchers at the time considered technology-based approaches to the management of diplomatic knowledge. For example, Boos (1999) proposed the idea of creating a centralized computerized databank of diplomatic knowledge for peacekeeping purposes in the Eastern European and Balkans region. Kic (1999) discussed the computerization of treaty records, and Bašić (1999) that of Croatia's Ministry

[3] For examples of sectors in which KM has been applied see, for example, Akhavan et al. (2006); Khalfan et al. (2010); Ribeiro (2009); Hutchinson and Quintas (2008); Dingsøyr and Conradi (2002); Ali and Yusof (2004); World Bank (2018).

[4] See, for instance, Berdrow and Lane (2003); Akhavan et al. (2006); du Plessis (2007); Kothari et al. (2011); Pandey et al. (2018); Onofre and Teixeira (2022).

[5] For examples of standards set at these various levels see British Standards Institution (2001, 2003a, 2003b, 2003c, 2003d, 2005a, 2005b, and 2005c); Deutsches Institut für Normung (2012); Standards Australia (2003); European Committee for Standards (2004a, 2004b, 2004c, 2004d, and 2004e); as well as International Organization for Standards (2018).

of Foreign Affairs (MFA) International Law Department. Furthermore, Naudi (2002) examined the changes, which the MFA of Malta had, at the time, made in response to the development of ICTs. In undertaking this work, engagement with KM scholarship was practically non-existent, with only Kurbalija (2002) directly consulting and incorporating ideas from this literature into his considerations.

In doing so, Kurbalija (2002) investigated how the diplomatic profession could apply KM practices to existing diplomatic tools, procedures, processes and organizations. He discussed how diplomacy differs from the business world and offered thoughts on the suitability of applying KM practices to the diplomatic institution. Kurbalija did this, however, from the understanding that KM involves the application of technology, and thus a sceptical tone underpins his work, as he notes that many aspects of diplomatic practice are not well suited for technological condensation due to the intensively human-centric nature of the profession (Ibid., p. 11).

Other scholars writing after Kurbalija continued with this narrow techno-centric conceptualization of KM, examining the current and future potential of digital technologies for the management of knowledge—particularly in the MFA setting (Hanson 2012a, 2012b; Hocking & Melissen, 2015, p. 26; Murray, 2015, p. 132; Sotiriu, 2015, p. 39; Pilegaard, 2017, pp. 331–333; Cercel & Saftescu, 2015, p. 325). Surprisingly, the UN, the world's premier institution for conducting multilateral diplomacy, establishing international agreement and advancing issues of global governance, has been largely ignored in this limited scholarship. Svenson (2017) does prove an exception, investigating how the UN as an institution has managed its knowledge resources, with several reports stemming from practice offering further insights into KM approaches adopted within or across various UN entities (United Nations Economic and Social Council, 2006; Larrabure, 2007; Dumitriu, 2016a, 2016b; Glovinsky, 2017; Ricardo, 2021). Research examining how input contributed to UN multilateral negotiation processes has been managed, has not, however, been undertaken. This demonstrates considerable scope for undertaking novel empirical research in this area, and highlights the space where this research finds its niche.

With a lack of previous studies to draw upon, the novelty of this research necessitated the custom design of this study's theoretical framework and methodology.

Theoretical Framework

To undertake this study, the KM literature was drawn upon for both methodological and theoretical guidance. When investigating the practice as well as the study of KM, it is often undertaken through the application of KM stage models, which outline various steps in the process of managing knowledge. These models can be used for both descriptive (understanding KM practices already in place) and prescriptive (recommending suitable KM practices for implementation) purposes (Holsapple & Joshi, 1999, p. 1). Many models have been developed in the business literature to account for operations of smaller or greater levels of complexity, and offer a simple yet powerful framework for understanding the series of activities knowledge in any professional setting is, or should ideally be subjected to, in order to become readily available for the professionals in need of it.

After careful consideration, Liu's KM model was chosen and adopted as this study's theoretical framework, being applied as a descriptive tool (Liu, 2020, pp. 44–53). Published in 2020, it represents one of the most recent collated KM models, making it broadly representative of the KM literature. Each stage of the model has been detailed and widely accepted by KM scholars, as well as implemented and validated in practice (Ibid., p. 45). These criteria ensure the model's rigour and validity in its original context, providing a firm foundation for its application to the new context of a multilateral negotiation process.

Liu's KM model consists of four stages (Ibid., pp. 44–53):

1. Knowledge Building
2. Knowledge Holding
3. Knowledge Mobilization
4. Knowledge Utilization

In presenting her model, Liu (Ibid., p. 59) emphasizes that KM systems are not necessarily linear, simple nor straightforward. Rather, stages are likely to occur in parallel, as new knowledge enters a professional context, and inputs that have already been successfully admitted to the knowledge base move through the other stages (Ibid.). For instance, while new knowledge is being acquired at stage one, previously accepted knowledge may be put to use at stage four. Ultimately, the continuous evolution of an organization's knowledge base is accounted for by the interactive nature of these stages. KM can therefore be thought of as a process of refinement

(not as an event) where feedback loops produce a KM lifecycle. For instance, in applying knowledge at stage four, the need for further knowledge or updated knowledge may become apparent, leading back to stage one of the model (Ibid., pp. 53–59):

Through this lifecycle, knowledge is expected to be implicitly assessed for its ultimate relevance and worth to its respective professional environment (Ibid., p. 60). This is generally the case in the business world, which often works according to short-term goals, where the impact of KM systems (and thus the inputs they manage) tends to be tangible, quantifiable, as well as measurable (Kurbalija, 2002, p. 11). Clear metrics and key performance indicators, coupled with the drive for profit, offer a strong, pragmatic and results-driven feedback loop that pushes for a constant increase in efficiency (Liu, 2020, pp. 11–12) and the revalidation or culling of any outdated or redundant knowledge resources.

The world of multilateral negotiations is, however, a bit different. Contra to the business environment, diplomats deal with much longer time horizons, where, in an era of wicked problems (Hodge, 2013, p. 356), the impact of particular inputs into a negotiation process may not be clear. Multilateral objectives may also change as problems evolve and understandings of them develop. As such, feedback loops are not necessarily in place to direct further action and assess the continuing relevance of available input. The longer-term perspective of diplomacy makes it far more complicated to set parameters and report results in the management of a vast variety of different forms of knowledge (Svenson, 2017, p. 184). Further, inputs contributed to diplomatic negotiations are often a diverse mix of facts, perspectives, values and foreign policy priorities, which have to be reconciled. As such, the practice of validating inputs contributed to the professional context of multilateral diplomacy may not implicitly occur through the four noted stages of the KM model. Yet, validation has a particular role to play in helping to prevent the selective interpretation or strategic misuse of knowledge in service of particular national

interests; articulating associated uncertainties and limitations; and mediating competing forms of knowledge towards constructing and tailoring final agreement.

To account for this consideration systematically and explicitly within the context of this research, Liu's model is adapted, with the additional stage of Knowledge Validation being added. In adding Knowledge Validation as a stage to Liu's 2020 model, it is important to note that it is not a new stage in and of itself. Bhatt (2001, p. 71), for example, includes Knowledge Validation as a step in his KM model. However, using Heisig's 2009 study of 160 KM models as an indicator, Knowledge Validation is not a commonly included stage.

While different stages of the model may be evoked simultaneously for different knowledge inputs, the stages do function sequentially. Considering this, the spot deemed most appropriate to insert Knowledge Validation into Liu's model is as stage two:

1. Knowledge Building
2. Knowledge Validation
3. Knowledge Holding
4. Knowledge Mobilization
5. Knowledge Utilization

In applying the KM model as the theoretical framework, some definitional specification is warranted regarding what is meant by the term 'knowledge' in the context of this study. In the KM literature, a distinction is made between 'knowledge', 'information' and 'data'. Data is generally understood as objective facts (Davenport & Prusak, 2000, p. 2). Davenport and Prusak (Ibid.) give the example of a man refuelling his car, where the amount of petrol acquired, how much was paid for it, as well as at what time, are all examples of data. The concept of 'information' builds on this and is interpreted as the aggregation of data where meaning has been added (Award & Ghaziri, 2007, p. 60). Information informs and changes the way a person perceives something, impacting their judgement, behaviour and/or altering their outlook or insight (Davenport & Prusak, 2000, p. 3). For instance, using the data points above, information can be acquired about what the price per gallon was at a particular moment in time. Finally, while the KM literature generally refrains from debating the concept of 'knowledge' epistemologically, it is interpreted as something richer than data and information (Ibid., p. 5). Davenport and Prusak's

(2000, p. 5) definition captures its complexities, highlighting that knowledge is fluid yet structured. Knowledge embodies expert insight, values, experiences, as well as contextual information—all of which provide a means for making sense of and incorporating new impressions and inputs. Moreover, knowledge originates in and is applied through the mind of the knower, and in the context of an organization, it becomes embedded not only in its documents but also in its practices, processes, routines and norms. This study anchors itself conceptually in this interpretation of knowledge, and thus it is important to highlight that what is under examination in this study is the management of 'inputs' contributed to the negotiation process. These inputs, as will be demonstrated, take a variety of shapes, but all are added with the aim of advancing the process towards its ultimate objective—establishing international agreement on the topic under discussion. As such, in the context of this study, 'knowledge management' equates to the management of inputs.

When considering the definition of knowledge adopted, and in identifying inputs made to the negotiation process under study, another important distinction coming from the KM literature needs to be made—that between explicit and tacit knowledge. This distinction has had a profound impact on the development of the KM field, as many scholars have anchored their approaches to studying KM in one or the other. On the one hand, scholars grounding their approach in explicit knowledge have adopted an understanding of knowledge as a product (Massingham, 2020, pp. 45–46). They emphasize the central role of technology in capturing, storing and making knowledge available to those who need it (Ibid., p. 45; see, for example, Chalmeta & Grangel, 2008). Through technology, knowledge is made available to a wider audience, who can then harness it according to their specific needs without being personally acquainted with the source. Explicit knowledge is not integral to the knower; it can be objectified as a separate entity.

On the other hand, scholars, who have anchored their approach in tacit knowledge, have seen knowledge as a process of social communication (Massingham, 2020, pp. 45–46). These researchers understand knowledge as being deeply rooted in the individual possessing it and its activization being inherently interpersonal. Knowledge from this view cannot be boxed up and released into the wild. It is precious to the knower, the context in which they operate, and flourishes through, rather than independently of them. It should, however, be noted that efforts have been made in the literature to understand how tacit knowledge can, in fact, be

captured, including via methods such as critical decision interviews, systematic task analysis methods, organizational storytelling and narrative (Linde, 2001; Taylor, 2005; Wijetunge, 2012; Johnson et al., 2019).

Recently, as best embodied by the International Standard 30401 on KM, the notion that tacit and explicit knowledge are not mutually exclusive but, in fact, sit on a spectrum, has gained favour (International Organization for Standards, 2018, p. 15). Ranging from knowledge that an individual may not be aware that they possess, such as intuition (tacit knowledge), to knowledge that is codified and structured, such as that in manuals and programming algorithms (explicit knowledge) (Ibid.). This study aligns itself with this view and does not look at KM from the perspective of either explicit or tacit knowledge. Rather, it seeks to identify any practices that can be conceived of as KM activities regardless of the type of knowledge or input they manage via the theoretical framework applied.

Methodology

In order to apply the theoretical framework to identify any practices that could be conceptualized as acts of KM within the UN First Committee cyber negotiations, the technique of process mapping was employed. Process mapping is a management tool, used to highlight every critical step in a business process via workflow diagrams (Hunt, 1996, p. 2). As Rummler and Brache (2013, p. 43) note, business processes constitute a series of steps that ultimately deliver a service or product. In the case under study, the negotiations can be considered the business process of diplomats, who work to produce various products such as consensus reports. Unlike process tracing methods, which involve establishing causal mechanisms (Beach & Pedersen, 2013, p. 2), process mapping works to make each element (such as specific actions and decisions) that contributes to the furtherance and fulfilment of a process visible. It is an illustration of a process broken down into its most basic and vital steps.

As Damelio (2011, p. 32) states, a key reason to map a process is to bring to light its architecture, so that some form of action can be exerted upon it—like taking steps to understand, evaluate or improve it. Another motivation for undertaking this technique is to codify the knowledge that makes the process possible (Ibid.). In the case of this research, process mapping was undertaken with the intention of fulfilling three objectives.

The first objective was to illustrate the structure of the negotiation process in the two formats through which it has been carried out—namely via Groups of Governmental Experts (GGEs) and Open-Ended Working Groups (OEWGs) (both of which will be discussed in greater detail in Chap. 2). This was done to make the second and third objectives possible, the former of which was to identify any actions that could be conceptualized as KM practices via engagement with the theoretical framework. The third objective was to examine whether any identified KM practices had occurred sequentially in the order of the stages of the theoretical framework. The sequence of the KM model is indicative of established best practice, and plays a key role in maintaining the competence of the knowledge base as well as process efficiency. Thus, understanding the sequence in which any identified KM practices have occurred, offers insight into the level of their systematization.

Process maps are presented in the form of swim lane diagrams consisting of stacked horizontal bars, each of which represents an actor or entity involved in the process, and in which the actions undertaken by them are illustrated. All process maps commence in the top left-hand corner of the diagram and move towards the right-hand side as they progress. Actions taken by any given actor are depicted by boxes. Arrows connect actions, advancing the process. When actions undertaken by multiple actors occur in parallel, they are encircled. In the case that an action represents a subprocess, which could be broken down further, it is shadowed. In the case of this study, any actions that can be conceptualized as KM practices are coded by colour per the stage of the model with which they align.[6] All process maps created for this study are included in the Appendix.

In undertaking process mapping, certain caveats must be acknowledged, including that these illustrations do not present a comprehensive overview of all the activities that constitute a particular process (Damelio, 2011, p. 37). Rather, they are a representation of the elements deemed to be most significant in understanding that process (Ibid.) for the intended purposes. Moreover, to construct process maps, the sequence of actions constituting a process must be known. As part of the negotiations under study were conducted behind closed doors, this sequence was not always

[6] The following colour codes have been applied to identify associated practices for each of the five stages of the KM model—Knowledge Building: pink; Knowledge Validation: yellow; Knowledge Holding: orange; Knowledge Mobilization: blue; and Knowledge Utilization: purple.

known or could not always be confirmed. As a result, illustrations are offered in place of process maps where applicable (these are also included in the Appendix), to capture any relevant practices. The same is the case for practices found to occur informally or behind the scenes, but whose precise occurrence could not be established. For example, during substantive sessions of the negotiations, the Chair of the second OEWG encouraged participants to submit their contributions in writing, which, while not visible in the formal process, was done, as evidenced by material available online. Moreover, it is most likely that some activities that occurred informally or during the intersessional periods of these negotiations have not been captured, as they were not necessarily documented. The benefits of process mapping were, however, deemed to outweigh these caveats, as it offers a logical and practical means of illustrating these negotiations procedurally, in a way that has not been done elsewhere. Ultimately, the process maps should not be understood as a comprehensive record of historical events. Rather, they should be seen as a heuristic, representative of key activities, which enable the execution of the study and the identification of any implicit KM practices implemented in the undertaking of these negotiations. In creating the process maps, the second edition of Damelio's *The Basics of Process Mapping* from 2011 was used as a guide.

In order to deconstruct and identify actions constituting and advancing the negotiation process prior to process mapping, a range of data was collected. This was done through desk research, interviews and unstructured non-participation observation. Through desk research, secondary and primary documents were consulted, with the latter being sourced via Google Scholar and the former via a range of UN digital platforms.[7] Primary source documents were collected for the entire lifespan of the negotiation process from 1998 up until 2025, including material from the UN First Committee and General Assembly as well as from all six GGEs and two OEWGs hosted on the topic. These documents offered a formal representation of the process and provided some insight into what happened

[7] These platforms included the UN's Digital Library, the UN portal PaperSmart (later replaced by eStatements of the digital version of the Journal of the UN), the webpages of the UN Office for Disarmament Affairs' (UNODA) dedicated to the negotiations, UNODA's online directory *Meeting Place* as well as relevant event pages of the UN Institute for Disarmament Research (UNIDIR) (Journal of the United Nations, n.d.; United Nations, n.d.; UNIDIR, n.d.; UNODA, n.d.- a, n.d.-b, n.d.- c).

behind the scenes, informally as well as in the intersessional periods of the negotiations.

To further enhance the data pool and triangulate findings, interviews and unstructured non-participant observation were also conducted. Based on purposive sampling (Lavrakas, 2008, p. 645), interviews were undertaken with a range of professionals involved with the negotiations.[8] This was done to gather 'insider' insights as well as further information about what had occurred informally and behind the scenes of the negotiations. Interviewees were identified by consulting lists of participants found in the primary source documents as well as through snowballing (Noy, 2008, p. 330) and leveraging existing professional networks. To allow for a degree of flexibility, the interviews were semi-structured, so that new lines of enquiry could be followed (Robson, 2011; Bryman, 2016). In total, 23 interviews were conducted online (due to Covid-19 pandemic restrictions), up until the point of saturation (Braun & Clarke, 2013).[9]

Unstructured non-participant observation was carried out in addition to allow the author to gain first-hand practical insight into how the public part of the UN First Committee cyber negotiations (conducted through the OEWGs) functioned procedurally. It had the specific purpose of identifying the most significant actions advancing the process, as well as gaining further knowledge about what had occurred behind the scenes of the negotiations or informally. In total, 143 audio-visual recordings made available by the UN (covering about two to three hours of activity each) were consulted.[10]

Through the collected data, it was possible to identify (to various extents) the actions constituting and advancing the negotiations through the formats of the GGEs and OEWGs, as well as informally and in the intersessional periods. Having done so, 19 process maps and four illustrations were constructed. Utilizing its stage descriptions, the theoretical framework was then applied to these process maps and illustrations. In doing so, any practices that could be conceptualized as acts of KM were

[8] Ethical approval to conduct the interviews was received from both institutions (University College London in the United Kingdom and Leiden University in the Netherlands) with which the author was associated during the conduct of this study.

[9] These included interviews with six individuals who had worked as GGE advisors, one of which had also had the role of GGE expert and OEWG Head of Delegation; one practitioner who had worked on behalf of a Member State and later for a non-State actor (NSA); three professionals who had held positions within the teams supporting the negotiations; and thirteen participants who represented NSAs.

[10] These recording are all available via https://webtv.un.org/en.

colour-coded per their relevant stage/s. Guided by the identified practices, a return was then made to the original data, to find further details regarding them and provide nuanced examples for the analysis.

Contribution and Structure of the Book

This chapter has provided the context of this study as well as the blueprint for its undertaking. Next, Chap. 2 introduces the reader to the UN First Committee cyber negotiations, discussing their origin, structure, key historical developments as well as the involved actors. Chapter 2 also examines the knowledge base of the negotiations, identifying the type of inputs that have been contributed to them and which would potentially be subject to KM practices. Chapters 3 to 7 thereafter, each address one of the five stages of the KM model applied. These chapters are structured in the same way, with each initially discussing what their respective stages entail from a theoretical perspective. Thereafter, these chapters elaborate and analyse the practices identified as acts of KM (with respect to their stage) in the UN First Committee cyber negotiations. By doing so, the central argument of this book, which is presented in Chap. 8, is gradually developed. Considering the findings of Chaps. 3 to 7 collectively, Chap. 8 characterizes the approach ultimately found to have been taken to KM in the context of the UN First Committee cyber negotiations. Specifically, it is argued that KM in these negotiations has been implicit, dispersed, unsystematic and messy. Practices that can be conceived as acts of KM have been undertaken, but they have not been explicitly labelled as such. Moreover, these practices have developed organically through the set-up, format and design of the negotiation process and have been undertaken by a range of actors in both formal and informal spaces associated with the discussions. By considering the evolution of these practices, Chap. 8 also underscores that with the progression of the negotiations, KM has been emergent, with there being an increased tendency towards more substantial and systematic management of inputs contributed to the process. In presenting this broader analysis of the case under study, this chapter brings in a broader discussion of the advantages and limitations of formal and informal approaches to KM, highlighting that there is no one-size-fits-all formula. Rather, in implementing a KM system, careful attention must be paid to the culture, context, practices and nuances associated with any given professional setting. This discussion leads on to the ninth and final chapter, which considers the benefits as well as limitations posed by KM,

specifically considering the setting of UN multilateral negotiation processes. In doing so, it discusses how the UN could leverage the practice of KM from business and become a more intentional knowledge manager in supporting its negotiating diplomats. Finally, the generalizability of this study is reflected upon; directions are offered for taking this area of study forward; and some final reflections conclude the book.

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CHAPTER 2

The UN First Committee Cyber Negotiations

Background

In 1998, Sergey Lavrov (the then Permanent Representative to the United Nations (UN) for Russia) transmitted a letter from the Russian Minister of Foreign Affairs, Igor Sergeyevich Ivanov, to the UN Secretary-General (United Nations General Assembly, 1998). In this letter, Ivanov argued that the UN's agenda item 63 on *the role of science and technology in the context of international security, disarmament and other related fields* was evolving in its significance. This, he emphasized, was because of rapid advancements in the development and application of information and communication technologies (ICTs). In recognizing the immense potential of ICTs, Ivanov cautioned that a new frontier of international confrontation could not be permitted to develop. Specifically, he warned of the creation of information weapons, and the threat of information wars, where countries would target their counterpart's information systems and resources. He even went as far as asserting that the destructive effect of an information weapon could be comparable to those of weapons of mass destruction. Acknowledging these concerns, Ivanov reasoned that the time had come for the UN to discuss the question of international information security. In doing so, a draft resolution was attached to his letter, which, after further development and acceptance by the UN First Committee, was adopted by the General Assembly as Resolution 53/70 (United Nations General Assembly, 1999a). This resolution established

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annual consideration of the topic of ICTs in international security within the UN First Committee and General Assembly.[1]

In putting this topic forward for discussion at the UN, Russia was particularly concerned about American capabilities (Tikk & Kerttunen, 2018, p. 1). At the beginning of the 1990s, the competitive advantage offered by advanced technologies had become clear (Tiirmaa-Klaar, 2021, p. 17). The United States (US) had acquired superior ICT capabilities in its military, and through its advanced ICT infrastructure and industry, controlled much of the international communications system (Tikk & Kerttunen, 2018, p. 1). As such, in tabling this topic at the UN, Russia aimed to curb American ICT capabilities as well as protect its own national information ecosystem (Ibid.).

With Russia initiating consideration of ICTs on the UN agenda with a particular view to deter the US, these two countries have been central to the development of these discussions. Bringing distinct views of the issues at hand to the table, Russia has, on the one hand, been concerned with threats posed by both ICT infrastructure as well as the information that it transmits (Tikk-Ringas, 2012, p. 4). Critically, Russia has feared the consequence of its population having unlimited access to information as well as the potential of foreign interference in its domestic affairs (Broeders et al., 2021, p. 2438). Thus, central to Russia's concerns has been protecting State stability and sovereignty (see, for example, United Nations General Assembly, 2000a, 2001). On the other hand, the US has understood the issue as being concerned with securing national and global ICT systems, networks and infrastructure, while at the same time ensuring the free flow of information as well as freedom of expression (United Nations General Assembly, 1999b, p. 12; 2004a, p. 3; 2011a, pp. 19–20).

Initially, UN Member States gave the topic broad consideration in the First Committee and General Assembly. In response to the first two resolutions agreed on the topic, existing and potential threats relating to information security were considered, as was the need to develop international principles to enhance global ICT security (United Nations General Assembly, 1999a, 1999c). Through the third resolution, the scope of consideration was extended to measures that could limit emerging threats (United Nations General Assembly, 2000b). The fourth resolution on the topic marked a significant milestone, as it established a Group of

[1] There are six UN Committees, each of which addresses a specific thematic area. The UN First Committee deals with issues of disarmament and international security.

Governmental Experts (GGE) to give the topic more in-depth consideration (United Nations General Assembly, 2003).

A GGE is a diplomatic mechanism endorsed by the General Assembly, used to advance discussions on a particular topic in a more concentrated format, with the aim of prompting frank discussion in a closed-door, off-the-record setting (UN Web TV, 2019a; J. Weaver, personal communication, November 8, 2021). Negotiating through a GGE process is not unique to the discussions on ICTs in international security. UN Member States have addressed a range of other First Committee issues via such a negotiation format. For instance, GGEs have been hosted on the topic of disarmament and development as well as on the UN Register of Conventional Arms (United Nations General Assembly, 2002, 2016a).

What would become the first GGE on ICTs in international security undertook its work from 2004 to 2005, and subsequently, this diplomatic format became the main avenue for advancing consideration of the topic. As resolutions continued to be agreed in the First Committee and General Assembly on an annual basis, a further five GGEs were established. These additional GGEs took place from 2009 to 2010, 2012 to 2013, 2014 to 2015, 2016 to 2017 and 2019 to 2021, respectively. While the GGE format is regarded as a common mechanism (Tiirmaa-Klaar, 2021, p. 17; see UNODA, n.d.-a for examples), documentation defining the general concept of a GGE, its rules of procedure, best practices and working methods are sparse. When considering the cyber GGEs, these groups are no exception, though some details do come to light upon further investigation.

Membership in each group has been limited to a select number of UN Member States, but has gradually increased throughout the years, with 15 countries participating in the first three GGEs, 20 in the fourth and 25 in the fifth and sixth (United Nations General Assembly, 2005, 2010, 2013, 2015a, 2017a, 2021a). While the Permanent Five (P5) of the UN Security Council (the US, United Kingdom, Russia, China and France) have had membership in all groups, the rest of the available spots have been assigned by UN regional grouping (Lewis & Vignard, 2016, p. 4). While the UN Office for Disarmament Affairs (UNODA) outlines a five-step indicative process for establishing a GGE (UNODA, n.d.-b),[2] how

[2] These five steps include: (1) UNODA publicly soliciting expressions of interest from Member States in GGE membership; (2) UNODA offering the Secretary General a suggested GGE membership composition; (3) UNODA inviting chosen Member States to nominate experts; (4) chosen Member States informing UNODA of their nominated experts; and (5) the organization of travel arrangements for nominated experts (UNODA, n.d.-b).

exactly these remaining countries have been selected, and based on what criteria, has not been transparently communicated. However, considering the resolutions that have mandated the six cyber GGEs, they have all stipulated that membership should be based upon equitable geographic distribution (United Nations General Assembly, 2003, 2006, 2011b, 2014, 2015b, 2019a). Several other factors have also been identified as being considered in determining membership. These have included: the priorities of the Secretariat; political balance; gender balance among experts; diversity in expertise; participation in previous GGEs; participation in current GGEs examining other issues; Member States having experts with a proven track record in international discussions on the topic; as well as Member States having a history of engagement or demonstrated interest in the topic, including being actively engaged in its debate at the UN, for example, through the submission of Member State Assessments in response to the respective resolutions (Anonymous Interviewee, personal communication, November 29, 2021; J. Weaver, personal communication, November 8, 2021).

Proposing the respective groups' membership has been the responsibility of the Office of the High Representative for Disarmament Affairs, with the final decision being made by the UN Secretary-General (Lewis & Vignard, 2016, p. 4). In the process of establishing these groups, States could send in official requests or lobby the Secretariat for membership (Lewis & Vignard, 2016, p. 4). Once countries had been selected, they were asked to nominate an expert for participation (Ibid.). Across the six GGEs, most of these experts have come from the diplomatic corps (68%); some have had a military affiliation (7%); some have been sent from elsewhere in government (22%); and very few have been sourced from non-governmental entities (3%) (United Nations General Assembly, 2005, 2010, 2013, 2015a, 2017a, 2021a). Upon forming a GGE, a Chair has then been selected from among the group to guide its work (Lewis & Vignard, 2016, p. 5). For the six cyber GGEs, experts from Australia, Germany, Brazil and Russia have held the chairmanship—with the latter two holding it twice (United Nations General Assembly, 2005, 2010, 2013, 2015a, 2017a, 2021a).

In terms of undertaking the GGEs, the first and third groups were held over three sessions, whereas the rest took place over four (Ibid.). The first, fourth, fifth and sixth GGEs comprised twenty working days, the second

eighteen, and the third, fifteen (Ibid.). In total, the UN has hosted twenty-two substantive sessions spanning the six GGEs, out of which eleven were held at its Headquarters in New York, eight at its office in Geneva, and two virtually, due to restrictions associated with the Covid-19 pandemic. While all the cyber GGEs have been closed-door processes, the sixth GGE stands out in that a series of regional consultations were held with relevant organizations in advance of its formal sessions, as was stipulated per its mandate (United Nations General Assembly, 2019a, p. 3).

Regarding the output of the GGEs, they have each been tasked to produce a report for the UN General Assembly (United Nations General Assembly, 2005, 2010, 2013, 2015a, 2017a, 2021a). Out of the six GGEs held, four managed to negotiate consensus reports containing substantive agreement (Ibid., 2011a, 2013, 2015a, 2021a), with the remaining two providing reports offering an introduction and an overview of the groups' membership and organization (Ibid., 2005, 2017a).

Throughout the course of these negotiations, the discussions have focused on several themes, including existing and emerging threats; norms, rules and principles for responsible State behaviour; international law; confidence and capacity-building measures; as well as regular institutional dialogue. While the first GGE was unable to agree on a consensus report, the following three processes each succeeded in producing one, advancing international agreement in the area. The report of the second GGE was important in that it moved the ICT discussions forward from broad general awareness towards more practical approaches, for instance, encouraging capacity and confidence-building measures (United Nations General Assembly, 2005). The consensus report of the third GGE was groundbreaking in that it acknowledged the applicability of international law to cyberspace, including the UN Charter (United Nations General Assembly, 2013). The consensus report of the fourth GGE, moreover, proved significant in that it established 11 non-binding principles of responsible State behaviour in cyberspace (see, Ibid., 2015a).

The success of these three GGEs was, however, interrupted, as competing world views, and a deterioration in relations among major powers, contributed to the inability of the fifth GGE to reach a consensus outcome (Stauffacher, 2019, pp. 8–9). Several areas were disputed, including how international law would apply to the use of ICTs by States (Sukumar, 2017), where specific issue was, for example, raised with the applicability of international humanitarian law and the right to self-defence (Henriksen, 2019, p. 3).

Russia attributed this lack of outcome to western monopolization of the group and its need to withstand it (Kurowska, 2020, pp. 94–95). Indeed, as a consequence, Russia felt the GGE format no longer proved beneficial to its interests (Ibid., p. 95), which it itself had established and advanced through five iterations. Thus, with its resolution of December 2018, Russia changed direction and proposed a new format to continue the discussions (United Nations General Assembly, 2018). Specifically, through this resolution, Russia suggested that the cyber negotiations should be taken forward via the format of an Open-Ended Working Group (OEWG) to make the process more transparent, inclusive and democratic in nature (Ibid., p. 5), moving away from the more limited and closed GGE approach.

This proposed format change was not, however, universally welcomed, with 46 UN Member States voting against the resolution establishing the OEWG (United Nations General Assembly, 2019b, p. 4), and several critiques being raised against the proposal. For instance, Australia, Canada, the Netherlands, Norway and the United Kingdom were of the opinion that the resolution distorted the meaning of excerpts from previous GGE reports and in doing so, undermined their consensus status (Government of Canada, 2018, p. 1). These countries felt that progressing work under this resolution would compromise existing achievements. Indeed, in stark opposition, the US submitted its own resolution, proposing the establishment of a sixth GGE (United Nations General Assembly, 2019a). Unexpectedly, both resolutions were adopted by the UN General Assembly, and as a result, the cyber discussions continued via two negotiation tracks in the period 2019 to 2021 (CCDCOE, n.d.).

Unlike the select and limited membership of the GGEs, the OEWG welcomed the participation of all Member States and organizations holding consultative status with the UN's Economic and Social Council (ECOSOC) in its Substantive Sessions, as well as informal contributions of unaccredited ECOSOC non-State actors (NSAs).[3] This signalled a significant shift in how the issue of ICTs in international security would, at

[3] Having consultative status with ECOSOC affords an organization a range of opportunities to participate in UN business. These include permission to enter UN premises; attendance at international conferences and events and the opportunity to make written and oral statements to them; the ability to contribute to advancing UN goals and objectives; the possibility to organize side events, raise public awareness, network and lobby; as well as the opportunity to provide expert analysis, essential information, offer early intel and help implement and monitor international agreements (United Nations, 2018, p. 17).

least in part, be approached on the world stage. Like its GGE counterparts, the OEWG was held over multiple substantive sessions (three specifically), all of which were hosted in New York. In addition, an intersessional consultative meeting with interested stakeholders was held in conjunction with these discussions. While (what would be the first) OEWG and the sixth GGE originated from a divergence in views, they ended up being complementary, with both processes succeeding in producing consensus reports (United Nations General Assembly, 2021a, 2021b). Significantly, the sixth GGE report elaborated the 11 previously established non-binding principles of responsible State behaviour in cyberspace (Ibid., 2021a), and the OEWG provided additional recommendations for each of the thematic areas under negotiation (Ibid., 2021b).

Since the completion of the sixth GGE and the OEWG in 2021, only the latter was renewed, with its second iteration being undertaken from 2021 to 2025. The second OEWG has been far more extensive than its predecessor, spanning 11 substantive sessions, with three intersessional meetings as well as a dedicated roundtable on the topic of capacity building hosted in New York. Along the way, the second OEWG has produced three Annual Progress Reports (APRs) in 2022, 2023 and 2024, respectively (Ibid., 2022, 2023a, 2024). The APRs have acted as interim consensus reports on the road towards the final consensus report, which was agreed in 2025 (UN Web TV, 2025a). Significantly, the final consensus report of the second OEWG laid the foundation for the transition away from using temporary negotiation formats (as had so far characterized the discussions) to establishing a permanent global mechanism. As outlined by the final report, this mechanism (yet to be established at the time of writing) is to be single-track, and its substantive plenary sessions will be organized in accordance with the five pillars of the framework for responsible State behaviour.[4] Moreover, the mechanism will have two thematic groups—one with a more general focus and the other specifically orientated towards accelerating capacity building—and be advanced through periodic review conferences (United Nations General Assembly, 2025). Figure 2.1 provides an overview of the negotiations as they developed from 1998 to 2025.

[4] The five pillars of the framework are (1) existing and potential threats; (2) rules, norms and principles of responsible State behaviour; (3) international law; (4) confidence-building measures; and (5) capacity-building.

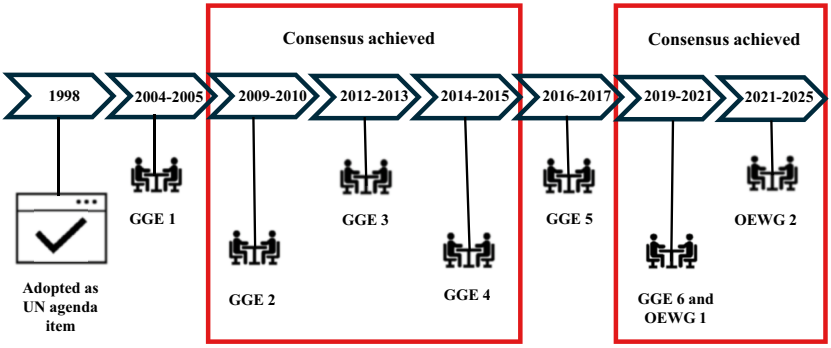

Fig. 2.1 Timeline of the UN First Committee Cyber Negotiations

Actors Involved in the Negotiations and Their Roles

UN Member States have been the key actors within these discussions, as they have negotiated any final agreements reached. They have participated directly through the UN First Committee and General Assembly (where resolutions have been agreed to keep the issue on the UN's agenda), as well as in the OEWG via official State delegations. Member States have also participated indirectly in the GGEs, by appointing designated experts. Although States have been formally selected for membership within the GGEs, their appointed experts have been seconded to the processes, where they have been expected to participate in their independent personal capacity (J. Weaver, personal communication, November 8, 2021; Anonymous Interviewee, personal communication, November 29, 2021). Despite this official intention, the GGEs did however, increasingly function as proxies for State negotiations (Lewis, 2017).

Leading Member State delegations in the OEWG, and their designated experts in the GGE processes, has been a chairperson. While the working methodology of respective Chairs has been dependent upon their personal style, their role has been to manage, support, facilitate and ultimately consolidate the discussions into a consensual outcome document (Lauber, 2019, 2020a, 2020b; Interviewee, personal communication, July 20, 2021; Anonymous Interviewee, personal communication, October 1, 2021; M. Kerttunen, personal communication, October 8, 2021). The

professionals selected as Chair, have all been highly skilled diplomats, with strong backgrounds in multilateral diplomacy (J. A. Lewis, personal communication, October 12, 2021). In carrying out their work, the Chairs have had varying degrees of direct support from their sending countries. For instance, the Chair of the fourth GGE, had her own team of at least four colleagues assisting her (Anonymous Interviewee, personal communication, October 1, 2021). The Chair of the first OEWG also had support from at least two colleagues from his home government (Lauber, 2020b, 2020c). The Chair of the sixth GGE, however, did not have a team working with him directly on the GGE process (Anonymous Interviewee, personal communication, July 20, 2021).

Aside from any assistance provided by their home governments, the work of the respective Chairs has also been aided by the support team assigned to the negotiation process, which has been comprised of professionals from UNODA and the UN Institute for Disarmament Research (UNIDIR). Sitting under the UN First Committee dealing with disarmament and international security, UNODA has served as Secretariat to the GGE processes throughout the years. In turn, UNODA, has hired UNIDIR as a consultant, which, due to limited capacity, has subsequently hired external professionals to support its team (Anonymous Interviewee, personal communication, July 20, 2021). With the establishment of the first OEWG in parallel to the sixth GGE, the same UNODA/UNIDIR support team assisted both processes (Ibid.). In supporting the Chair, the work of the UNODA/UNIDIR team has been administrative, substantive, as well as involving synthesis.

The administrative function of this team has, for example, been highlighted by its members being responsible for collecting, distributing and making related material available (Lauber, 2019; UN Web TV, 2019b). Substantively, these professionals have assisted the negotiations by, for instance, providing subject matter expertise at the request of the Chair and taking part in intersessional work (United Nations, n.d.; UNODA, 2019; J. A. Lewis, personal communication, October 12, 2021). Furthermore, it has been the support team that has held the pen and synthesized contributions made by negotiation participants into the respective outcome documents, modelling, refining and revising them into consensus language, and in the case of the sixth GGE and OEWG reports, ensuring consistency and harmony between the two processes (Anonymous Interviewee, personal communication, July 20, 2021; J. A. Lewis, personal communication, October 12, 2021).

Another actor that has been involved with the negotiations is the advisors of the GGE experts (known within the community as the experts-behind-the-experts). These advisors have provided subject matter expertise as well as supported the preparation and participation of GGE experts (D. Broeders, personal communication, November 29, 2021; M. Kerttunen, personal communication, October 8, 2021). For example, advisors were found to coordinate with their home governments to get substantive input, understand domestic views, priorities and red lines within the negotiations, as well as what was acceptable and unacceptable to say or agree with in the discussions (Anonymous Interviewee, personal communication, November 29, 2021; D. Broeders, personal communication, November 29, 2021). Collating this type of information, advisors could then support their expert in developing their negotiation positions (M. Kerttunen, personal communication, October 8, 2021). Advisors were also found to contribute by, for example, providing analysis; offering support during coordination meetings with other GGE delegations; drafting a range of items such as lines for the GGE expert to deliver verbally in the negotiations, as well as position papers and text proposals for the outcome document (Ibid.; D. Broeders, personal communication, November 29, 2021). Advisors have furthermore informally interacted with their counterparts to, for instance, better understand the position of other delegations; establish joint positions between them; discuss the meaning of concepts; as well as work to determine acceptable language and text formulations for the respective outcome documents. On occasion, advisors not only provided subject matter expertise to their own expert but also to others in the negotiations (M. Kerttunen, personal communication, October 8, 2021). With the establishment of the OEWG format, Member State delegations continued to have advisors with similar functions.

Finally, with specific regards to the OEWG, as noted earlier, this negotiation format was unique, in that it presented the first instance in the history of the discussions, where NSAs were (to a certain extent) invited into the negotiations. NSAs have supported Member State delegations in their OEWG participation (A. Calderaro, personal communication, October 10, 2021), offered interventions during informal stakeholder sessions (see, for example, UN Web TV, 2025b), as well as been involved with and hosted a wide range of events related to the issues under negotiation (discussed in greater detail in Chap. 3). NSA representatives involved with the

OEWG have, for instance, come from academia, the private sector and non-governmental organizations (NGOs).[5]

The Knowledge Base of the Negotiations

The various actors involved with the cyber negotiations have operated relative to its knowledge base. Although, the knowledge base lies at the heart of any KM system, whose associated practices serve to maintain its continued relevance and use, the pertinent literature lacks an authoritative definition. Thus, drawing upon various sources in the KM scholarship (Gamble & Blackwell, 2001; Gartner et al., 2002; Nonaka & Takeuchi, 1995; Grant, 1996; Morris & Empson 1998; Davenport & Prusak, 2000), the knowledge base in the context of this study is defined as the body of knowledge at the foundation of the multilateral negotiation process, upon which work is conducted and decisions are based. Understanding the composition of the knowledge base is important, as it reveals the type and diversity of knowledge assets drawn upon to advance the process towards international agreement. As such, this examination offers direction for identifying any practices that may have been employed to manage these assets.

When considering the knowledge base of these negotiations, it is found to have an institutional as well as active dimension. The active dimension consists of the inputs contributed to the GGE and OEWG processes for consideration towards establishing international agreement on the topic. This input has not been subjected to consensus and is temporal in nature, as it serves a particular negotiation cycle. Moreover, it has both a tacit and an explicit dimension, being captured through documents as well as sitting in the minds of the involved professionals. This quantification deals only with the explicit inputs, as distilling tacit elements would not have been possible. However, acknowledging the tacit dimension of the knowledge base is important as it has implications for KM in this process.

The institutional dimension, in contrast, encompasses the input that has been sanctioned by UN Member States through either consensus or a majority vote and is embodied by the General Assembly resolutions on the topic, the final consensus reports of the GGEs and OEWGs, as well as the

[5] The Oxford Institute for Ethics Law and Armed Conflict, Microsoft, Kaspersky and DiploFoundation are all examples of NSAs who have had representatives participate in the OEWG.

APRs of the second OEWG. This input is explicit, timeless and has been built upon, as the cyber discussions have advanced throughout the years.

The Active Dimension of the Knowledge Base

As the GGE processes of the cyber negotiations have been closed-door, off-the-record processes, a comprehensive overview of inputs contributed to them could not be established. Several points of reference are, however, mentioned in the six respective concluding reports and are outlined in Table 2.1.

With the OEWGs being public, a much greater level of transparency has been offered regarding the explicit inputs contributed to these processes. These inputs have been compiled to best abilities using UNODA's *Meeting Place* database and are listed in Table 2.2. This table should not be taken as a comprehensive overview of all OEWG inputs, but rather as a broad indication of their nature. For instance, comments contributed to the second OEWG on report drafts were not included on *Meetings Place* (at least at the time of writing). As such it may be that other documents have been omitted as well. Further, on some occasions, substantive documents were compiled with organizational documents and have thus not been categorized individually. The documents listed, however, give insight into the kind of material that has formed the basis of the discussions at a minimum, as well as driven them forward.

When considering the inputs contributed to both the GGE as well as the OEWG processes, some have been organizational or administrative in nature. These include for instance, letters from the Chair, notes verbales, draft and provisional programmes of work and agendas, aide memoirs, calendars of side events and lists of non-governmental entities and participants. These documents capture the logistical and practical arrangements of the negotiations as well as keep track of their progress, acting as procedural points of reference for participants as they move towards (potential) international agreement.

In the GGEs, resolutions originating from other UN processes have also been taken into consideration. Resolutions express the will or indeed the opinion of the UN (Dag Hammarskjold Library, 2022), highlighting that broader sentiment within the institution relating to the cyber discussions, has also been drawn upon in these processes.

A variety of input has also been contributed to the discussions, which together have formed the substantive base. This includes all the input

Table 2.1 Identifiable inputs contributed to the GGE processes

Document Type	*GGE 1*	*GGE 2*	*GGE 3*	*GGE 4*	*GGE 5*	*GGE 6*
Member State Assessments	7 referenced	4 referenced	3 referenced	Not noted	Not noted	Not noted
Resolutions	Not noted	Not noted	5 referenced	7 referenced	Not noted	9 referenced
GGE Expert Contributions / Background Papers	Unspecified amount	Unspecified amount	Not noted	Not noted	Unspecified amount	Not noted
GGE Reports	0 referenced	0 referenced	1 referenced	2 referenced	Unspecified amount	3 referenced
Proposal for International Code of Conduct	0 referenced	0 referenced	1 referenced	1 referenced	Not noted	1 referenced
Consultations with Regional Organizations / Member States	Not hosted	Not hosted	Not hosted	Not hosted	Not hosted	Hosted

Adapted from United Nations General Assembly (2005, 2010, 2013, 2015a, 2017a, 2021a)

Table 2.2 Types of inputs in the OEWGs

Document Type	*OEWG 1*	*OEWG 2*	*Total Overall*
Papers	72	130	202
Presentations	15	69	84
Report Drafts	8	11	19
Draft Comments	96	Not provided	96
Organizational/ Administrative Documents	43	132	175
Total	234	342	576

(save resolutions) contributed to the GGE processes as well as those categorized as papers and presentations for the OEWG. Examples of this input include, for instance, background papers provided by the Secretariat, summaries from the Chair, non-papers, working papers, reports, (commissioned) research papers, concept papers, executive summaries, risk assessments, Member State assessments, compilations of best practice, recommendations, proposals and implementation guidance.

Scene-setting presentations have also been delivered to both the first and second OEWG by a range of actors, including members of the UNIDIR support team, current and former GGE experts, and professionals representing NSAs. To give an example of the type of content offered by these presentations, during the first substantive session of the first OEWG, interventions were provided on the history of the norms, capacity- and confidence-building measures developed in the GGE processes. An overview of the international landscape of the initiatives already taken in the area and how the OEWG could contribute to this work was also delivered (UN Web TV, 2019c). Moreover, scene-setting presentations were also provided to informal events hosted in association with the negotiations (such as, for instance, the Informal Intersessional Consultative Meeting of the first OEWG), offering various types of expertise, information and views on the matters under formal discussion. This included, for instance technical and practical knowledge, evaluations of current challenges, threats and opportunities related to ICTs. Input was also offered on a broader range of themes, including, cyber terrorism, the impact of cyber operations, the application of international humanitarian law, multi-stakeholder engagement, ongoing international initiatives such as the Paris Call and the Cybersecurity Tech Accord, as well as overviews of various company activities (such as those of Hitachi Ltd) (UN Web TV 2019d, 2019e, 2019f, 2019g, 2019h, 2019i).

Considering these various inputs, it is clear that the active dimension of the knowledge base has been comprised of both procedural and substantive elements. With the latter being a mix of factual information, combined heavily with the political considerations, views, interpretations, positions and preferences of the involved actors. Indeed, together these inputs have fostered a political conversation rather than a technical or scientific one, as might have been expected, given the topic under discussion. Instead, these negotiations have comprised an international relations order process, whose discussion, framing and mandate have been about the development and use of ICT technology with the interest of international peace and security in mind (M. Kerttunen, personal communication, October 8, 2021). While the context of these discussions is a new technology, the subject matter and the fundamental questions regarding it have been State centric and generic in nature, having been posed in other earlier negotiation processes such as those focusing on the open seas, outer space and nuclear weapons (Anonymous Interviewee, personal communication, October 1, 2021). Specifically, the UN First Committee cyber negotiations concern the behaviour of States in the realm of cyberspace, where questions of what States can and cannot do, as well as will and will not allow for themselves and for others, have been at the centre of the discussions (D. Broeders, personal communication, November 29, 2021). Thus, negotiators have approached the discussions from their relationship to the international community and other States, weighing the costs and benefits of agreement (J. A. Lewis, personal communication, October 12, 2021). Decisions within the negotiations have (at least for major countries) been made in the context of larger strategic and foreign policy concerns, given that the issues addressed relate to national security and economic growth, crucial to the performance and survival of States (Ibid.). Ultimately, the negotiations have been concerned with what States can agree on at a politically binding level (B. Daley Whitworth, September 17, 2021), constituting a weighting of political interests and values (B. Hogeveen, personal communication, October 20, 2021).

As the negotiations have focused mostly on addressing broad issue areas, involving macro decisions at the State policy level, there has been no need to concentrate on the technical side (Anonymous Interviewee, personal communication, July 5, 2020). Indeed, the negotiations have not focused on the ICT technology itself, its technical setup, nor its implementation (D. Broeders, personal communication, November 29, 2021; M. Kerttunen, personal communication, October 8, 2021; B. Daley

Whitworth, September 17, 2021). As such, understanding the technical level has not been critical (Anonymous Interviewee, personal communication, August 28, 2021), and technical input has therefore not carried significant weight in these discussions (M. Kerttunen, personal communication, October 8, 2021) as they have not been technically driven (Anonymous Interviewee, personal communication, November 29, 2021). The need for scientific and technological knowledge in the negotiations has thus often been less than is assumed (Lewis, 2017). In fact, it has been argued that scientific and technological knowledge has never been needed (Anonymous Interviewee, October 1, 2021; M. Kerttunen, personal communication, October 8, 2021) and would, in fact, not change much in the process (Anonymous Interviewee, personal communication, October 1, 2021). Indeed, it has even been considered disadvantageous to have a technical expert as head negotiator (J. A. Lewis, personal communication, October 12, 2021; J. Weaver, personal communication, November 8, 2021).

So far, a basic understanding of the technical side has been deemed sufficient for participation within the negotiations given their broad and high-level focus (Anonymous Interviewee, personal communication, July 13, 2021; Anonymous Interviewee, personal communication, July 5, 2021). While the level of scientific and technical input to the negotiations has been minimal, it has however, been important that the agreements reached have been technically sound. For these meetings to be effective, diplomats have needed to have some understanding of the technical basis (C. Painter, personal communication, August 27, 2021). They have also needed to ensure that what they have said in the negotiations has made technical sense, has been technically feasible, as well as accurate (Daley Whitworth, 2021; B. Hogeveen, October 20, 2021; C. Painter, personal communication, August 27, 2021). Moreover, what has been agreed should also be technically implementable and should not jeopardize the technical functioning of the internet, related technologies, nor of cybersecurity practices (Hogeveen, 2021). As such, part of reaching consensus in the discussions has involved understanding what the technical limitations are (C. Painter, personal communication, August 27, 2021). While some command of cyberspace as a technical domain has therefore been required, the substantive element of the active dimension of the knowledge base has been heavily comprised of political contributions.

The Institutional Dimension of the Knowledge Base

While the input contributed to the GGEs and OEWG has constituted the active dimension of the knowledge base of the negotiations, it is their resulting consensus reports, as well as the resolutions on the topic adopted in the General Assembly, which have embodied the institutional dimension. Table 2.3 outlines the explicit inputs that embody this institutional dimension.

It was through the initial and subsequent annual adoption of resolutions that the topic of ICTs in international security has been retained on the UN's agenda and received continued consideration within the UN First Committee and General Assembly, as well as through which the respective GGEs and OEWGs have been prompted. These resolutions form the backbone of the institutional dimension of the knowledge base, and they do this through constant citation and re-citation of particular material. Each respective resolution not only creates the institutional dimension of the knowledge base, but they also become part of it themselves, as each successive resolution references its predecessors.

Throughout the years, the resolutions have cited a range of material produced through the cyber negotiations themselves, and in doing so, have added it to the institutional dimension of the knowledge base. These points of reference include the consensus reports of the second, third, fourth and sixth GGEs, as well as that of the first OEWG; the APRs of the second OEWG and associated compendiums of statements explaining positions; the Secretary-General's reports on the first GGE and on the views and assessments of Member States (of which 30, including their Addendums, have been referenced); the results of the 1999 and 2008 private discussion meetings hosted by UNIDIR; as well as three General Assembly decisions, including decision 72/512 of the 4th of December 2017, decision 75/564 of the 28th of April 2021 and decision 78/541 of the 22nd of December 2023.

The consensus reports of the GGEs and OEWG, as well as the OEWG APRs, are expressions of the converging views of Member States on the

Table 2.3 Documents embodied by the institutional dimension of the knowledge base

Document Type	*Number*
Resolutions adopted	29
Final Consensus Reports	6
OEWG Annual Progress Reports	3

substantive elements of the negotiations, their shared level of ambition, and ultimately, what they have been able to agree politically (United Nations General Assembly, 2005, 2010, 2013, 2015a, 2017a, 2021a, 2021b, 2022, 2023a, 2024 2025). While these documents are captured by the resolutions, they themselves constitute part of the institutional knowledge base in that they are considered cumulative in nature (Anonymous Interviewee, personal communication, October 1, 2021) and have come to form the 'acquis' of the negotiations—the mutually agreed basis and point of departure for future negotiations (Tiirmaa-Klaar, 2021, p. 7).[6]

The compendium of statements, as well as the assessments of Member States, have expressed the individual views of countries (United Nations General Assembly, 2021d; see, for example, Ibid., 2008). The assessments of Member States compiled by the Secretary-General have been direct points of reference in the resolutions from 1999 up until 2016. Although these assessments (in the form of the Secretary-General's reports) ceased to be referenced as part of the knowledge base, five resolutions still request them after 2016 (United Nations General Assembly, 2018, 2019a, 2019c, 2021c, 2023b). Moreover, the Secretary-General's report on the first GGE included only organizational details and did not add substantive content to the knowledge base, as the group was unable to achieve consensus (Ibid., 2005).

Furthermore, the results of two private meetings held by UNIDIR on ICTs in international security in 1999 and 2008 were directly referenced from the respective years they were hosted, up until 2014. Whilst no documentation could be found for the 2008 meeting, the 1999 gathering aimed to both initiate discussion as well as raise awareness among UN Member States (DDA & UNIDIR, 1999, p. 1). Overall, this document represents a summary of the discussions held amongst the involved professionals. Moreover, three decisions (as noted above) have been captured by resolutions. Decisions generally concern procedural matters or they record the adoption of consensus text (United Nations Dag Hammarskjöld Library, n.d.). In these cases, the respective decisions kept the topic on the UN's agenda in 2017, endorsed the first OEWG consensus report, as well as the establishment of the second OEWG (United Nations General Assembly, 2017b, 2021e, 2023c).

[6] Acquis is a term adopted from the context of the European Union, which indicates that a legal basis has been commonly agreed (Tiirmaa-Klaar, 2021, p. 7).

In addition to this material, a range of inputs developed independently of the cyber negotiations has also been cited within the cyber resolutions. One of which was the results of the 1996 Ministerial Conference on Terrorism (G7/P8, 1996). This meeting produced a body of practical measures recommending actions for States to adopt internal measures and strengthen international cooperation to fight and prevent terrorism (Ibid.). Within these measures, a couple of references were made to ICTs with respect to terrorism. Reference to this body of practical measures was directly made in the negotiation's knowledge base from 1998 up until 2014.

In addition to these recommendations, several documents representing the broader international vision for the development of the global information society have been directly referenced within the resolutions for various periods of time (see European Commission, 1996; WSIS, 2003a, 2003b, 2005a, 2005b; and United Nations General Assembly, 2016b). These include the approaches and principles outlined at the 1996 Information and Development Society Conference, which were directly referenced from 1998 to 2014 (European Commission, 1996). It also includes four documents resulting from the World Summit on the Information Society, which was held in two phases, in Geneva in 2003, and in Tunis in 2005. Two documents resulting from the 2003 meeting were cited from 2005 to 2016. These include the *Declaration of Principles, Building the Information Society: A Global Challenge in the New Millennium* and the *Plan of Action* (WSIS, 2003a, 2003b). Two further documents from the second 2005 meeting were mentioned from 2006 to 2016, including the *Tunis Commitment* and the *Tunis Agenda for the Information Society* (WSIS, 2005a, 2005b). In 2016, the General Assembly adopted resolution 70/125—*outcome document of the high-level meeting of the General Assembly on the overall review of the implementation of the outcomes of the World Summit on the Information Society*—which provided an overview of how the outcomes of the World Summit had been implemented (United Nations General Assembly, 2016a). This resolution was only explicitly referenced in 2016. Together, these inputs outline commitments, objectives, goals, targets, action lines, recommendations, means of implementation, evaluation, as well as assessments in bringing this vision to fruition. Broadly speaking, these documents represent long-term social, economic, political, developmental, technological and security aspirations.

A range of resolutions, adopted on other topics within the UN, have also been referenced in the ICT resolutions. These include two resolutions

on *the promotion, protection and enjoyment of human rights on the internet*; two on *the right to privacy in the digital age*; and one on the *creation of a global culture of cybersecurity and the protection of critical information and infrastructure* (United Nations General Assembly, 2004b, 2012, 2014b, 2014c, 2015c). All five of which were cited in 2018. Another resolution encompassing a *declaration on the inadmissibility of intervention and interference in the internal affairs of States* was referenced in the knowledge base from 2018 up to 2021 (Ibid., 1981). Finally, section H, providing *guidelines for confidence-building measures* in resolution 43/78, giving a *review of the implementation of the recommendations and decisions adopted by the General Assembly at its tenth special session*, has been cited since 2018 (United Nations General Assembly, 1988).

Considering these inputs, while they have encapsulated organizational and administrative elements, they have been predominantly political in nature. The documents characterized as political have captured formal expressions of the opinion or will of UN organs, the views and assessments of States, shared levels of ambition, established international agreement, as well as overviews of discussions. Furthermore, this material has embodied a broader international vision for the development of the global information society, and has, for example, communicated a range of approaches, principles, commitments, objectives, targets and recommendations for bringing this vision to fruition. Thus, the substantive content of the contributions forming the institutional dimension of the knowledge base embodied in UN resolutions is a State construct and forms a canon of broad political understanding, ambition and agreement.

Considering this material, there has been a high level of continual reference. Given the predominant political nature of this content, reflecting longer-term ambitions as well as constituting established agreement reached amongst States, this is not surprising, as it is designed to have lasting relevance. Moreover, save one input (Resolution 43/78 H), the points of reference developed independently of the cyber negotiations have gradually been phased out of direct referencing in the cyber resolutions. This is perhaps unsurprising with the substantive maturation of consideration of the topic that has occurred through the OEWG and GGE processes and their resulting consensus reports. However, while these inputs are no longer being directly referenced, the fact that the resolutions in which they were, have been further referenced, means that they are still encapsulated in the institutional dimension of the knowledge base.

Having taken stock of the knowledge base of the UN First Committee cyber negotiations—in both its active and institutional dimensions—as well as provided the reader with an overview of this process and the actors involved with it, the next five chapters go on to sequentially apply each stage of the KM model employed as this study's theoretical framework.

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CHAPTER 3

Developing a Diplomatic Baseline

Having introduced the UN First Committee cyber negotiations and examined the knowledge base at their core in Chap. 2, this chapter initiates the application of the book's theoretical framework. It does so by operationalizing stage one of the applied Knowledge Management (KM) model to identify and characterize activities relating to the negotiations that can be conceptualized as acts of Knowledge Building.

Fundamentally, Knowledge Building involves increasing the amount of relevant knowledge in a specific professional context, in a format that is accessible to the individuals in need of it.[1] It is often an ongoing activity where the associated knowledge environment is consistently and systematically probed to keep a professional entity's knowledge base up to date.[2] As Liu (2020, p. 46) writes in conceptualizing this stage of the KM model, Knowledge Building can be achieved through several means, such as via knowledge creation, acquisition or capture—all of which can be

[1] It is important to note that the process of Knowledge Building can be highly contested and influenced by the politics of knowledge in terms of, for example, determining what 'knowledge' is included in problem framing and used to inform potential solutions; how different forms of knowledge are weighted; and who gets to contribute their knowledge to a decision-making process (for more on the politics of knowledge see, for example, Rubio & Baert, 2013).

[2] As previously discussed in Chap. 2, the knowledge base, in the context of this study, is defined as the body of knowledge at the foundation of the multilateral negotiation process, upon which work is conducted and decisions are based.

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undertaken independently or in combination, and respectively encompass a range of activities.

Knowledge creation involves the development of new knowledge not previously in existence (Liu, 2020, p. 46). Knowledge can be created internally, in the professional setting of the individuals in need of it, as well as through the utilization of external resources. Wiig (1993, p. 184) notes that the creation of knowledge can occur through exploration, innovation or experimentation, or by extending existing knowledge through analytical processes. Through their theory of organizational knowledge creation, Nonaka and Takeucho (1995, p. 57, p. 62, p. 64, p. 67, p. 69) argue that knowledge can be created via the conversion of tacit and explicit knowledge through the spiral process of socialization (sharing experiences and creating tacit knowledge), externalization (articulating tacit knowledge into explicit concepts), combination (systemizing concepts into a knowledge system) and internalization (embodying explicit knowledge into tacit knowledge—see Chap. 1). Dalkir (2005, p. 52) furthermore mentions that knowledge can be created by drawing upon years of experience, intuition and personal insights. In addition, Evans et al. (2014, p. 92) state that knowledge creation can occur through the conduct of process mapping, workflow analysis, prototyping, as well as interviewing. Collaboration in the form of exchanges, discussions, active dialogue and brainstorming, as well as targeted academic or industrial research, too can all contribute to the creation of knowledge (Ibid.; Jennings, 1999, pp. 31–34; Jakubik, 2011, p. 382).

While knowledge creation involves developing new knowledge, the practice of acquiring knowledge (knowledge acquisition) concerns obtaining knowledge already in existence but not in the possession of the professionals in need of it. Knowledge obtained through this activity is not necessarily new in and of itself, but it is new to the individuals who come to possess it (Davenport & Prusak, 2000, p. 54). Knowledge acquisition can occur through formal initiatives such as via trainings or education programmes (Wiig, 1993, p. 203), or via a range of activities characterizing working life. Such activities include, for instance, reading and observing others (Wiig, 1993, p. 203); undertaking reviews, surveys, analyses, research and development initiatives (Huber, 1991, p. 91); or engaging in social interactions, for example, during coffee breaks or while attending

conferences (see, for example, Jennings, 1999). On a larger scale, an organization can also acquire knowledge held by external professionals via recruitment, contracting or the setting up of alliances or partnerships (Massingham, 2020, p. 182). Indeed, a company can acquire another firm, thereby absorbing the knowledge held by its employees and captured in any of its material resources (Davenport & Prusak, 2000, p. 54). Ultimately, knowledge acquisition involves bringing knowledge novel to the individuals in need of it, in from the wider environment beyond their immediate professional setting.

In addition to acquisition, knowledge can also be gained through capture. Liu (2020, p. 46) writes that this involves identifying and harnessing previously unnoticed knowledge. Hegazy and Ghorab (2015, p. 12) support this understanding, highlighting that it concerns retrieval. In a similar vein, Dzekashu and McCollum (2014, p. 54) interpret knowledge capture as an extraction process. Centrally, knowledge capture involves two key processes—internalization and externalization (Pratiwi et al., 2024, p. 66). Internalization is the transformation of explicit knowledge into tacit knowledge—such as when individuals read and internalize what they have read (Ibid.). In contrast, externalization is when tacit knowledge gains an explicit form, for instance when an individual communicates their knowledge through writing or visual representation (Ibid.). Ultimately, through capture, existing (tacit or explicit) knowledge from either the internal or external environment (Liu, 2020, p. 46) is somehow brought to light and embodied in a usable form.

Regardless of the approach taken to Knowledge Building—whether through creation, acquisition or capture—it generally involves active participation, both at the individual and collective level (Nonaka & Takeuchi, 1995). At the collective level, groups of professionals advance and elaborate knowledge artefacts (such as for example, ideas) together (Hemetsberger & Reinhardt, 2006, p. 190). Where ideally, a shared responsibility for successful Knowledge Building (what Bereiter (2003) calls epistemic agency) develops, creating buy-in from the professional community, as it advances towards its objects through the process of building knowledge. Individually, Knowledge Building is active in the sense that the individual must (somehow) take on board information from their environment for it to occur (Kimmerle et al., 2010).

Knowledge Building Within the UN First Committee Cyber Negotiations

As noted in the introductory chapter of this book, an explicit approach, policy or strategy to systematically manage knowledge or input provided to the UN First Committee cyber negotiations has not been articulated. However, in process mapping and illustrating the negotiations and applying stage one of the KM model, several activities come to light that can indeed be conceptualized as Knowledge Building practices. These practices are highlighted in pink in the accompanying process maps and illustrations provided in the Appendix.

Examining these activities, it is revealed that a permanent, formal and dedicated mechanism specifically designed to create or foster the injection of input into the cyber discussions has not been embedded into the architecture of this negotiation process. In other words, a specialist body responsible for providing negotiating diplomats with relevant and up-to-date substantive content for consideration in establishing international agreement has not been created. Given the highly political nature of much of the substantive content forming the knowledge base of these negotiations, this is perhaps unsurprising. Instead, Knowledge Building has been the responsibility of the negotiation participants themselves and has been based on their own initiative and effort.

Considering the activities identified via the process maps and illustrations, Knowledge Building has occurred throughout the lifetime of the negotiations, in both formal and informal spaces associated with the process. In terms of the actual practices, the involved professionals were found to build their knowledge and develop a diplomatic baseline to progress the discussions via a range of interpersonal activities, as well as through their personal consultation of material resources. Moreover, knowledge acquisition and capture have been the primary means through which knowledge has been built in this process.

Knowledge Building via Interpersonal Activities

In preparing for, and participating in the UN First Committee cyber discussions, various interpersonal activities were found to provide a means through which Knowledge Building could occur. As noted earlier, these activities are highlighted in pink in the process maps and illustrations provided in the Appendix, and include a range of interactions. Interactions such as

offering, debating, responding and/or reacting to interventions on the negotiation floor through general exchanges of views and focused discussions of substantive or thematic issues. They also include listening to opening statements, concluding remarks, briefings and expert presentations, as well as participating in Q and A sessions. Moreover, undertaking bilateral and/or multilateral meetings; engaging in informal conversations, (virtual) informal briefings, (town hall) meetings, dialogues, intersessionals and/or consultations (including with stakeholders), have also been means through which negotiation participants have been able to grow their individual as well as collective knowledge. So too was consulting with national governments and participating in other events or international discussions relevant to, or complementing, the negotiations.

When considering these activities, the central practice driving the negotiations forward has been the contribution of interventions on the negotiation floor by delegations during the formal meetings of the GGEs as well as the OEWGs. By participating in general exchanges of views, focused thematic/substantive discussions and readings of negotiation draft texts, delegations have had the opportunity to build their knowledge of the issues under discussion and develop their positions. They have done this by listening to, considering and interacting with the contributions of their counterparts, and in the process, also reflecting upon and even reshaping their own positions (Anonymous Interviewee, personal communication, July 1, 2021). Indeed, the Chair of the second OEWG noted that the interventions offered formed a conversation between States and were an important exercise in helping them better understand their own views and positions (UN Web TV, 2025a). In other words, Member State delegations have been given the opportunity to develop their existing knowledge, acquiring and capturing new knowledge through these activities, which have been the primary as well as official means through which input has been contributed to the negotiations. During the course of the second OEWG, a delegate from Benin highlighted this specifically, stating that he had benefitted from listening and learning from all the points of view put forward (UN Web TV, 2024a).

Other interventions contributed to the negotiation process have also constituted a means through which Knowledge Building could be prompted in the process. For instance, the Chairs of both the first and second OEWGs provided opening and closing remarks to each of the substantive sessions and have also offered participants updates and their personal reflections on the progression of the discussions throughout the negotiations (see, for example, UN Web TV, 2020a, 2020b, 2024b,

2025b). Moreover, as the second OEWG was initiated, the Chairs of the first OEWG and sixth GGE provided participants of the second OEWG with pre-recorded briefings (Ibid., 2021). In addition, having concluded the 2019 Intersessional Consultative meeting, a delegate from Singapore (the country that had chaired that meeting), presented the resulting summary report to participants of the first OEWG (Ibid., 2020a). Other professionals who have contributed their input to the discussions, and from which negotiators have had the opportunity to enhance their knowledge, include the UN High Representative for Disarmament Affairs (see, for instance, Ibid., 2021), as well as representatives from the International Telecommunication Union, the UN Development Programme, the UN Institute for Disarmament Research (UNIDIR) (Ibid., 2024c) and the UN Office for Disarmament Affairs (UNODA) (Ibid., 2023a), as well as the UN Secretary-General, Chef de Cabinet and Singapore's Minister for Communications and Information (Ibid., 2024c).

Scene-setting and expert presentations delivered during OEWG substantive sessions (sometimes being followed by a Q and A session) have also offered negotiation participants the opportunity to enhance their knowledge (see, for example, UN Web TV, 2022). So too did expert presentations given in the GGE context (Anonymous Interviewee, personal communication, August 8, 2021). Moreover, Member States themselves, would on occasion, offer presentations to spotlight initiatives or actions they had taken, which were relevant to the negotiations. For instance, Kuwait offered a presentation on its development of a digital tool that was helping to simplify the implementation of the agreed norms of responsible State behaviour in cyberspace (UN Web TV, 2024a).

Moreover, during the course of the sixth GGE and both OEWGs, Knowledge Building was fostered through structured engagement outside the formal negotiations. For instance, consultations were held in support of the sixth GGE, partly to gain regional perspectives as well as exchange views on the experience of regional organizations and their Member States (UNODA, 2019, pp. 1–2). Here, Knowledge Building was enabled through the presentation of statements by a range of professionals, including (but not necessarily limited to) the first OEWG and GGE Chairs, the UNODA / UNIDIR support team, (then) current and former GGE members, as well as thematic experts (Ibid.).

In connection with the first OEWG, an Informal Intersessional Consultative Meeting (noted above) also catalysed Knowledge Building through interactive discussion between delegations involved in the

negotiations and non-State actors (NSAs) (UNODA, n.d.). Informal virtual meetings were also held between the second and third substantive sessions of the first OEWG, where delegates and NSAs discussed substantive issues. Moreover, for the second OEWG, the Chair created space for informal interactions, through a range of meetings, including virtual informal town hall meetings, briefings, dialogues and consultations. For instance, in July 2022, the Chair held an informal dialogue seeking the ideas and support of interested stakeholders for the second OEWG's work (Gafoor, 2022), and in February 2025, he hosted a virtual informal town hall meeting to hear the views of delegations on a paper he developed in relation to one of the thematic topics under discussion (Gafoor, 2025). The Global Roundtable on ICT Capacity Building (also held in conjunction with the second OEWG) offered an arena away from the formal negotiations, where country representatives and stakeholders were given the opportunity to advance discussions on this particular thematic area and enhance their respective knowledge of it (UNIDIR, 2024).

At the more personal level, Knowledge Building activities in the form of a range of interpersonal activities occurring away from the formal setting of the discussions were also identified. For instance, delegations undertook bilateral and/or multilateral meetings outside the negotiation room—among themselves, with the Chairs, as well as with non-State stakeholders engaging with the process. Such meetings were, for example, used in the context of the GGEs to orientate, onboard, as well as transfer knowledge from process veterans to newcomer allies, to build their knowledge and help them understand the negotiations as well as what to expect in the process (Anonymous Interviewee, personal communication, November 29, 2021; Anonymous Interviewee, personal communication, October 1, 2021). During the course of the first OEWG, representatives of Member States and NSAs also engaged in bilateral meetings, where expertise was found to be shared with the former by the latter (Anonymous Interviewee, personal communication, October 14, 2021; Anonymous Interviewee, personal communication, August 8, 2021). In addition, the Chairs of both OEWGs made themselves available for bilateral and multilateral exchanges with Member States throughout the negotiations (Lauber, 2020; UN Web TV, 2020a, 2023a). More broadly, multilateral meetings were also found to be conducted amongst, for instance, allied States such as those in the European Union (EU) or likeminded group, to negotiate and coordinate UN positions (D. Broeders, personal communication, November 29, 2021).

Further to bilateral and multilateral meetings, informal conversations have provided another avenue for Knowledge Building. With the negotiations being held in accordance with established, standard UN procedure, participants have had to request their (often limited) speaking time in advance, and as such, interventions have been welcomed in the order received (M. Kerttunen, personal communication, October 8, 2021). This has meant that participants wanting to respond to particular interventions have had to wait their turn in the speakers' queue, rather than being able to engage in immediate and direct interactions (Ibid.). This standardized approach to the conduct of UN negotiations has caused the discussions to become intellectually disorganized at times, due to thematic digressions or diversions in the flow of interventions, with late-coming interventions losing their emphasis (Ibid.). To deal with this, informal conversations have allowed for a direct and more efficient means of engagement between participants. For example, through informal conversations, the involved professionals have been able to exchange arguments, develop an understanding of each other's logic and motivation, as well as identify tensions and common ground (B. Hogeveen, personal communication, October 20, 2021), ultimately enhancing their knowledge of the negotiations substantively.

Indeed, a web of informal interactions has characterized the UN First Committee cyber negotiations. For instance, during breaks in the GGE discussions, experts who never formally addressed each other in the course of the actual negotiation sessions, would engage in closer talks via informal conversations (Anonymous Interviewee, personal communication, October 1, 2021). So too, would experts who were engaging in back-and-forth exchanges during the formal negotiations sessions (J. Weaver, personal communication, November 8, 2021). Such interactions were, for instance, used as a means of clarifying perspectives; appreciating differing worldviews; enhancing understandings of points of disagreement; identifying areas of convergence; and outlining talking points (Ibid.). Members of the broader GGE delegations (known within the community as the experts-behind-the-experts) also engaged with their counterparts as well as directly with experts from other delegations via informal conversations (Ibid.). Professionals working on the support team were also found to engage with other professionals in the process (Anonymous Interviewee, personal communication, October 1, 2021). Similar was found to be the case in the OEWG process, where, for instance, the Chair of the second OEWG engaged with delegations over coffee, lunch,

as well as through informal consultations and interactions (UN Web TV, 2025c).

Informal conversations have moreover been harnessed by NSAs in advancing and enhancing their engagement with the negotiations. For example, through informal conversations, a stakeholder unfamiliar with the OEWG process gained the knowledge necessary to successfully navigate and participate within them (Anonymous Interviewee, personal communication, July 13, 2021). Indeed, one stakeholder representative noted that due to the restrictive procedural nature of formal UN negotiations, they found informal conversations outside them, more important than those within them (Anonymous Interviewee, personal communication, July 5, 2021).

It should be noted here that with the Covid-19 pandemic and travel restrictions enforced around the world in response, most of the professionals engaging with the negotiations were not physically present at UN Headquarters in New York during certain parts of the first OEWG and sixth GGE negotiations. As such, a key avenue of Knowledge Building was cut off during this time. While participants could call one another as well as engage informally online, the opportunity for spontaneous, in-person interactions at the UN was to a high degree lost during this period—noting that a few professionals were indeed still present in New York (Anonymous Interviewee, personal communication, November 29, 2021). However, it should also be noted that (with specific reference to the sixth GGE) as delegations had had the opportunity to meet in person several times before the pandemic and establish a certain level of informality in their working relations, it was, in fact, possible to replicate these informal conversations online (B. Daley Whitworth, personal communication, September 17, 2021). Given this, it can be said that at least pre-existing relationships allowed for the transfer of informal conversations to the virtual world. Whether this too was the case for professionals who had not become acquainted in the physical world, prior to the negotiations moving online with the Covid-19 pandemic, would need further investigation.

Further to informal conversations, Knowledge Building was also catalysed via the consultation of OEWG Member State and GGE expert delegations with their national governments. This was, for example, demonstrated by Singapore, the Netherlands and Australia during their participation in the sixth GGE and the first OEWG. In conjunction with the Singaporean delegation's participation in these two processes, an

interagency group was set up to coordinate the input of relevant government departments into its position. These included departments such as the Cyber Security Agency, the Ministry of Defence, the Ministry of Home Affairs, the Ministry of Foreign Affairs and the Attorney Generals Chambers (Anonymous Interviewee, personal communication, November 29, 2021). The Dutch delegation conducted interdepartmental checks, with, for instance, the Ministry of Economic Affairs and the Department of Defence, to ensure that government departments with a stake in the negotiations had the opportunity to provide their input in shaping the positions taken (D. Broeders, personal communication, November 29, 2021). The Australian delegation held whole-of-government consultations, engaging with various Australian agencies and equities as well as hosting an Interdepartmental Committee every three months to confer with domestic counterparts (B. Daley Whitworth, personal communication, September 17, 2021). Thus, individual delegations were found to have one or multiple channels through which interactions with their home governments resulted in inputs that helped shape their substantive negotiation positions.

Besides consultations with home governments, Knowledge Building was also enabled via the participation of delegates in other events complementing the UN negotiations. For instance, the *Let's Talk Cyber Informal Multistakeholder Virtual Dialogue Series* was launched in December 2020, and while hosted independently, its aim was to (initially) support the first OEWG process (Let's Talk Cyber, 2025a). This initiative emerged from the view that hosting one multistakeholder session (the OEWG's Informal Intersessional Multistakeholder Consultative meeting) was insufficient and that it would be beneficial to continue the discussion (B. Daley Whitworth, personal communication, September 17, 2021). The *Let's Talk Cyber* event has been sponsored by both Member State departments and non-State stakeholders, including Australia's Department of Foreign Affairs and Trade, Global Affairs Canada, EU Cyber Direct,[3] Global Partners Digital[4] and Microsoft (*Let's Talk Cyber*, 2025b). The initial series consisted of eight online events, six of which focused on the main topics of discussion in the OEWG—international law, rules, norms and

[3] EU Cyber Direct is the European Union's cyber diplomacy initiative focused on capacity building, outreach, research and policy support (EU Cyber Direct, 2025).

[4] Global Partners Digital is a company that works to promote human rights in the use, development and governance of digital technologies (Global Partners Digital, n.d.).

principles, existing and emerging threats, regular institutional dialogue, confidence and capacity-building measures. One event looked at gender approaches to cybersecurity, and the final constituted a multistakeholder exchange on the then latest draft of the OEWG report (Ibid.). Broadly speaking, these sessions allowed participants to discuss, provide input, consider, comment, unpack, brief, exchange, identify actions and take stock of the issues under negotiation in the OEWG (full event descriptions can be found at the following: *Let's Talk Cyber*, 2025b). Since the conclusion of the first OEWG and the initiation of the second, the *Let's Talk Cyber* initiative has continued hosting events on a range of topics related to the discussions (Ibid.).

Another example of an event occurring away from the negotiations, which offered a Knowledge Building opportunity, was the public consultations hosted by the Australian delegation to inform its engagement with the sixth GGE and first OEWG (Australian Government DFAT, 2019). While aimed at the Australian civil society ecosystem, international stakeholders were welcomed to participate, and a total of 15 submissions were received (B. Daley Whitworth, personal communication, September 17, 2021; Australian Government, n.d.). After hosting this consultation, the Australian delegation submitted verbatim excerpts from these submissions to the OEWG, to allow other delegations to make use of them. The full submissions were also made available via the Australian government's website (see Ibid.).

Furthermore, UNIDIR has also hosted events related to the negotiations to reinforce learning. For example, during the course of the sixth GGE and the first OEWG negotiations, seven multistakeholder events were held from November 2019 to September 2020.[5] These events focused on a range of topics related to the discussions, such as norm implementation and operationalization, highlighting national experiences and emerging good practice (UNIDIR, 2020a, 2020b). UNIDIR also hosted a range of events in conjunction with the second OEWG. For instance, in the run-up to its first substantive session, a two-hour-long event offered Member States an introduction to the framework for advancing responsible State behaviour in cyberspace (UNIDIR, 2021). After the

[5] See UNIDIR (2020a, 2020b, 2020c, 2020d, 2020e, 2020f, 2020g) for specific event details.

fourth substantive session, UNIDIR offered a breakfast debrief session open to both Member States and NSAs to discuss the outcomes, insights and key findings of the session as well as to unpack statements provided to it, to help advance work in the intersessional period (UNIDIR, 2023a). In connection with the second OEWG's substantive sessions, UNIDIR has also convened a range of side events (UNIDIR, 2025, 2023b). Moreover, with the specific aim of helping developing countries better understand the First Committee discussions, UNIDIR co-hosted a webinar with the International Telecommunications and the DiploFoundation (Diplo, 2023).

As demonstrated above, a range of interpersonal activities have provided a means through which professionals involved with the UN First Committee cyber negotiations have had the opportunity to enhance their knowledge of the negotiations procedurally as well as substantively. Another means through which they have been able to do so, has been via the consultation of material resources.

Knowledge Building via the Consultation of Material Resources

Knowledge Building in these negotiations was also found to be catalysed via the individual participant's consultation of a range of material resources (meaning documents capturing a variety of information). Many such resources were made available through the negotiations themselves. However, these materials were not methodically and systematically worked through as part of the actual negotiation process—at least not in the case of the first and second OEWGs. Rather, it has been the responsibility of individual negotiation participants and their delegations to seek these materials out and leverage them to enhance their participation in the process. Their consultation and consideration have not been enforced top-down and mandated by the process, but they have been encouraged in order to make sense of the issues under discussion and find consensus among Member States. Examples of these materials (some of which have been touched upon in Chap. 2) include Member State Assessments submitted by countries in response to the annually adopted resolutions on the topic[6] (see United Nations General Assembly, 2020a as an example);

[6] In total, 88 Member States, plus the EU have provided these in the period 1999 to 2024, totalling 292 assessments for negotiation participants to draw upon. While these submissions have given negotiators points of reference throughout the years, not one country has submit-

background papers prepared by the Secretariat (see, for instance, *An Initial Overview of UN System Actors*, n.d.; *International Law in the Consensus Reports*, n.d.; '*Regular Institutional Dialogue' in the Consensus Reports*, n.d.); a collated summary of the Regional Consultations hosted to support the sixth GGE (UNODA, 2019); as well as a broad range of contributions provided by both Member States themselves as well as NSAs. As noted in Table 2.1 in Chap. 2, at least 202 papers of various forms and natures were contributed across the first and second OEWGs by Member States and NSAs.

Analysis

As shown above, via application of the first stage of the KM model to the process maps and illustrations included in the Appendix, Knowledge Building within the UN First Committee Cyber negotiations has been enabled via the consultation of material resources by the individual participant and their delegations, as well as through a range of interpersonal activities. These activities have unfolded in both formal and informal spaces associated with the negotiations. A formal mechanism, specifically designed to create and foster the injection of relevant, independent input into the discussions on a consistent and permanent basis, has not been embedded within the architecture of the negotiation process. UNODA and UNIDIR come closest to having had this function, with their support teams producing research for negotiation participants as well as having hosted events thematically relevant to the negotiations (see, for example, Kavanagh, 2017; UNIDIR, 2019; UNODA, 2017). However, it has not been the role of these institutions to set the negotiation's substantive point of departure. Rather, that has been the responsibility of negotiating delegations themselves to develop the diplomatic baseline upon which the discussions have been advanced.

Negotiating diplomats have curated the input that has populated the active knowledge base (see Chap. 2 for further discussion) upon which the GGE and OEWG negotiations have been conducted. While NSAs have offered contributions to the negotiations, they have been subject to strict

ted an assessment for each year in which they were requested, with 105 countries never having submitted one. Cuba has contributed the most assessments, having delivered 19 assessments. The United Kingdom follows in second place, having offered 10 assessments. Moreover, 32 countries have only provided a single contribution.

parameters set by States (as also previously discussed in Chap. 2 and further discussed in Chap. 7). As such, Knowledge Building has been a highly political activity, as these inputs originate either from politically loaded positions of national priority or from NSAs deemed politically appropriate to have engaged with the negotiations. These inputs frame the issues under discussion more politically than scientifically; establish the parameters of what is (and indeed is not) up for negotiation; ultimately defining what the key problems to be addressed are and influencing the contours and trajectory of the discussions.

Moreover, the richness of the active dimension of the knowledge base has been directly dependent upon the willingness of delegations to engage with the process, educate themselves on the issues and contribute inputs. As shown through some of the substantive sessions of the first OEWG, as well as by the lack of Member State assessments on the part of many countries, there was no guarantee that delegations participating in the negotiations would actually offer any contributions to the process (United Nations General Assembly, 2019, 2020b, 2020c, 2021). Indeed, they have been under no obligation to do so. Moreover, as materials made available through the negotiations have not been collectively examined during the process, it has been the responsibility of delegates to independently engage and leverage them. Thus, effectively, the process of Knowledge Building has been what States make of it, through the individual and collective efforts of their negotiating diplomats.

That being said, the opportunity for Knowledge Building—at least within the OEWG processes—has been iterative, relatively structured and consistent. Given the standard procedural format of the substantive sessions, consisting predominantly of sessions dedicated to the general exchange of views as well as focused discussions of substantive issues, Knowledge Building has been an ongoing collective activity throughout the entire lifespan of the discussions. Indeed, given the relatively uniform structure of the intersessional periods comprising various forms of informal meetings, this has been the case informally as well. While the exact structure of how the six GGEs were carried out has not been officially detailed, a similar approach with the general exchange of views and thematic discussions is known to have occurred within this format too (Anonymous Interviewee, personal communication, October 1, 2021). Given this iterative approach, Knowledge Building has been an ongoing activity fostered over the lifespan of the negotiations.

Considering the theorization of Knowledge Building in the KM literature, it has predominantly occurred through practices of knowledge acquisition and capture in the UN First Committee cyber negotiations, rather than through direct knowledge creation. Research, views, positions and interpretations have been contributed to the negotiation arena to help negotiators make sense of the issues under discussion. However, as Agnew (2007, pp. 145–146) notes, knowledge is not simply produced in one place and then consumed in another; it develops as it circulates. Through active participation, knowledge is continuously created, refined and made contextually fit for purpose (Liu, 2020). This is highlighted by the investment in the broad range of interpersonal activities that negotiation participants have continuously engaged in, as they have made sense of, negotiated and weaved together a mutual position on the issues under discussion. By going through the motion of preparing for and participating in the negotiations, participants have been given the opportunity to capture and acquire knowledge, as well as present it in new form.

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CHAPTER 4

Material Trust: Validating Knowledge the Diplomatic Way

Having examined Knowledge Building in the context of the UN First Committee cyber negotiations in the previous chapter, this present one moves on to explore how input contributed to the discussions is validated. It does so by applying stage two of the KM Model, which focuses on Knowledge Validation.

At its core, the practice of Knowledge Validation has two functions—verification and evaluation (Mach & Owoc, 2001, p. 350). Initially, this stage of the KM process concerns the scrutinization of newly acquired knowledge, testing for its quality and legitimacy before its (potential) admission to the knowledge base.[1] The input which passes scrutinization is deemed valuable and sanctioned as official knowledge within an organization (Watkins, 2009, p. vi), profession, practice or discipline. To offer an example, within the scientific community, the validation process occurs through peer-review, where experts in a particular field evaluate the work of their colleagues (for instance, articles submitted to an academic journal)—accepting, rejecting or requiring revisions to bring it up to the expected standard. First, after having successfully responded to the peer-review process, is a piece of research considered validated and added to the body of knowledge forming its discipline via publication.

[1] As previously discussed in Chap. 2, the knowledge base, in the context of this study, is defined as the body of knowledge at the foundation of the multilateral negotiation process, upon which work is conducted and decisions are based.

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The process of Knowledge Validation can be particularly challenging when it comes to verifying knowledge acquired from outside a specific professional, organizational or disciplinary context (Massingham, 2020, p. 189). This is in part because the standards by which this 'external' knowledge has been created may not be known, or they may not align with those of the receiving organization, profession or discipline. In contrast, the professional practices, processes, standards, or guidelines that have been adhered to—such as specific codes of conduct, peer-review processes, ethical evaluations, or due diligence—as well as the boundaries observed in creating knowledge internally, are known, making its evaluation more straightforward.

After the initial scrutinization process, Knowledge Validation remains relevant and takes on its second function, which involves ensuring that this accepted knowledge continues to live up to scrutiny (Bhatt, 2001, p. 71). With knowledge being a strategic resource, it is essential to ensure its continuing relevance and use through ongoing assessment (Dumitriu, 2016, p. iii). Knowledge is dynamic, tends to evolve over time and with age, certain aspects of a knowledge base (consisting of previously validated knowledge) may become outdated or irrelevant (Dingsøyr & Conradi, 2002, p. 399). Some knowledge may no longer be needed or has diminished in its usefulness, as the objectives of the entity whose knowledge base it occupies, evolve. With accelerating knowledge growth and the subsequent decreasing half-life of knowledge, certain elements may also have been superseded and become obsolete (Arbesman, 2013). Holding on to antiquated knowledge can waste resources, prove detrimental to overall strategies and no longer contribute to the meeting of objectives. On occasion, it is therefore necessary to review the knowledge base, discarding any knowledge that no longer contributes towards reaching organizational objectives. As a consequence, Knowledge Validation can be considered a protective barrier that continuously tests knowledge forming the knowledge base, for its timeliness and relevance, as a practice, profession, discipline or industry evolves. Thus, as Liu (2020, pp. 53–59) notes, this stage of the KM model creates a feedback loop to the first stage of Knowledge Building, as new knowledge may be needed to bring the knowledge base up to date.

The process of removing knowledge from the knowledge base can be just as consequential as adding to it. Any changes made to the knowledge base should be carefully controlled and justified, involving experts who are an authority on the subject (International Organization for Standards,

2018, p. 12) to ensure an accurate evaluation. A variety of indicators can be used to determine whether knowledge has become redundant or invalid. For example, online logs of how often a document is accessed or downloaded can indicate demand. The frequency of references made can provide insight into the centrality of that knowledge to a field or professional practice.[2] Peer review can evaluate which elements have been further developed, revised, or discredited, and if certain knowledge is still accurate. Technological professionals can assess whether particular practices are still in use or have been replaced by more recent innovations.

To summarize, the initial task of Knowledge Validation concerns ensuring the integrity and validity of the knowledge that is added to a knowledge base. Subsequent validation practices thereafter serve the purpose of maintaining the relevance and efficiency of the knowledge base through the continued acceptance of its constituting elements or their updating or removal (if they have been superseded or become redundant).

In applying this stage of the KM model, it is important to acknowledge the related concept of trust, as this is what successful validation is indicative of—trust in the material informing the professional practice. Existing interpretations of 'trust' in relation to diplomacy and international relations place the focus on how it is established between actors—be that diplomats, leaders or States. A sample of definitions sourced from the literature demonstrates this. For instance, Willie and Martill (2023, p. 2406) see trust as a way of anticipating how others behave in the future, and believing that they will act in a particular way. It is a means of reducing uncertainty as well as complexity, and thereby stabilizing expectations within the political setting (Ibid.). Stiles (2018, p. 3) understands trust as the expectation that one's interests will be protected by a more powerful counterpart and that there are benefits in them acting on those interests, despite the fact that they could exploit them. Furthermore, Wheeler (2013, p. 479) sees trust as the expectation that betrayal will not occur, although it is a distinct possibility. Kydd (2000, p. 326) conceives trust as the belief that the other party is trustworthy and thus will want to engage in cooperative behaviour, rather than exploit that image.

[2] Caution must be taken here however, as work may be cited because it is conventional to do so in a specific field, despite its content being outdated. Moreover, self-citation can play a significant role in inflating disciplinary impact factors (Pandita & Singh, 2015, p. 42). The frequency of references is therefore not necessarily a robust indicator of quality, best available knowledge.

Counter to these understandings, applying this stage of the KM Model is an examination of how confidence (or trust) is gained in the material upon which the negotiations are based and advanced. It is not an analysis of how trust is established between the negotiating parties themselves. Ultimately, Knowledge Validation in the context of the case under study is the process of negotiators accepting (trusting) that particular input forms a legitimate basis upon which the negotiations can be conducted and sound agreement on the topic reached. Considering this, the next section explores how Knowledge Validation has taken expression in practice in the UN First Committee cyber negotiations.

Knowledge Validation Practices within the UN First Committee Cyber Negotiations

Considering the task of Knowledge Validation in the context of these negotiations, it was found that an impartial third party or internal UN authority has not been officially and explicitly tasked with reviewing inputs contributed to these negotiations. A standardized mechanism or process to confirm, verify or empirically validate and revalidate the accuracy of the inputs offered to these negotiations on an ongoing and recurring basis has not been put in place at the UN level. UN staff have not reviewed, scrutinized or critiqued substantive contributions made by Member States or non-State actors (NSAs). It has also not been the function of the support team (working with the Chairs of the GGEs and OEWGs) to confirm the legitimacy of contributions made to the negotiations as they have worked with them in penning report drafts (J. A. Lewis, personal communication, October 12, 2021). While these professionals could seek clarity on the material contributed to the discussions, this has not constituted standard practice, as this has been the purpose of the substantive negotiation sessions themselves (Anonymous Interviewee, personal communication, July 20, 2021). The role of the support team has not been to query or change the substance submitted, but rather to work with process Chairs to synthesize or weave this material together into consensus language (Ibid.) (as will be further discussed in Chap. 6).

While there is no official system in place or authority tasked with scrutinizing knowledge for its initial admission to the knowledge base and thereafter evaluating its continued relevance—various practices identified within the negotiations can, however, be conceptualized as having a

validation function. These are outlined in yellow in the process maps and illustrations provided in the Appendix and include: the participation and contribution of certain professionals; using the rigour of other multistakeholder processes; referencing external material; utilizing the annual Member State assessments; scrutinization by delegations; approval by national governments and regional bodies; agreement amongst alliances and/or coalitions; the receipt of political support; and the gaining of consensus.

Knowledge Validation Practices in the GGE and OEWG Processes

The first practice conceptualized as a Knowledge Validation activity is the participation (and thus contributions) of particular professionals within the negotiations. Professionals such as academics and other members of the research community, for example, who, via their institutional association, are expected to adhere to certain standards and follow specific ethical and professional guidelines, which are widely trusted in society (Anonymous Interviewee, personal communication, September 15, 2021). This institutional association lends validity to the input shared or supported by these professionals in the negotiations and has been a means through which some of the input considered within the discussions has gained legitimacy (Ibid.; A. Calderaro, personal communication, October 10, 2021). To give an example, in their sixth GGE and first OEWG participation, a central theme of the Dutch delegation's position concerned the concept of the public core of the internet. To underpin, support and further their position on the topic within the negotiations, the delegation brought on board the academic who developed the concept (D. Broeders, personal communication, November 29, 2021; Broeders, 2015, p. 7). To offer another example, members of the academic and broader research community have supported the European Union (EU) delegation in its participation in the OEWG by engaging in preparatory discussions, brainstorming sessions, and training activities, thereby helping to foster an intellectual atmosphere among EU Member States during the negotiations (A. Calderaro, personal communication, October 10, 2021).

In addition to the participation and contributions of certain professionals, referencing material produced through external processes has also been identified as a means through which input injected into these negotiations has been validated in the GGEs and OEWGs. For example, the

Netherlands submitted the Global Commission on the Stability of Cyberspace's (GCSC)[3] report on *Advancing Cyberstability* in support of points made on threats against transnational critical infrastructure in its position paper (*The Netherlands' Position Paper*, n.d.; Global Commission on the Stability of Cyberspace, 2019). This report was the result of three years of work and a public consultation, involving 28 GCSC Commissioners (recognized authorities in internet governance, technology, human rights, development, and industry) as well as their advisors and researchers (Global Commission on the Stability of Cyberspace, 2019). To offer another example, to support its position that the first OEWG report should address gender issues, the Canadian delegation included two reports it had commissioned on *Why Gender Matters in International Cyber Security* and *Making Gender Visible in Digital ICTs and International Security* (Brown & Pytlak, n.d.; Shoker, 2020). With this research being undertaken by experts in the field, and the GCSC report representing the consolidation of the expertise of some of the highest authorities in the respective areas, the knowledge presented within these reports can be considered validated before entering the sphere of the OEWG. Thus, referencing externally produced materials, which have been created by relevant and reputable professionals, is a means by which delegations have underscored their input's validity.

Furthermore, the use of Member State assessments submitted in response to the annually adopted resolutions was also found to play a validating role. These assessments have offered Member States an opportunity, unconstrained by the negotiation processes, to correct misperceptions; problematize issues; provide assurances; test how propositions are perceived by counterparts; expand upon their positions; as well as provide additional input (Anonymous Interviewee, personal communication, October 1, 2021). In doing so, Member States have been able to further legitimize their claims as well as dispute (directly or indirectly) those made by others in the process.

Delegations themselves have, moreover, played a Knowledge Validation function by scrutinizing the contributions of their counterparts as well as

[3] Comprised at its core of 26 commissioners representing a broad range of stakeholders and geographic regions, the GCSC has promoted understanding among communities working on cyber related issues (Global Commission on the Stability of Cyberspace, n.d.).

those from NSAs. For instance, in receiving input from NSA consultations, the Australian delegation critically analysed the material, considering, for instance, who or what the source of it was, as well as whether the content was supported elsewhere (B. Daley Whitworth, personal communication, September 17, 2021). During the process of the negotiations, members of this delegation would also conduct live fact-checking, verifying if claims made by counterparts in their interventions were accurate, using tools such as WhatsApp and Signal to internally coordinate and discuss any elements requiring confirmation (Ibid.).

In addition to delegations themselves playing a Knowledge Validation function in the course of the negotiations, so too have national governments in respect of the material presented and the positions taken by their GGE experts and OEWG representatives. Given these representatives are participating with the objective of furthering the national interests of their sending Member States, their work ultimately requires approval from Capital—which, under the KM model applied, translates into an act of validation. What the positions demonstrated by process participants are indicative of is what their home government ultimately considers valid to express on the international stage.

A few examples of delegations participating both in the sixth GGE and the first OEWG illustrate how these professionals have gone about engaging with their national governments to gain this validation. The Australian delegation, for example, would have government consultations, engaging with various Australian agencies and equities as well as hosting an Interdepartmental Committee every three months to engage with domestic counterparts (Ibid.). The Dutch delegation conducted interdepartmental checks, with, for instance, the Ministry of Economic Affairs and the Department of Defence, to ensure that the parts of government with a stake in the negotiations could provide their input (D. Broeders, personal communication, November 29, 2021). To give a further example, an interagency group was set up to coordinate the input of relevant government departments such as the Cyber Security Agency, the Ministry of Defence, the Ministry of Home Affairs, the Ministry of Foreign Affairs and the Attorney General's Chambers, on the position of the Singaporean delegation (Anonymous Interviewee, personal communication, November 29, 2021).

In some circumstances, regional bodies, Member State alliances and/or coalitions, as well as groups of delegations, have also played a Knowledge Validation role. This function has come into play, for instance, when

aligned countries (such as EU States or members of the likeminded group) have negotiated and coordinated their positions going into the cyber negotiations. For the EU, this was particularly important for the OEWG, as regional organizations had a speaking right within this negotiation format (D. Broeders, personal communication, November 29, 2021). When the EU made an intervention in the discussions, it was a statement validated by all its member states. While EU coordination was not required for the GGEs, as negotiators were national experts seconded to the process, this was still done (Ibid.). To offer another example, in the course of the second OEWG, some delegations were also found to engage in cross-regional efforts to coordinate the development of consensus language for the Annual Progress Reports (APRs) outside the formal discussions (UN Web TV, 2022a), in effect pre-validating this language (at least from their perspective) before putting it on the table.

Another means of Knowledge Validation in these negotiations has been the receipt of political support by other Member States. This support has, for example, come in the form of verbal acknowledgement. Where, within the OEWG processes, as Member States took to the floor, phrases such as *I would like to associate myself with the comments of our colleague from…*; *I would like to particularly associate myself with the delegations that have …*; *I also associate myself with the delegations calling for…*; *I should note that Denmark aligns itself fully with the statement made by the European Union…*; *South Africa takes this opportunity to align itself with the statements made on behalf of the Commonwealth and the Non-Aligned Movement…*; *Australia fully aligns with…*; and *Australia supports the proposal by the Netherlands…*; were all used to express what can be considered validation of the respective items being referred to (UN Web TV, 2020, 2022b). Indeed, this form of validation—cross-referencing, echoing, commenting on or supporting the statements of other delegations and presenting overlapping or resonating ideas—was acknowledged (as an indicator of convergence) and encouraged by the Chair of the second OEWG to help find a pathway towards consensus (Ibid., 2022c, 2022d).

On this latter point, it is the successful attainment of consensus—when no State objects (United Nations, n.d.)—within the GGE and OEWG negotiations, which has led to final agreement; represents the official, mutually agreed and validated output of the respective processes;

progresses international standing on the issue; and ultimately captures contributions made to the process. Thus, the ultimate form of validation within the UN First Committee cyber negotiations comes in the form of negotiation text that commands consensus and is embodied by the official outcome document. This means that input contributed to the negotiations is subject to validation and re-validation, up until the point of being included in a final consensus report.

Analysis

When considering the identified practices, it can be concluded that Knowledge Validation within the UN First Committee cyber negotiations has not been explicit. Rather, Knowledge Validation has occurred implicitly, through various negotiation activities, with the ultimate form of collective validation being the attainment of consensus. This speaks to the diplomatic maxim of *nothing is agreed until everything is agreed*. Indeed, throughout the course of the negotiations, it may be that some States consider certain input valid, while others do not, and as such, its validity continues to be subject to negotiation up until a consensus document has been agreed. This highlights a unique element with respect to Knowledge Validation in terms of the active knowledge base and the institutional knowledge base (as detailed and discussed in Chap. 2). For inputs contributed to the institutional knowledge base, validation by consensus is an absolute requirement. However, those forming the active knowledge base do not have to be considered validated by all delegations for them to be actively considered as the negotiations move forward towards consensus. In making their way to consensus, through the identified practices, negotiation participants have built their trust in the substantive material up for consideration (and thus executed the verification function of this KM stage) via three forms of validation (which are not necessarily mutually exclusive). These include validation by association or by proxy, validation by personal expertise, as well as validation through political acceptance.

Firstly, validation by association or by proxy has involved drawing upon the rigour, credibility, or legitimacy of other (external) processes and people to gain trust and support for the material under consideration. Through these means, Knowledge Validation has been outsourced to the relevant expert communities and is based on trust in their professional practice. For example, as Sismondo (2010, p. 89) mentions in the context of scientific work, trust is an essential feature wherein researchers rely upon the

arguments and findings of other people in their community, who they do not necessarily know, but trust, due to faith in their common working culture. Thus, in validation by association or by proxy, there is the expectation that the individuals who are providing some form of input to these negotiations or whose input delegations are drawing upon, adhere to the standards expected of them within their own professional communities. Standards, which have come to be respected by other professional communities as well as the general public. The identified practices in the UN First Committee negotiations, which constitute validation by association or by proxy, include the participation and contribution of certain (non-diplomatic) professionals such as academics as well as the referencing of material produced through external processes (such as reports from reputable bodies like the GCSC).

Secondly, validation by personal expertise involves professionals drawing upon their own accumulated personal and professional knowledge and (primary) experience (Tonelli & Shapiro, 2020, p. 69) in lending credit to the contributions made and considered. Validation by personal expertise has been carried out through several of the highlighted practices, including the scrutinization of material by delegations, the approval by national governments and regional bodies, and the utilization of Member State assessments to communicate evaluations of substantive content. In each of these activities, the involved professionals and/or actors used their own knowledge, experience and experiential insights to assess the material up for discussion, rather than rely upon an external (human or material) source. This indicates that part of Knowledge Validation in the UN First Committee cyber negotiations is dynamic as well as context-sensitive, wherein expertise and tacit knowledge are situationally applied through a pragmatic means of informed judgment. Professionals involved with the negotiations (whether at the national or international level) harness their own knowledge—which is a key part of their own credibility as diplomatic actors—to give weight to (or indeed dispute) particular input.

The two previously mentioned forms of validation (by personal expertise and by association or proxy) are concerned with the legitimization and establishment of trust in the quality of the substantive content taken under consideration in the discussions. As such, it is more scientific in its nature. Political validation or validation through political acceptance, on the other hand, is not so much a question of determining factual correctness. Rather, it is a question of determining whether input up for discussion is conducive to furthering the national interests of negotiating Member States.

Political validation is an evaluation of the political worth of the substantive content on the table. When political validation is received within these negotiations, it is an expression of what is considered politically palatable and viable as well as acceptable to consider, discuss, support, negotiate and establish agreement on, in the international arena at a particular point in time. The practices found within the ICT negotiations, that are characterized as being acts of political validation, include the utilization of Member State assessments, scrutinization by delegations, approval by national governments and regional bodies, agreement amongst alliances, coalitions and/or groups of delegations, the receipt of political support, the gaining of consensus, as well as via the procedure for formally adopting official documents.

To offer an example, political validation can be traced by looking at the various drafts of the first and second OEWGs' final reports as well as those of the latter's APRs. While there is no metric for crystallizing validation within the consensus documents, a useful indicator for how politically acceptable elements of a text were deemed to be, is the number of words and/or amount of detail offered to any particular area within it. In essence, this reflects the lowest level of validity accorded to a specific aspect among States. When multiple drafts exist, it is possible to identify which elements and language received political validation and which did not as the negotiations progressed (cf. for example, United Nations General Assembly, 2021a 2021b; 2021c). In essence, edits made from one draft to the next, offer a micro-history of the validity granted to any particular element in the negotiation text. Elements and language deemed valid, have remained present from draft(s) to consensus text, whereas those that have not, have been removed, and the text moulded to reach agreement. Indeed, it may be that new text has been added through the various draft iterations, indicating new-found validation through the process.

All three forms of Knowledge Validation identified occur implicitly as part of the natural progression of the negotiation process, with some of their practices overlapping. In terms of political validation, this is expected, as the whole negotiation process itself constitutes an exercise in determining what is politically agreeable internationally with the aim being to reach consensus. That the factual validation and the gaining of trust in the substantive material considered in advancing the negotiations occurs implicitly is an interesting finding. One which demonstrates a level of faith placed in going through the motions of the negotiations, whereby things come out in the wash (C. Painter, personal communication, August 27, 2021).

Meaning, in essence, that negotiating parties (operating in good faith) will not allow falsities or inaccuracies to populate a final consensus draft. Indeed, considering the range of activities that are conceptualized as Knowledge Validation practices in these negotiations, they together may, inadvertently, form an implicit system of checks and balances, where the shortcomings of one may be corrected by another, and unfounded or incorrect claims eventually weeded out. That being said, there is no guarantee that these disparate activities have necessarily occurred in a complementary and comprehensive way that ensures that this has actually happened. Moreover, this does suggest, to a certain extent, that the two tasks characterizing the stage of Knowledge Validation—verification and evaluation—are not neatly distinguishable in this particular context—at least in relation to the active knowledge base. In terms of the institutional knowledge base, there is no indication that the task of evaluation does occur. In fact, the consensus reports have been fiercely protected from interference and so-called backtracking (D. Broeders, personal communication, November 29, 2021). Furthermore, the resolutions adopted on the topic have not disputed or directly overridden any inputs that have been cited in preceding iterations.

In addition, the actual enactment of Knowledge Validation practices in the GGE and OEWG processes was found to be dependent upon several factors, including at what point delegations were in the negotiation process, the personal style of the negotiator, as well as political calculation. To offer an example of the former two factors, in the earlier phases of the sixth GGE and first OEWG negotiations, the Australian GGE expert and OEWG Head of Delegation, favoured personal conversations away from the negotiation arena (J. Weaver, personal communication, November 8, 2021). Whereas in the later stages, with time becoming more critical in terms of reaching agreement, a more direct approach within the negotiation room was taken in addressing disputed input (Ibid.).

Political calculation has also impacted if, when and how diplomats implemented Knowledge Validation practices. To progress their objectives, it has been critical for diplomats to ensure that they have reacted to the right things, and that in doing so, it was worth their while in the greater scheme of achieving their national priorities in the negotiations (D. Broeders, personal communication, November 29, 2021; B. Daley Whitworth, personal communication, September 17, 2021). Addressing

false claims or inaccuracies involves a degree of confrontation, which can potentially escalate to conflict, jeopardize diplomatic relations and hinder progress towards agreement within the negotiations. In cases where a false claim or inaccuracy left unaddressed, could negatively impact a negotiator's position going forward, addressing it may be deemed worth the risk. If, however, an issue is considered inconsequential for longer-term objectives, risking relationships to address it, may not be worthwhile (D. Broeders, personal communication, November 29, 2021). Hence, political calculation can be necessary in determining whether a Knowledge Validation practice should be implemented or not.

This point does, however, come with a caveat, as dealing with false claims or inaccuracies can also be done through a lack of acknowledgement (D. Broeders, personal communication, November 29, 2021). Ignoring false claims or inaccuracies can be an effective way of having them dropped from the discussions (Ibid.). This is because acknowledgement can give input weight, and carry it forward in the negotiations as it is repeated among delegations who are thereby reinforcing it—potentially, inadvertently validating it. Without this acknowledgement, such inputs can lose their momentum as well as political buy-in. Unsurprisingly, political calculation as a factor in determining if, when and how issues of Knowledge Validation are addressed, politicizes this stage of the KM model. This is because correcting inaccuracies or addressing facilities becomes about more than the scrutinization of substantive content. It also concerns the preservation of diplomatic relationships, political strategizing, as well as maintaining positions of power.

To summarize this chapter, by operationalizing stage two of the applied KM model, it was found that various practices within these negotiations can indeed be conceptualized as having a Knowledge Validation function. Thus, validation has occurred implicitly within these discussions, whereby material contributed to the negotiations has been scrutinized, and on some occasions, established as valid—both factually as well as politically. These practices have taken various forms and can ultimately be categorized according to three types of validation. That is, validation by association or by proxy, validation by personal expertise, or validation through political acceptance.

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CHAPTER 5

Silently Safeguarding: The Veteran Privilege

This chapter examines how inputs contributed to the UN First Committee cyber negotiations have been safeguarded. Continuing the operationalization of the KM model applied, this chapter implements its third stage, focusing on Knowledge Holding. Once input has been successfully validated (as discussed in the previous chapter), it is vital that it is organized, categorized and somehow stored (Davenport & Prusak, 2000, p. 68; Liu, 2020, p. 48). Knowledge Holding practices are vital in terms of retaining and securing knowledge that has been gained, as well as making it easily retrievable so that it can eventually be leveraged (Ali & Ahmad, 2006, p. 8).

Knowledge Holding is particularly important in terms of avoiding waste, speeding up organizational efficiency and enhancing current and future capabilities (see, for example, Candra, 2014 and Jayawickrama et al., 2019). Moreover, having a Knowledge Holding system in place gives permanence to an organization's knowledge through embedment (Davenport & Prusak, 2000, p. 87), helping to prevent institutional amnesia or knowledge loss, enabling better stocktaking of the knowledge base and allowing the organization to focus its energy more squarely on new knowledge frontiers. The holding of knowledge is what ensures organizational legacy, as well as institutional or corporate memory (Dalkir, 2005, p. 115).

A variety of factors determine how knowledge is held in any particular professional environment, including the type of knowledge concerned,

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the size and geographical distribution of the organization and its employees, the permanence of its teams, the organizational infrastructure in place, as well as the professional culture.

In terms of the type of knowledge concerned, the knowledge needing to be retained in a professional setting can include both *tacit* and *explicit knowledge*.[1] As *explicit knowledge* can be separated from the knower, this type of knowledge can, for instance, be captured in reports, publications, presentations, memos, instruction manuals or emails, which can be stored digitally through intranets, the web and/or in online databases (Nazim & Mukherjee, 2016, p. 40; Davenport & Prusak, 2000, p. 146) or physically in libraries or archives (Alston, 1999; Trigona, 1999). As *tacit knowledge* (such as intuitions, judgements, experiences and skills (Nazim & Mukherjee, 2016, p. 41)) cannot be separated from the knower, it is stored in the mind of employees constituting the workforce of a professional entity. Thus, to safeguard *tacit knowledge*, employee retention is vital for an organization. Most professional environments (if not all) will have a degree of both types of knowledge, and hence, depend upon employees as well as physical and digital infrastructure to safeguard their knowledge assets.

The size of an organization also matters in terms of finding the most appropriate way for storing knowledge. Generally, the larger the organization, the likelihood that its professionals will know where and how to find the knowledge they need decreases (Davenport & Prusak, 2000, p. 89). As such, the bigger the organization, the more formal, standardized and centralized a Knowledge Holding system is generally needed (see, for example, Serenko et al., 2007, p. 622). The geographical distribution of the organization as well as of its employees also has implications for how sophisticated and integrated a Knowledge Holding system should ideally

[1] As discussed in Chap. 1 *tacit knowledge* denotes a type of knowing that is difficult to articulate and convey to others. Coined by Polanyi (2009), this type of knowledge is seen either as a state of mind or as practice, being embodied in people and deeply rooted in their actions and commitment to a specific context (Liu, 2020, p. 31; Nonaka, 1991, p. 98). It consists partly of technological skills, but also has a cognitive dimension (Nonaka, 1991, p. 98). *Tacit knowledge* it is argued is subjective in nature (Liu, 2020, p. 31). In contrast, *explicit knowledge* is regarded as objective, formal and systematic (Ibid.; Nonaka, 1991, p. 98). It is knowledge that is easy to communicate and transfer to others through means such as textbooks, manuals, scientific formulas, or computer programmes (Ibid.). This type of knowledge is seen as an object, independent of human perception, which can be stored as an artefact (Liu, 2020, p. 31).

be. This is particularly important in terms of ensuring universal access to a company or organization's resources among physically dispersed personnel.

The level of permanence characterizing a professional unit also has implications for Knowledge Holding. Whereas permanent units are usually situated within structures with established Knowledge Holding practices, these tend not to emerge in temporary set-ups (Lindner & Wald, 2011, p. 877). This means a deliberate and concerted effort is required to harvest and safeguard the knowledge of teams operating on a short-term basis.

Further elements that impact Knowledge Holding include the infrastructure already in place and the professional culture. The literature stresses that a KM strategy must compliment the *modus operandi* of the body adopting it (see, for example, De Long & Fahey, 2000; Intezari et al., 2017). If, for instance, individuals in a professional setting are not accustomed to using a specific technology, or it causes too much operational or organizational upheaval, they may be discouraged from using it (see, for example, Davenport & Prusak, 2000, p. 142).

Ultimately, the Knowledge Holding approach implemented should complement the professional culture, structure, processes and procedures in place. Ideally, the approach employed should become embedded within an organization's architecture to the extent that it becomes invisible and its usage a natural part of daily working life.

Knowledge Holding Practices in the UN First Committee Cyber Negotiations

When considering Knowledge Holding in the context of the UN First Committee negotiations, it is found that a comprehensive, centralized storage facility securing, retaining and chronologically organizing all material related to these negotiations has not been put in place. However, as with the previous stages of the KM model, practices that can be conceptualized as having a Knowledge Holding function are identifiable. As illustrated through the process maps and illustrations in the Appendix and highlighted in orange, four means of Knowledge Holding have been identified within the UN First Committee cyber negotiations. Specifically, elements associated with the discussions have been captured through the written word in documents and by way of audio-visual (AV) recordings—both of which have been digitally stored online via several platforms.

Knowledge associated with the negotiations was also found to have been inadvertently safeguarded by process veterans—professionals who have been involved with multiple rounds of the GGE negotiations and therefore gained particular experiential insight—as well as by non-State actors (NSAs) who have had continuous engagement with the OEWG discussions. Overall, the identified practices highlight that Knowledge Holding in these negotiations has occurred inadvertently through tacit means as well as intentionally through explicit means. These practices have been dispersed, and a high degree of knowledge loss has characterized the process, enhancing knowledge asymmetries between negotiating States.

Considering the findings of the previous chapter focusing on Knowledge Validation, it is important to note that the Knowledge Holding practices found in place within these negotiations, safeguard not only input that has received the ultimate form of validation (consensus), but also input forming the active knowledge base of the negotiations in the GGEs and OEWGs. Thus, when considering the stages of the KM model applied and how they interact in theory, the fact that all the input stored has not necessarily received collective validation is a distinct feature of this professional context. This highlights a differentiation between the ideal, expected theoretically, and that observed in practice.

Knowledge Holding through the Written Word

In terms of inputs held via the written word, a range of documents have captured the essence of the negotiations, including administrative and organizational details as well as substantive content. With respect to the GGE processes, this type of documentation has been limited. For each of the six GGE processes, only two documents have been produced. This means a total of 12 documents have altogether formed the paper trail of this track of the discussions. These documents include the mandating UN General Assembly resolutions, which established the respective GGE groups and outlined their general tasks (United Nations General Assembly, 2003, 2006, 2011, 2014, 2015a, 2019). They also include the reports resulting from each of the GGEs, where four were substantive consensus reports and two were organizational in nature (lacking the obtainment of consensus) (Ibid., 2005, 2010, 2013a, 2015b, 2017, 2021a). In relation to the sixth GGE, regional consultations were, however, hosted, and a summary report was produced as a result (UNODA, 2019). When

considering the OEWG processes, the paper trail capturing the essence of this track of the negotiations has been far more comprehensive. As with the GGE processes, administrative and organizational details as well as substantive content have been captured, but this has been done through a much greater amount (totalling at least 576 documents across the two OEWGs) and array of document types. An overview and discussion of these documents was provided in Chap. 2. In addition to documents produced in relation to the GGEs and OEWGs, several have also been produced through the UN First Committee and General Assembly, including (draft) resolutions, reports and budgetary outlines (see, for example, United Nations General Assembly, 1998a, 1998b, 2013b).

Knowledge Holding via Audio-Visual Recordings

In addition to knowledge being encapsulated by the written word in documents, a record of the substantive sessions of the OEWGs, as well as of the Informal Intersessional Consultative Meeting (attached to the first OEWG) and the Global Roundtable on ICT Security Capacity-Building (held in conjunction with the second OEWG), has also been captured via audio-visual (AV) recordings produced by the UN. In total, 143 recordings (covering about two to three hours each) have been created and made available via the UN's Web TV. These recordings have not been edited (save perhaps a cut during breaks), but rather represent one continuous flow of activity presented from the UN's perspective. When no one is speaking, the whole negotiation room is shown. When a participant takes the floor to offer an intervention, the camera switches to focus directly on the particular speaker.

When consulting the programme of the substantive sessions of the first OEWG, for example, it does, however, become clear that not all moments have been captured in the recordings. For example, at the first substantive session of the first OEWG, there were seven informal segments—an informal multistakeholder part, where four NSA representatives each had around five minutes to speak, as well as six 15-minute segments, where experts provided scene-setting presentations prior to formal discussions commencing on a particular topic (UN Web TV, 2019a, 2019b, 2019c, 2019d, 2019e, 2019f). Out of these seven informal segments, only the footage of one was provided in the recording—specifically that of the expert presentations on norms, rules and principles (see Ibid., 2019b). For the remaining five expert presentations, the recording started after they had been given, and

for the informal multistakeholder segment, the recording ended before it began. Moreover, it should be noted that these AV recordings only capture the programme of work carried out by the OEWGs, and not work done in preparation, behind the scenes or after the sessions in the intersessional period. Thus, these recordings only show what happened in the negotiation room itself and not the rest of the process leading to the establishment of final agreement. With this, these recordings cannot be considered a comprehensive record of the OEWG processes, but rather of what occurred in the UN negotiation arena itself.

Knowledge Holding via Online Platforms

Both AV recordings and the range of documents identified above were found to be stored online via a range of digital platforms. These platforms include the UN's Digital Library, the UN Office of Disarmament Affairs' (UNODA) webpages specifically dedicated to these negotiations (UNODA, n.d.-a, n.d.-b, n.d.-c), UNODA's online portal *Meetings Place*,[2] the UN's online electronic KM system Papersmart, which was replaced in September 2020 by eStatements,[3] as well as the UN's Web TV site. While overlap in storage was found amongst these platforms, none, however, provide a comprehensive, consolidated nor chronological record of all the materials related to the negotiations.

For example, while UNODA's main webpage on the negotiations offers an array of material related to the discussions, access is not provided to all associated documents (UNODA, n.d.-b.). For instance, while the Secretary-General has provided the UN General Assembly with reports containing the views of Member States on the issues associated with the negotiations since 1998, this website only provides access to those produced from 2010 onwards (Ibid.). Furthermore, this webpage does not house various other documents such as draft resolutions on the topic, First Committee reports recommending their adoption within the General Assembly, nor procedural documents capturing their consideration within it. The same is the case with UNODA's *Meetings Place*, where only documents related to a specific negotiation round (for instance, the first

[2] UNODA *Meetings Place* is the office's portal for official and other disarmament meetings (see UNODA, n.d.-d).

[3] eStatements is part of the digital version of the Journal of the United Nations (see Journal of the United Nations, n.d.).

OEWG) are provided. With respect to the UN's Digital Library, while it offers access to the procedural documents of the UN First Committee and General Assembly related to the negotiations, it does not, however, for instance, store contributions made to the OEWG by NSAs (at least not at the time of writing). Furthermore, while eStatements in the Journal of the United Nations provides a range of details related to the negotiations, it also does not constitute a comprehensive repository containing all documents related to these discussions. Indeed, for documents relating to the first OEWG, this site (at the time of writing) still refers the user to UNODA's dedicated webpages and even to Papersmart, although it is no longer in operation. Moreover, the AV recordings are only accessible via the UN's Web TV and were not found to be linked by any of the other platforms.

While online digital platforms have stored AV recordings and various documents related to the negotiations explicitly, GGE process veterans were also found to have inadvertently come to safeguard knowledge of the negotiations tacitly.

Process Veterans as Knowledge Holders

Process veterans are defined here as professionals who have carried knowledge forward across GGE iterations, or from the GGE into the first OEWG format. Due to the lack of participation lists from the second OEWG at the time of writing, veteran participation in this group is not included in the examination. Veteran professionals have included GGE experts, their advisors and members of the UNODA/UN Institute for Disarmament Affairs (UNIDIR) support team.

Out of the 44 Member States who have provided experts to the six GGE negotiations, six (as mentioned in Chap. 2) have had comprehensive membership, including the Permanent Five (P5) of the UN Security Council (Russia, the United States (US), the United Kingdom, China and France) as well as Germany. Out of these six countries, Russia and the US have assigned the same diplomat to participate in all iterations as well as in the first OEWG (United Nations General Assembly, 2005, 2010, 2013a, 2015b, 2017, 2020a, 2021a, 2021b). While China, the United Kingdom and France have all had an expert participate in each of the GGEs, they have never sent the same professional twice. Out of these three countries, only China sent one of its GGE experts to take part in the first OEWG. Moreover, while Germany has had one expert overlap

between the fourth and fifth GGEs (United Nations General Assembly, 2015b, 2017), it did not have an expert overlap with the first OEWG. Out of the remaining 38 Member States with GGE membership, only eight have sent the same professionals as experts to two or more GGE negotiations, and five had a GGE/OEWG overlap in professionals. These expert overlaps are outlined in Table 5.1.

Looking at the overlaps in experts as outlined in Table 5.1, it is revealed that knowledge has been carried forward in a patchwork fashion, with the respective negotiators participating in the GGEs and OEWG in various constellations. Three experts brought knowledge forward from the first to the second GGE (South Korea, Russia and the US). Four from the second to the third GGE (Belarus, Estonia, Russia and the US). Four from the third to the fourth GGE (Belarus, Estonia, Russia and the US). Five professionals carried knowledge forward from the fourth to the fifth GGE (Estonia, Germany, Kenya, Russia and the

Table 5.1 GGE expert overlaps

Member state	*GGEs with same expert*	*GGE expert/OEWG participation overlap*	*Number of professionals*
Belarus	2, 3, 4[a]	No	1
Botswana	None	GGE 5 / OEWG 1	1
Canada	3, 5[b]	No	1
China	None	GGE 3 / OEWG 1	1
Cuba	None	GGE 5 / OEWG 1	1
Estonia	2, 3, 4, 5[c]	No	2
Germany	4, 5	No	1
Israel	None	GGE 4 / OEWG 1	1
Kenya	4, 5, 6	No	1
Malaysia	1, 4	GGE 1, 4 / OEWG 1	1
Mexico	5, 6	GGE 5 / OEWG 1	1
Netherlands	5, 6	No	1
Russia	1, 2, 3, 4, 5, 6	All GGEs / OEWG 1	1
South Korea	1, 2	No	1
US	1, 2, 3, 4, 5, 6	All GGEs / OEWG 1	1

[a]The Belarusian expert had a presence in three GGEs. For GGE 2, he was the expert for three out of four sessions, for GGE 3 all sessions and for GGE 4 one out of four

[b]Canada was not a member of GGE 4 but sent the same expert to GGE 3 and 5

[c]Estonia sent one expert to GGE 2 and 3, and another to GGE 4 and 5

Adapted from United Nations General Assembly (2005, 2010, 2013a, 2015b, 2017, 2019, 2020a, 2020b, 2021a, 2021b

US), and five from the fifth to the sixth GGE (Kenya, Mexico, the Netherlands, Russia and the US). One expert participated in the first and fourth GGE (Malaysia). In total, 11 GGE experts out of a total of 126 participating in all 6 GGEs have safeguarded knowledge associated with the GGE negotiation format over a period of 17 years.[4]

In addition, as already mentioned, the US and Russia had an expert overlap in all GGEs and the OEWG. One State had the same professional involved in the first and fourth GGE and the first OEWG (Malaysia), another in the third GGE and the first OEWG (China), and another still, exclusively in the fourth GGE and the first OEWG (Israel), with an additional three between the fifth GGE and the first OEWG (Botswana, Cuba and Mexico). This means a total of 8 out of 126 GGE experts have carried knowledge forward into the OEWG process from the GGEs. Individuals that have participated in both the sixth GGE and the first OEWG, but not in previous GGE processes, are not included in these numbers as these occurred in parallel, and thus knowledge was not carried forward. Considering overlaps across both GGEs and the OEWG, it is established that 16 out of a possible 126 GGE experts, amounting to 12.7% of negotiators, have held knowledge associated with these negotiations. Out of these 16 professionals, the American and Russian GGE experts have played the most encompassing Knowledge Holding function with their comprehensive participation.

Not only have GGE experts served a Knowledge Holding function through their continuous participation, but so too have GGE advisors. As lists of advisors participating in the GGEs have not been made publicly available, it could not be determined how many of these professionals have had a continuous presence across the GGEs, and thereby come to play a Knowledge Holding function. However, in some cases, it was found that the advisors have, in fact, had a more stable presence across GGE processes than the experts themselves (Anonymous Interviewee, personal communication, October 1, 2021). While GGE experts have changed, their advisors have, on occasion, remained the same, and been more consistent in their participation from one GGE to the next, helping diplomats new to the negotiations understand what has been discussed in previous negotiation rounds (Ibid.). As has, for example, been the case for the

[4]When the named experts are counted across the six GGE reports that number amounts to 148. However, considering repeat participation, and subtracting such cases, the total number of GGE experts has been 126.

Estonia delegation, who had an advisor participate across experts for the third, fourth and fifth GGEs (Global Partners Digital, n.d.). Advisors were also found to continue their participation from GGE to GGE by transitioning roles. Australia's involvement in the fifth and sixth GGE as well as the OEWG, offers a good example. For Australia's participation in the fifth GGE, the advisor to the then GGE expert went on to become the expert of the sixth GGE as well as its Head of Delegation in the first OEWG. This transition then repeated itself, with the then advisor to the sixth GGE expert and first OEWG Head of Delegation, becoming Australia's Head of Delegation during the second OEWG (B. Daley Whitworth, personal communication, September 17, 2021).

In addition to advisors, members of the UNODA/UNIDIR support teams, who have consistently participated in the GGEs and across into the OEWG, have also come to play a Knowledge Holding function. Whilst the central role of the support team has been to assist the respective Chairs and create an agreed text (J. A. Lewis, personal communication, October 12, 2021), UNIDIR has had the tradition of hiring the same consultants for successive negotiation rounds (Anonymous Interviewee, personal communication, July 20, 2021). For example, one consultant served as rapporteur and senior advisor on the support team for four consecutive GGEs (CSIS, 2022). Another worked as rapporteur and consultant for two successive GGEs and the OEWG (King's College London, n.d.). Moreover, a UNIDIR professional led the support team for five back-to-back GGEs and during the first OEWG (Johns Hopkins, n.d.). Like their GGE expert and advisor colleagues, these professionals have, through their continuous participation in GGEs, absorbed and carried experiential insight and knowledge forward in the discussions, as well as between the sixth GGE and first OEWG (with them occurring in parallel), and acquired a Knowledge Holding function.

Non-State Actors as Knowledge Holders

Further to process veterans, the role of NSAs in safeguarding knowledge associated with the negotiations, has also become apparent with the introduction of the OEWG format. As the OEWG negotiations have progressed, some NSAs have followed or engaged with them continuously,

gaining experiential insight into what has occurred throughout them, and as such, have also taken on a Knowledge Holding function. Indeed, as many NSAs involved or interested in the cyber negotiations are actively and continuously engaged in the thematic areas under discussion in their daily work, they have been able to help establish more continuity across substantive sessions and support governments in having consistent and non-siloed discussions (Anonymous Interviewee, personal communication, July 1, 2021). In many cases, governments have been limited by the fact that they have rotated their diplomats in and out of the OEWGs and have not necessarily had their delegation members participate consistently across substantive sessions. Furthermore, within some governments, cyber agencies have not been established, and it has not been clear who has been responsible for these issues domestically (D. Hollis, personal communication, July 26, 2021). For example, in some cases, government officials working in different departments have not been aware of the initiatives of their colleagues (Anonymous Interviewee, personal communication, August 8, 2021; Anonymous Interviewee, personal communication, July 1, 2021), creating challenges for governments in establishing a coordinated and coherent negotiation position. The continued engagement of NSAs, however, has helped governments navigate these circumstances, given their familiarity with the negotiations.

Several NSAs have had ongoing engagement with the OEWG processes. For instance, during the course of the first OEWG, Global Partners Digital, the Women's International League for Peace and Freedom, Microsoft and the ICT4Peace Foundation all had continuous engagement. This engagement has, for example, been shown through the continuous delivery of verbal statements; submitting a range of contributions (which have been seen as keeping an important record (UN Web TV, 2025)); providing comments on OEWG drafts; the co-hosting and participating in parallel events; consultating with Member States; as well as producing publications on the discussions (UNODA, n.d.-b, n.d.-d; Esterhuysen et al., 2019; Hovhannisyan et al., 2019; Aiken & Kumar, 2019; ICSPA, 2020; *Let's Talk* Cyber, 2025; Anonymous Interviewee, personal communication, October 14, 2021).

Apart from gaining a Knowledge Holding function through continuous engagement with the OEWG process, one NSA—Reaching Critical Will[5]—has even gone as far as creating an unofficial database of documents

[5] This is the disarmament programme of the Women's International League for Peace and Freedom.

relating to both the OEWG and GGE processes on its own website (Reaching Critical Will, 2025). Thus, taking it upon itself to act as an explicit Knowledge Holder for the negotiations. This initiative was in part a reaction to the historic difficulty of navigating various UN platforms in locating documents associated with the discussions (Anonymous Interviewee, personal communication, October 14, 2021)—the dispersed nature of which was highlighted earlier in this chapter. This database was also created as an effort to ensure transparency and good record-keeping for the process (Ibid.). By establishing this database, Reaching Critical Will has consolidated material related to the negotiations in one place and created a landing page, complete with an explanation of the process (Ibid.). In doing so, this NSA has safeguarded input for continued access and future use, should the official UNODA webpages be taken down (Ibid.). However, it should be noted that this repository is also not comprehensive. At the time of writing, documentation is only offered up until the seventh substantive session of the second OEWG. Furthermore, this repository does not document the AV recordings made available by the UN.

Analysis

As illustrated above, NSAs and process veterans in the form of GGE experts, their advisors, and members of the support team, have inadvertently come to serve a tacit Knowledge Holding function for the UN First Committee cyber negotiations. Elements associated with the discussions have, moreover, been intentionally and explicitly captured through the written word in documents and by way of AV recordings—both of which have been stored online via several UN digital platforms. This latter approach represents the official effort at safeguarding the institutional memory of the negotiations. An explicit, unofficial effort has also been made by one NSA per its own initiative, in establishing its own online repository of documents relating to the discussions.

While there is not full transparency as to how many process veterans have played a Knowledge Holding function across the GGEs and into the OEWG, given the lack of GGE advisor participation lists, the finding that some indeed have, is critical for several reasons. To begin with, while the known number of process veterans who have held knowledge is relatively low, it is more than expected per the design of the negotiation process. In implementing the GGE format, with its closed-door and off-the-record nature on six occasions over 17 years, the intention was never

to preserve the contributions made to the GGEs, which ultimately informed the consensus reports. Indeed, input contributed to, and developed through one GGE was not automatically passed on or made readily available to the next generation of experts (Anonymous Interviewee, personal communication, October 1, 2021; 2021c; J. Weaver, personal communication, November 8, 2021), nor to the participants of the more recently established OEWG process. The processes were supposed to be encapsulated solely through their mandating documents and outcome reports.

Moreover, as the GGEs were established on an ad hoc basis many years apart, and with diplomatic professionals rotating in and out of their positions periodically, there was no guarantee that the same experts would be participating on multiple occasions. Thus, it is in fact surprising that input has been preserved across groups, as there was no explicit intention to do so from a procedural and institutional perspective. Yet, as certain Member States were offered continuous or repeat membership across the six iterations of the GGEs, several experts have carried their experiential knowledge forward through their participation overlap. By being engaged in multiple GGE processes, these professionals have gained unique experiential insight, which in effect was not meant to be used to inform future iterations of the discussions. This insight has, however, given these professionals an enriched starting point upon their subsequent return to the GGE discussions. Insight, which has officially been unavailable to newcomers to the negotiations, as it has never formally been captured.

The most extreme examples demonstrating this are those of the comprehensive participation of the Russian and American GGE experts. Through their consistent participation across the six GGEs, these two experts have accumulated a level of historical insight unmatched by any of their counterparts, and as such have constituted the ultimate knowledge holders out of all process veterans. Their point of departure in each of the GGEs as well as the first OEWG has, by default, been contextually, substantively and procedurally richer than their counterparts. This intellectual currency (Dalkir, 2005, p. 79) has given the voices of these two experts a lot of weight within the discussions (D. Broeders, personal communication, November 29, 2021) and placed them as leaders amongst their peers (B. Daley Whitworth, personal communication, September 17, 2021), legitimizing their influence beyond the pure political weight of their nations.

Indeed, through their consistent involvement in the negotiations from their initiation in the late 1990s, these two GGE experts have gained not only referent but also expert and legitimate power (Cartwright, 1959), taking up a position as epistemic arbitragers (Seabrooke, 2014, p. 52). These experts have gained the legitimate right to influence (legitimate power) through their consistent involvement in the negotiations, whereby other participants have been obliged to accept this influence (Cartwright, 1959, p. 159) in joining the discussions (much) later in their progression. Furthermore, given the lack of Knowledge Holding mechanisms in place or institutional memory at the disposal of newcomers to the discussions (at the time of the GGEs), coupled with the full exposure that the American and Russian experts have been privy to, these two diplomats have also obtained expert power—having gained a greater depth of knowledge or ability—here specifically in the procedure and content of the negotiations (Ibid., p. 164). This has enabled them to become epistemic arbitragers within the cyber negotiations, as they have been able to direct attention to the content that they think has been most appropriate for addressing the issues under discussion (Seabrooke, 2014, p. 52). This role is highlighted, for instance, by the fact that the American expert has been called the mother of norms (Lewis & Painter, 2021) as well as the godmother of cyber, and the Russian expert the godfather of cyber (Anonymous Interviewee, personal communication, September 17, 2020). Their continuous participation has enabled these two GGE experts to consistently reinforce the positions of Russia and the US from the same perspective through recurring interventions over 20 years (B. Daley Whitworth, personal communication, September 17, 2021). This presence has allowed them to safeguard their respective interests and ensure that agreements reached over the years have been amenable to the positions of their sending Member States. It has also allowed them to negate any potential backtracking on what has previously been agreed, and thus keep the discussions on a particular track (D. Broeders, personal communication, November 29, 2021).

Moreover, these experts have been interpreted as providing the negotiations with steadiness, continuity and historical (Tiirmaa-Klaar, 2021, p. 25), as well as institutional memory (D. Broeders, personal communication, November 29, 2021; B. Daley Whitworth, personal communication, September 17, 2021). They have acquired referent power with their allies through their ongoing participation, where newcomers have identified with or had a strong connection to the positions and

perspectives of one of them (Cartwright, 1959, p. 161).[6] As a sixth GGE expert noted, the dynamic and long-standing relationship between the American and Russian experts has defined the GGE negotiations (Tiirmaa-Klaar, 2021, p. 25). Indeed, in the years when consensus was reached specifically in the GGE setting, it can be said that the referent principles of the US and Russia aligned into a coherent, agreed ensemble, creating a formula of agreement amongst negotiation participants (Zartman, 1975, p. 71).

While the consistent participation of these two experts is the most extreme example of veterans taking on a function as knowledge holders, it demonstrates the critical point that some GGE participants have come to gain knowledge otherwise inaccessible to their later debuting counterparts, inadvertently enabling the development of greater knowledge asymmetries among participants. Given the GGEs have been the primary format through which international agreement has been advanced on the topic of ICTs in international security, having been undertaken over the period 2004 to 2021 (compared to 2019 to 2025 of the OEWGs) and producing four final consensus reports (compared to two of the OEWGs), this is a striking finding. Especially as the institutional design of the UN should not favor certain Member States over others.

Generally speaking, knowledge asymmetry occurs when one party in a particular situation is more knowledgeable or better informed than their counterparts (see Coremans & Kerremans, 2017, p. 277; Bergh et al., 2019, p. 122). It is not a static nor stable condition (Jacobsen, 2014, p. 57), but rather one that can fluctuate. For instance, knowledge asymmetries may decrease as negotiating parties educate themselves, or as the topics under discussion evolve and change and come to better align with their existing expertise and experience. Knowledge asymmetry is an inherent part of life, both at the individual level (Hayek, 1945, p. 521) of the negotiator as well as at that of the State. States navigate the world based on asymmetric relationships, where weaker States have more at stake and are more sensitive to how those relationships (may) change (Womack, 2015, p. 1). Thus, knowledge asymmetries in the UN First Committee cyber negotiations are not unexpected; indeed, existing hierarchies among States at the UN are well documented (Pouliot, 2016), but what is

[6] As noted earlier in Chap. 2, the cyber negotiations have been largely defined by the views and positions of the American and Russian delegates and so, other States joining the discussions, have (up to a point) aligned to a lesser or greater extent with one or the other.

interesting, however, is that the actual design of the GGE processes has enabled knowledge asymmetries to widen further by inadvertently fostering a particular Knowledge Holding practice among process veterans.

As repeat participants have gained exclusive insight into the negotiations, they have been granted the privilege (over their newcomer counterparts) of determining whether, and if so, how, they share knowledge gained through previous negotiation rounds. As Moore (1962, pp. 69–70) notes, if there is power in having knowledge, then the difference in knowledge is likely to enhance the position of those who possess it. As such, to maintain this power, those in possession of this knowledge may intentionally restrict it, keeping knowledge that would otherwise be common, uncommon (Ibid.). Process veterans have been given the ability to choose whether or not to share their insight accurately or inaccurately—recognizing that misrepresentation may result in a better deal (see, for instance, Fearon, 1995, p. 381)—fully, partially, or in some cases, not at all, as would be to their political advantage. This has potentially significant implications for the balance of power within the negotiations shifting in favour of veterans, as they have been afforded greater substantive and procedural exposure. In other words, these professionals have gained a veteran privilege, through which they have been given the opportunity to tailor their recollection to focus attention on areas more politically beneficial in furthering their national interests. As such, process veterans have been empowered through their earlier involvement in the negotiations, where in contrast, debuting newcomers are penalized upon their later admission. This further gives process veterans a strategic advantage, as newcomers become dependent upon them for insight into the negotiations' past. Overall, by inadvertently fostering the development of a Knowledge Holding practice, the design of the GGE processes has injected an imbalance into the negotiations and contributed to the reinforcement of an already uneven playing field.

Furthermore, with Knowledge Holding decentralized to the individual in the GGE processes, knowledge loss has been high and prevalent within these negotiations. As Massingham (2020) notes, knowledge loss occurs when an organization loses access to previously accessible knowledge, with a key means through which this occurs being via employee exit. With the involved professionals being the sole means by which inputs shared in the GGE processes have been safeguarded, coupled with their frequent rotation in and out of the discussions, and the inherent temporary nature of these

groups, employee exit has been standard, and with it, so too has knowledge loss.

Usually, as a professional community grows, its knowledge base and practices become widely shared and ultimately ingrained as institutional knowledge (Dalkir, 2005, p. 115, citing Huysman & Dewit, 2002). This has, however, not occurred in the GGE negotiations. While GGE Membership has grown over the years, Knowledge Holding practices have not been adapted. This is likely because each GGE was independently established with no future plans for further iterations to be undertaken. As a result, professionals have continued to leave the GGEs without their knowledge being formally captured—either during the course of the work or upon its completion. As such, process veterans have remained the sole way through which knowledge from respective GGE discussions has been carried forward. As Dalkir (2005, p. 115) argues, given the retention of an individual is limited, it is vital that knowledge, as well as the context of that knowledge, is captured in more encompassing and permanent formats (such as documents), so that it can be institutionalized. This has, however, not been done in regards to the GGE processes, and so the institutional memory of the cyber negotiations have, as a whole, been impoverished.

In the case of the GGEs, the formal institutional memory has been captured by the products of the decision-making process—the outcome documents of the six GGEs. How these agreements came about both substantively and procedurally, has not been recorded. Without speaking to the involved professionals, there is no way of knowing with certainty why the negotiations developed in the way they did; what was considered; what alternative options were available; where positions diverged; what was put aside for later consideration; what was omitted and what was not considered at all; what helped progress the discussions; what worked well procedurally; as well as what did not.

A procedural history of how international agreement has been established on the topic through the GGEs has not been captured by the UN. Yes, involved individuals have offered their own accounts through, for example, publishing work focused on the negotiations or speaking publicly about the process, which (as noted in Chap. 1) became more fashionable after the fifth GGE and with the hosting of the sixth GGE and the first OEWG (see, for example, Lewis & Painter, 2021, and Klimburg, 2021). But how work was actually undertaken, and based on what, has not been safeguarded for future reference. This is a significant loss, as not only is history lost, but it also prevents the learning of lessons. Many hours of work and thought have

gone into these negotiations, and much experience has been gained with the GGE format being implemented on six occasions. Other diplomats could learn from these experiences as they take part in other GGE processes, as well as obtain a more nuanced and concentrated understanding of how the issues under discussion in the UN First Committee cyber negotiations have evolved.

Furthermore, the lack of formal Knowledge Holding practices in the GGEs raises issues of accountability. Ultimately, the decisions made in these negotiations are undertaken by a select number of individuals, seconded by UN Member States to operate in their own personal capacity (J. Weaver, personal communication, November 8, 2021), with an even smaller group of process veterans being able to reinforce the direction of the discussions from year to year over a substantial period of time without independent scrutiny. Indeed, the selection process for GGE membership is highly non-transparent, as was discussed earlier in Chap. 2. Where the main selection criteria communicated, is that it is based on equitable geographic distribution, where the P5 of the UN Security Council have always been given a seat, with the remaining spots being distributed per UN regional grouping (Lewis & Vignard, 2016, p. 4). Moreover, the GGEs have also largely determined their own agendas (Ibid., p. 5) and do not offer wider UN membership a structured account of the inputs informing their deliberations and final agreement. This could have been done, through, for example, their final reports. Indeed, a much greater level of transparency is offered by other UN GGEs—such as that on the UN Register of Conventional Arms—in what input has actually formed the basis of those negotiations.

This lack of documentation is problematic in that it prevents not only historical documentation but also the possibility of procedural auditing. These negotiations are made possible through UN funds, and thus the UN has an interest in them being as efficient and effective as possible (for an overview of the budget estimated for the hosting of a GGE, see, for example, United Nations General Assembly, 2013c, and for that of an OEWG, United Nations General Assembly, 2018). Without being able to evaluate each individual process (beyond them reaching consensus or not), improvements cannot be made, and the UN does not have certainty that the approach taken to address this particular issue is the best one possible. Indeed, the ultimate switch to the OEWG format would suggest otherwise. Moreover, as the decisions that result from these processes guide how States behave towards one another, how international issues

are orientated, as well as the way in which international and also national policies develop, it is vital to understand how they came to be considered the best approach for this issue area over so many years. In order to evaluate this, Knowledge Holding practices are needed to safeguard relevant material for future evaluation and study.

In relation to the OEWG processes, the holding of knowledge has not been left solely to the involved professionals. Rather, it has been captured in documents and AV recordings, which have subsequently been made universally available via several online platforms. Through these materials, much greater insight into the development of these negotiations has been enabled, and a richer institutional memory has begun developing. As NSAs have inadvertently gained a Knowledge Holding function through the OEWG process, additional support has been offered to Member States. Caution must however, be taken, in coming to over-rely upon these actors, as they too have particular interests that they are trying to realize. Moreover, NSAs are themselves subject to changing times and budgetary constraints. Being external to the UN, the institution has no control over access to the resources that they develop, which could suddenly cease. For instance, with Reaching Critical Will's repository, any Member State relying upon it would have found itself at least at a partial loss after the seventh substantive session of the second OEWG, as no further updates were provided beyond it while the process was ongoing.

Although Knowledge Holding practices have clearly gained a new form with the OEWGs, a deficit still remains. This is highlighted by the dispersed official approach to storage in the negotiations as well as by the fact that an NSA has taken it upon itself to create a repository to support them. Given that a new permanent global mechanism is now to be set up and take the negotiations forward, it is worth considering how Knowledge Holding practices could develop and be enhanced in the future. This is particularly relevant in light of the evolving role and potential of emerging technologies, such as algorithms, artificial intelligence (AI) and blockchain.

These technologies can transform the way the UN conducts its work. In the context of the UN First Committee cyber negotiations, at the very least, these technologies could be used by UN staff to efficiently consolidate, chronologically order and store all documents and AV recordings related to the discussions in one centralized location, as well as ensure the timely update of this repository. This would save an immense amount of

time for any professional looking to find material related to these discussions.

Moreover, AI technology could transcribe past and future recordings of negotiation sessions. This would make input contributed to these discussions (which has not necessarily also been contributed in writing) far more accessible for study, enhance its safekeeping and save delegations (and interested professionals more generally) valuable time in navigating and accessing these contributions. With the help of this technology, these transcriptions could also be translated into the six official languages of the UN, enhancing their accessibility further and helping the cyber negotiations better align with the spirit of the institution.

Furthermore, the Secretariat or the professionals holding the pen in any future negotiation process could use AI to more efficiently draw out and capture patterns in Member State contributions. Helping to synthesize them into negotiation text that could potentially command a broader level of acceptance faster, and perhaps, be more representative of the broader discussions than human expertise could produce. This latter point would, however, need to be put to the test, considering the current level of AI development and sophistication—with particular attention paid to the accuracy of the output of the AI put to use. Moreover, whether or not to employ AI would need careful consideration, as its usage could become a political question depending on who the provider of the AI technology would be and from which country it originates. For instance, certain countries may be suspicious of using AI technology provided by an American or Chinese company, in fear that it would prioritize, emphasize or favour positions taken by its home State and those of its allies. However, overall, emerging technologies do hold the potential to make Knowledge Holding more efficient and equitable within the UN First Committee cyber negotiations in the future.

Overall, this chapter has revealed that Knowledge Holding in the UN First Committee cyber negotiations has been dispersed rather than centralized, occurring inadvertently through tacit means as well as intentionally through explicit means.

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CHAPTER 6

An Ecosystem of Knowledge

It is not enough for an organization to possess and systematically store knowledge. For knowledge to be useful and impactful, it must be accessible and distributable (Bhatt, 2001, p. 72). Focusing on Knowledge Mobilization, this is what stage four of the KM model applied in this study concerns. Knowledge Mobilization involves the movement of knowledge from one place, person, or ownership to another (Liu, 2020, p. 45). This movement can be unidirectional, where the seeker alone gains knowledge. This occurs, for instance, when an individual learns something new from reading a document. Knowledge Mobilization can also be bidirectional or multidirectional, where there is an exchange, and both the provider/s and seeker/s of knowledge profit from the interaction, with each enhancing what they know through their engagement. The directionality of the movement of knowledge can matter in terms of coordinating efforts among actors, avoiding the duplication of work, preventing misunderstandings and ensuring its well-timed availability.

The transmission process defining Knowledge Mobilization (Liu, 2020, p. 50) is shaped by the communication processes and information flows in place within a particular professional setting (Alavi Leidner, 2001, p. 119), as well as the way in which its knowledge assets are stored (Hustad et al., 2022, p. 533). Thus, any Knowledge Holding practices in place directly impact how Knowledge Mobilization occurs.

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When knowledge assets are stored in catalogues, databases or the like, knowledge is usually mobilized by individuals utilizing some sort of digital or physical cataloguing system to access it. In situations where knowledge is held in the minds of professionals themselves, mobilization can occur from person to person through analogue engagement or communication via digital technologies (see, for instance, Peroune, 2007 and Dalkir, 2016). For example, individuals can share or obtain knowledge through on-the-job training, meetings, dialogues, inquiries, observation, apprenticeships, mentoring and storytelling (Nonaka & Takeuchi, 1995, p. 63; Peroune, 2007, p. 244; Chennamaneni & Teng, 2011, p. 3).

Knowledge Mobilization can happen intentionally with specific knowledge being deliberately sought, for example, through the utilization of an online catalogue or by consulting a colleague with known expertise. Knowledge Mobilization can also happen by chance or serendipity (Wiig, 1993, p. 184). For this to occur, however, an organization must create 'knowledge spaces', which can foster unplanned professional interactions (Liu, 2020, p. 50; Davenport & Prusak, 2000, p. 89). Physical environments such as break-out areas, shared kitchens and other communal settings, as well as online group chats or platforms, can all act as informal Knowledge Mobilization avenues, where individuals can interact, share and enhance their knowledge (Ibid., p. 143).

To make Knowledge Mobilization work, an effort is required on the part of both knowledge senders and receivers (Liu, 2020, p. 49). Senders must make the knowledge they are communicating easy to understand, and receivers must make the effort to actively absorb, digest and make sense of it (Ibid). Various factors contribute to an individual's willingness or effort to mobilize their knowledge. These include, but are not limited to, their attitude towards the organization or professional setting; organizational commitment; personal needs; self-image; perceived cost; personal benefit from contributions; anticipated rewards and benefits; community-related expectations; as well as levels of trust (Massingham, 2020, p. 337).

While Knowledge Mobilization is often framed as a positive activity that should be encouraged or enhanced (see, for instance, Haynes et al., 2020), entities as well as individuals also implement broader practices that deliberately prohibit the mobilization of, or access to, specific knowledge. At the individual level, there are a range of reasons why non-mobilization practices may be undertaken. For instance, knowledge can be deliberately hidden by individuals due to distrust (Connelly et al., 2012) or engage in strategic silence to withhold elements considered untimely (Parke et al.,

2022). Furthermore, a professional may refrain from sharing their knowledge due to a lack of rewards in doing so, psychological entitlement, as well as a means of competing against their colleagues (Wen & Ma, 2021). Professionals may also withhold their knowledge to maintain control and ownership over it (Huo et al., 2016).

At the entity level, various non-mobilization practices may also be implemented. For example, staying silent and not mobilizing knowledge can be seen as the safest option, when businesses are unsure what would be most beneficial to reveal to their audiences (Bond & Zeng, 2022, p. 179). In the case of a State, secrecy (a non-mobilization practice) can be a means of enhancing national security and enabling and enhancing governance (Heide & Villeneuve, 2021). The refusal to engage can also be implemented to willfully distance an entity in order to protect its sovereignty, sphere or space from being moulded according to external notions or ideas (Simpson, 2014). Other means such as intellectual property rights (Ali & Tang, 2022), non-disclosure agreements (Hrdy & Seaman, 2024), credentialing, classification or security clearances (see, for example, Ahmad et al., 2014), data protection (Rodotà, 2009), encryption (National Academies of Sciences, Engineering, and Medicine, 2018) and vetting (Stephenson & Rimmer, 2024) can all be considered non-mobilization practices employed with the intention of protecting the integrity and competitiveness of an entity.

Non-mobilization practices can, however, also be implemented with the purpose of disadvantaging others. For example, such practices can be used to deliberately cut knowledge off (Balmer, 2012) or be used as a right to discriminate against particular populations (Stephenson & Rimmer, 2024). They can also be harnessed to gain power and influence (Toegel et al., 2021, p. 885) or to obtain a dominant position in decision-making processes (Feldman, 1988, p. 87). Furthermore, non-mobilization practices can be leveraged to exclude stakeholders who do not share the same values (Ellis, 2024), as well as to undermine certain groups as knowers (Ajmani et al., 2024).

Ultimately, Knowledge Mobilization practices catalyse or restrict the movement or flow of knowledge, within an entity as well as between it and the outside world. As Knowledge Mobilization practices determine access to knowledge assets, they are of significant consequence in terms of the power dynamics experienced between actors within or in relation to a particular professional setting. In other words, they can amplify the power and influence of a particular actor or indeed diminish it.

Knowledge Mobilization and Non-mobilization in the UN First Committee Cyber Negotiations

As expected, the approaches taken to Knowledge Holding (discussed in the previous chapter) were found to influence the way in which knowledge has been mobilized within the UN First Committee cyber negotiations. With knowledge being held via the written word in documents and through audio-visual recordings digitally stored online, as well as by process veterans and non-State actors (NSAs), knowledge was found to be mobilized through interpersonal interactions undertaken by a range of actors within the negotiations, as well as by the individual professional's independent initiative in consulting material resources. This mirrors how Knowledge Building has occurred within the negotiations and as outlined in Chap. 3. Given the intrinsic link between Knowledge Building and Knowledge Mobilization, this is unsurprising, as with the transmission of knowledge, the opportunity arises for both those sharing it and those receiving it (in the case of person-to-person interactions) to benefit (Davenport & Prusak, 2000, p. 89). The process maps and illustrations included in the Appendix highlight the identified Knowledge Mobilization practices in blue. In addition, several Knowledge non-mobilization practices were identified through the collected data. These include: putting a time limit on negotiation interventions; cutting-off interventions; directing intervention content; vetoing unaccredited non-State actors (NSAs); limiting GGE membership and keeping these groups closed-door; as well as the poor design of the UN's digital infrastructure.

Knowledge Mobilization via Interpersonal Interactions

Knowledge Mobilization in relation to the GGEs and OEWG processes was found to occur through various interpersonal interactions between a range of actors, including OEWG and GGE delegations, process Chairs, the UN Office for Disarmament Affairs (UNODA) / UN Institute for Disarmament Research (UNIDIR) support team, NSAs, as well as home governments.

GGE and OEWG Delegations

In the formal setting of the GGE and OEWG negotiations, the mobilization of knowledge has involved delegations making interventions, communicating their positions, providing expertise and offering their views

and considerations of the substantive content under discussion. To give an example, some GGE experts have been in possession of specific expertise gained through their own personal professional speciality and experience, by means of their networks and/or through resources at their disposal, which they have contributed to the discussions (Anonymous Interviewee, personal communication, October 1, 2021). For instance, Kenyan's designated expert at the fourth, fifth and sixth GGEs was a technical specialist, who would, on occasion, provide her counterparts with technical explanations (Ibid.), sharing a particular type of expertise.

Knowledge was also found to be mobilized between individual GGE experts, both within and across expert generations (Anonymous Interviewee, personal communication, November 29, 2021; J. A. Lewis, Personal communication, October 12, 2021). These exchanges have been characterized by a range of activities, such as sharing and transferring knowledge, offering insight into past GGEs, clarifying points of discussion as well as positions taken (Anonymous Interviewee, personal communication, November 29, 2021; Anonymous Interviewee, October 1, 2021; J. Weaver, personal communication, November 8, 2021). Knowledge has also been shared between GGE experts and their advisors. The advisors, for example, have supported their GGE experts through the provision of analysis and subject matter expertise (M. Kerttunen, personal communication, October 8, 2021). They were also found to have mobilized their knowledge in support of other delegations within the GGEs, though this was not a universal practice (Ibid.). Knowledge was also transmitted from GGE experts to advisors. This was, for example, the case within the Australian delegation, where the GGE expert shared their knowledge with their advisor to help them understand what their delegation should think about and where they should focus their work (B. Daley Whitworth, personal communication, September 17, 2021). Furthermore, advisors within and across delegations are known to have shared knowledge among themselves (D. Broeders, personal communication, November 29, 2021). In the period where the first OEWG and sixth GGE were ongoing, knowledge was moreover transmitted across the processes, as some of the participating delegations were involved in both of them (UN Web TV, 2020a). These delegations included those of Australia, China, Estonia, France, Germany, India, Indonesia, Japan, Kazakhstan, Mexico, Norway, Russia, Singapore, South Africa, the United Kingdom and the United States (US) (United Nations General Assembly, 2020a, 2020b, 2020c, 2021a, 2021b).

Indeed, Knowledge Mobilization was also found to occur through networks of participation in the form of Member State coalitions and/or through participation legacies. With regional representation within the GGEs, these negotiations have been designed to act as microcosms of the broader UN system, and as such, wider international coalitions amongst Member States have been reflected within them (UN Web TV, 2019a). While GGE experts and their advisors may have changed throughout the various GGEs, Member State coalitions have had more permanence, ingraining knowledge and positions amongst their members. Member States, who have sent experts to a GGE for the first time, or who have not recently been involved in one and have had strong relations and/or alliances, have been able to use these connections (irrespective of personal acquaintance) to mobilize knowledge to better understand the process as well as the content of the discussions (Anonymous Interviewee, personal communication, November 29, 2021). Existing GGE Members, for instance, those of the likeminded group, have made efforts to onboard newcomer allies, socializing them into the process, to ensure that they would become impactful members of the group (Anonymous Interviewee, personal communication, October 1, 2021). These coalitions too have been reflected within the OEWG, where States who had previously participated in a GGE, or were participating in the parallel sixth GGE, could bring this knowledge to their newcomer counterparts. With these coalitions enduring and reinforcing positions from negotiation to negotiation, they have acted as a network through which their members could mobilize knowledge and otherwise help even out any experienced knowledge asymmetries.

A similar effect has been offered by Member State legacies. As discussed in earlier chapters, the Permanent Five of the UN Security Council (China, France, Russia, the United Kingdom and the US) as well as Germany have participated in all iterations of the GGEs. While the experts from China, France, the United Kingdom and Germany have changed throughout the years, these Member States have been able to mobilize knowledge through their participation legacies (D. Broeders, personal communication, November 29, 2021; J. Weaver, personal communication, November 8, 2021), should they have wished to do so—depending, of course, on how thorough their record-keeping has been within their delegations or domestically.

Chairs

Aside from delegations themselves mobilizing knowledge in relation to the GGE and OEWG discussions, the respective process Chairs were also found to play a key role in doing so—both through formal and informal interactions.

One way in which this was done was by the Chair sharing or requesting specific input. Indeed, it has been the Chairs who have prompted negotiation participants to take the floor and offer their interventions. Not only that, but the Chairs of both the first and second OEWG have also requested that these interventions be sent to the Secretariat in writing (UN Web TV, 2021a, 2021d) so that they could be made universally available online (UN Web TV, 2022a) as well as be more closely considered by the Chair himself (UN Web TV, 2021a, 2021d). Both OEWG Chairs, as well as the Chair of the fifth GGE, also prepared guiding questions to prompt particular input from delegations and focus the direction of the discussions (Lauber, 2020; Draft Programme of Work, 2020a, 2020b, 2020c, 2020d; M. Kerttunen, personal communication, October 8, 2021; UN Web TV, 2021b). Indeed, the Chair of the second OEWG requested ideas for questions from negotiation participants (UN Web TV, 2024a). Moreover, he asked delegations to: share comments of a general nature to inform the long-term development of the discussions (Ibid., 2024b); submit (cross-regional and group) working papers to build the foundations of partnership (Ibid., 2024c); send in concept papers and proposals that were sufficiently elaborated for smooth dissemination to other delegations (Ibid., 2022a); offer pointed and focused contributions (Ibid., 2022b) as well as agreed drafting language (Ibid., 2023a). Moreover, for example, in relation to the Annual Progress Reports (APRs) of the second OEWG, the Chair requested: views on their content and structure; guidance on how he could approach their drafting; comments to make revisions (Ibid., 2022b); as well as direction towards the most important points (Ibid., 2023b).

Chairs were also found to mobilize their own knowledge by providing their own input to the negotiations. For instance, the Chair of the first OEWG offered and shared his thoughts on the first substantive session via a working paper (Chair's Working Paper, 2020). To offer another example, the Chair of the second OEWG prepared a non-paper to help expand common elements of the second APR (UN Web TV, 2023c). Both OEWG Chairs also transmitted their knowledge during substantive sessions by offering opening and closing remarks as well as sharing reflections,

observations and updates (see, for example, Ibid., 2021e, 2021f, 2023d, 2025a).

Indeed, the Chair of the second OEWG emphasized his own Knowledge Mobilization efforts, noting that he wanted to keep the process of engagement, sharing, understanding and listening constant (Ibid., 2023c) and that he wished to consult widely and hear the views of all participants (UN Web TV, 2021a). To do so, the Chair actively worked to mobilize knowledge from delegations by: reaching out to them and welcoming them to meet with him; making himself available to be approached; as well as actually meeting with negotiation participants and taking part in informal consultation and intersessional meetings—in person and virtually, on an individual, bilateral and/or multilateral basis (see, for example, Ibid., 2021a).

Furthermore, knowledge was also found to have been transmitted between Chairs. For instance, the Chairs of the sixth GGE and the first OEWG worked outside the formal discussions to mobilize knowledge from one process to the other by working together. Between the first OEWG's organizational session in June 2019 and its first substantive session in September 2019, these two Chairs met several times (Ibid., 2019b). Moreover, considering input received from delegations and better understanding expectations, these two Chairs agreed to closely coordinate the two simultaneously occurring negotiations, thus establishing a channel through which knowledge could be mobilized between the sixth GGE and the first OEWG (Ibid.). The existence of this channel was reaffirmed later in the negotiations. For example, during the second substantive meeting, the first OEWG Chair stressed that his cooperation with the sixth GGE Chair would continue, and that he would be present at the UN in Geneva during the next upcoming GGE session (Ibid., 2020a). Furthermore, during this time, UNIDIR organized a joint briefing where the two Chairs provided the Geneva Community with an overview of the work of the two processes (Ibid.). The first OEWG Chair also invited the sixth GGE Chair to update the OEWG on the work of the GGE, which he did via video message at its second substantive session (Ibid.). The sixth GGE Chair also participated in the OEWG, not as GGE Chair, but as Brazil's representative, taking the floor and providing an intervention (Ibid., 2019c).

Specifically in relation to stakeholders, the Chair of the second OEWG catalysed their input by engaging with them through various formats, including via informal dialogues, meetings and discussions (Ibid., 2022c,

2025b), as well as by way of dedicated sessions (Ibid., 2022b), which he urged States and all stakeholders to attend, highlighting that these meetings were not solely for the benefit of the Chair (Ibid., 2023e). The Chair also encouraged stakeholders to reach out and stay in touch with Member State delegations and vice versa (Ibid., 2024d), advocating for informal interactions between them (Ibid., 2022c). Moreover, he requested stakeholders to share their contributions to the process in writing, delivering them in a way that was relevant and related to the work and stage at which the OEWG was at (Ibid., 2023e). Indeed, the Chair prompted delegations to consult these contributions, specifically stating that the group had to take advantage of the resources available within the stakeholder community to strengthen the work of the group (Ibid., 2023f).

The Chair further catalysed Knowledge Mobilization among Member State delegations through particular types of engagement, including: having informal conversations in the corridors (Ibid., 2021c); meeting with non-accredited stakeholders (Ibid., 2024a); extending lunch breaks to allow negotiation participants to exchange information and build relationships (Ibid., 2024e); adjourning the formal meeting to give delegations time to partake in dialogue with other countries (Ibid., 2025d); as well as giving them time to consult with their Capitals, considering time differences with New York (Ibid., 2022b); and encouraging delegations to meet during coffee breaks, especially with counterparts expressing differing views (Ibid., 2023d, 2024f). The Chair also reached out to delegations to facilitate their participation in formal consultations (Ibid., 2021a); convened informal sessions to account for spillover contributions and to continue discussions (Ibid., 2024g); asked delegations to react to the comments and suggestions of their counterparts and propose new ideas based on them (Ibid., 2023d). He moreover referred participants to UN Web TV recordings for reference (Ibid., 2024h); encouraged delegations to reach out to one another in the intersessional periods (Ibid., 2022d); as well as hosted cocktail receptions at the Singaporean embassy where negotiation participants could engage in informal discussions (Ibid., 2025c). Further yet, the Chair of the OEWG's Informal Intersessional Consultative Meeting also mobilized knowledge by prompting scene-setting presenters to take the floor.

The UNODA / UNIDIR Support Team

In addition to the Chairs, the UNODA / UNIDIR support team was also found to have a Knowledge Mobilization function in relation to both the

GGE and OEWG processes. At the request of the Chair, these professionals have offered their expertise to GGE members (J. A. Lewis, personal communication, October 12, 2021). They have also shared their knowledge more widely beyond the GGE arena. For example, during the regional consultations, supporting the sixth GGE, GGE consultants/rapporteurs provided participants with an in-depth overview of the work of the previous GGE processes (UNODA, 2019). Furthermore, members of the support team also mobilized their knowledge in compiling three background papers on key elements of the negotiations after several participants had asked for more information during the first substantive session of the first OEWG (*An Initial Overview of UN System Actors*, n.d.; *International Law in the Consensus Reports*, n.d.; *Regular Institutional Dialogue in the Consensus Reports*, n.d.; Lauber, 2019). Moreover, the support team has mobilized knowledge through the Chair. This was for example, evident during a meeting of the second substantive session of the first OEWG, where, after discussions with the support team, the Chair requested specific additional input to help further develop ideas in the OEWG draft report, on establishing some sort of international mechanism or institution in relation to existing and potential threats (UN Web TV, 2020b). In addition, some of these professionals were also found to share their knowledge informally, at the individual level, with members of the negotiating delegations (at least within the context of the GGEs) (Anonymous Interviewee, personal communication, October 1, 2021).

Non-State Actors

Knowledge has also been mobilized through NSAs—at least in the context of the OEWG. This was, for example, visibly embodied by the Informal Intersessional Multistakeholder Consultative Meeting of the first OEWG, where Member States invited NSAs to the UN to provide their input. Initially, Member States were not engaging in this meeting and offering contributions; however, in pointing this out, a NSA representative successfully prompted Member State representatives to start sharing their views and positions (UN Web TV, 2019d).

Member States have also, for example, directly sought input from NSAs such as AccessNow, Global Partners Digital, Kaspersky and the Women's International League for Freedom and Peace (Anonymous Interviewee, personal communication, October 14, 2021; Anonymous Interviewee, personal communication, August 8, 2021; Anonymous Interviewee, personal communication, July 1, 2021; Anonymous Interviewee, personal

communication; July 12, 2021; R. J. S. Chima, personal communication, January 29, 2022). This expertise has, for instance, been provided in writing (such as in the form of research reports), via email or over the phone (Anonymous Interviewee, personal communication, October 12, 2021; Anonymous Interviewee, personal communication, August 8, 2021; Brown & Pytlak, n.d.; Shoker, 2020). Documents, comments, suggestions, and input have also been provided to Member States by NSAs (Anonymous Interviewee, personal communication, October 14, 2021). Furthermore, informal meetings between Member States and NSAs have also taken place in relation to central themes of the OEWG (Anonymous Interviewee, personal communication, August 8, 2021; R. J. S. Chima, personal communication, January 29, 2022).

Not only have NSAs contributed to informing country positions, they themselves have also been helped by Member State delegations to understand the nuances of the negotiations, as well as create a better understanding of how to participate in and support the OEWG process (Ibid.). Due to restricted access and the fact that NSAs do not constitute an official negotiating party, it has been critical for them to maintain good relations with the Member States that have been open to engagement (Anonymous Interviewee, personal communication, July 1, 2021). This has been important in terms of mobilizing knowledge from inside the negotiations, becoming informed about for example, what has been going on in the discussions, and how the positions and views of Member States have been developing, as well as creating an avenue through which NSAs have been able to proactively share their knowledge, and advocate for their interests (Anonymous Interviewee, personal communication, July 1, 2021).

Furthermore, NSAs were also observed to mobilize knowledge through events, workshops and expert presentations hosted in parallel to the negotiations. For example, Kaspersky, a NSA participating in the OEWG, organized a series of multistakeholder conversations entitled *Community Talks on Cyber Diplomacy* (for a summary of these conversations see Kaspersky, n.d.-a).[1] An aim of these talks was to help the technical community as well as the private sector better understand the UN First Committee cyber negotiations and how they could support UN Member States in their participation (Ibid., p. 2). By hosting these events Kaspersky engaged a range of professionals, who shared their knowledge. These professionals

[1] Kaspersky is a privately owned cybersecurity company (Kaspersky, n.d.-b).

included diplomats involved with the UN discussions from France, Canada, the United Kingdom, Australia, Switzerland and Germany. They also included professionals from the GGE/OEWG support team, academia, law enforcement-related agencies (such as the European Cybercrime Centre and the UN Office on Drugs and Crime), as well as from Kaspersky itself (Ibid.).

NSAs were also observed to foster the movement of knowledge amongst themselves. For instance, they coordinated work, mutually supported and updated each other on developments in the negotiations, provided capacity-building exercises, helped each other better understand how the negotiation processes worked as well as how best to engage with them (Anonymous Interviewee, personal communication, August 8, 2021; Anonymous Interviewee, personal communication, July 1, 2021; Anonymous Interviewee, personal communication, July 13, 2021; D. Hollis, personal communication, July 26, 2021). NSAs have also run in-person workshops, webinars and projects to support counterparts in other world regions in engaging with their Member States (Anonymous Interviewee, personal communication, July 1, 2021). Moreover, some NSAs engaged with the negotiations have worked with counterparts who have not been able to easily channel their concerns through the regular hierarchy of their own governments (B. Hogeveen, personal communication, October 20, 2021). This has, for instance, been done to address misconceptions and help professionals working at the ICT operational level understand the essence of the UN discussions as well as the perception and ideas that surround the established cyber norms, and what it is that Member States have committed to, through them (Ibid.).

Home Governments

In both the GGE and OEWG discussions, interactions between participants and their home governments have also created an avenue for transmitting knowledge from the national to the international level and vice versa. Delegations have kept their home governments orientated about what was going on at the international level in the negotiations, as well as consulted with them and sought input on the development of their positions, as has been further detailed in Chap. 4 (UN Web TV, 2020b). In turn, national governments have provided instructions, input and resources to help further develop the negotiation positions of their international delegations (Anonymous Interviewee, personal communication, November 29, 2021; B. Hogeveen, personal communication, October

20, 2021). While consulting with Capitals is common practice in multilateral diplomacy, it represents a distinct avenue for Knowledge Mobilization.

Knowledge Mobilization via Individual Initiative

In addition to these wide-ranging interactions mobilizing knowledge between negotiation participants, individual professionals have also mobilized knowledge via their personal consultation of material resources. Whilst the opportunity for participants to consult material related to the themes of the discussions has not been dependent upon the negotiations themselves, the establishment of the OEWG (as previously noted) marked a turning point in the availability of material directly related to them. With the OEWG's open nature, a wealth of material in the form of substantive contributions made to the discussions became universally available for the first time in the negotiations' history. Thus, via the UN's various online platforms as well as the unofficial database created by Reaching Critical Will (discussed in the previous chapter), it became possible for professionals to independently mobilize the input of their counterparts without having to directly engage with them. Via these submissions, greater, quicker and ad hoc access was granted to the thoughts, views, positions and knowledge of process participants willing to share them. This empowered individuals to mobilize knowledge from material resources to a much greater extent than they had been able to before.

Non-Mobilization Practices

While the opportunity to mobilize knowledge has been persistent throughout at least the OEWG streams of the negotiations, with this format being championed as an inclusive, transparent and democratic platform (United Nations General Assembly, 2021c, p. 2), certain non-mobilization practices have also been implemented in these discussions. For instance, while the Chairs have undertaken a range of activities to foster the mobilization of knowledge in the OEWGs, they have also set restrictions. Time limits have been placed on negotiation interventions, and speakers have been cut-off during substantive OEWG sessions (UN Web TV, 2024d). Moreover, the nature of interventions has been directed by the Chair, where, for instance, the second OEWG Chair specifically asked delegations to avoid making general statements as well as rest ating their positions at length (see, for example, Ibid., 2024i). The Chair of the first OEWG also directed

interventions away from areas that had already gained a high level of consensus, towards those where it still needed to be forged (UN Web TV, 2021d).

The exclusion of unaccredited ECOSOC NSAs in the OEWG processes is another example of a non-mobilization practice, where certain Member States have wished (and succeeded) in restricting particular stakeholders from accessing and contributing to the negotiations.[2] To offer an example, during the second OEWG, both Russia and Ukraine vetoed the participation of NSAs unaccredited with ECOSOC for the third substantive session (Diplo, 2022). In doing so, Russia on the one hand noted the OEWG as being the sovereign prerogative of Member States and only relevant NSAs should be engaging with it. Ukraine, on the other hand, denied certain NSAs, which it argued, were Russian State entities and not independent NSAs, who would otherwise be welcome (Ibid.).

Moreover, the limited membership of the GGEs as well as their closed-door nature can also be considered as non-mobilization practices. This is because these design characteristics have cut-off certain UN Member States from contributing their knowledge, insight, priorities and perspectives to the discussions, thus preventing them from directly influencing or shaping any resulting international agreement.

Further, the poor set-up of the digital infrastructure housing the material associated with the negotiations can also be understood as a non-mobilization practice, as it has made navigating and locating material related to the negotiations challenging for participants, potentially preventing them from harnessing these particular knowledge assets.

[2] Having consultative status with ECOSOC—the UN Economic and Social Council—affords an organization (an NSA) a range of opportunities to participate in UN business. These include, permission to enter UN premises; attendance at international conference and events, as well as the opportunity to contribute written and oral statements to them; the ability to contribute to advancing UN goals and objectives; the possibility to organize side events, raise public awareness, network and lobby, as well as the opportunity to provide expert analysis, essential information, offer early intel, and help implement and monitor international agreements (United Nations, 2018, p. 17).

Analysis

What becomes clear when considering Knowledge Mobilization in the context of the UN First Committee cyber negotiations is that practices that can be conceptualized as such have occurred through an ecosystem of person-to-person interactions among a constellation of actors. When considering this constellation, the Chairs of the OEWG and GGE processes have played a central role in fostering the transmission of knowledge through this ecosystem. Not only have they mobilized the input of Member States and their home governments (by giving delegations time to consult with their Capitals), but they have also directly drawn upon (accredited and unaccredited) NSAs, the support team, as well as their own insights to progress the discussions and enrich the substantive content. This highlights the crucial role and influence the Chair has had in bringing input to the fore of the negotiation process and enabling its advancement towards meeting its mandate. It also underscores that Knowledge Mobilization in the context of these negotiations is highly dependent upon the personal initiative of the particular individuals embodying this role.

The transmission of knowledge has also occurred through the individual professional's consultation of material resources. However, whether by design or unintentionally, the set-up of the UN's digital infrastructure has made it challenging to navigate and access some of these knowledge assets. Nonetheless, this, coupled with the previously mentioned personal interactions, highlights that Knowledge Mobilization has been uni-and bi-or multidirectional, as well as both a collective and individual endeavour.

In terms of its reach, the identified Knowledge Mobilization practices have spanned formal and informal spaces related to the negotiations, highlighting the extent of this knowledge-sharing ecosystem. Knowledge has been transmitted both through the formal context of the physical and virtual (particularly in the time of the Covid-19 pandemic) negotiation arenas as well as through its associated informal spaces—such as in corridors, cafes and other discussion venues, or virtual spaces such as membership in WhatsApp groups or on mailing lists (Anonymous Interviewee, personal communication, July 5, 2021). Moreover, knowledge has also been shared in other informal spaces outside the institutional setting of the UN, such as through events hosted by NSAs, and via access to their online resources offering information and materials relating to the discussions. The extensiveness of the knowledge ecosystem has been a particular result of the

OEWG format, which has allowed for the greater circulation of knowledge assets among many more actors than was previously the case under the GGE design. With this, the possibility of influencing the negotiations has been enhanced for some actors as well as their experienced power dynamics in relation to them. For instance, some NSAs have obtained a significant presence and voice with respect to the negotiations.

While the circulation of knowledge has been enhanced through the OEWG, non-mobilization practices have also been implemented within it. The noted measures—strict speaking times, intervention cut-offs and directed intervention focus—have been employed with well-meaning intentions. They have been based on the practical consideration of having to advance the negotiations while having limited resources—such as time, translators and meeting rooms—available, as well as keeping a focused agenda towards meeting mandates. The vetoing of unaccredited NSAs has been a double-edged sword depending on the motivations of the State applying it. In some cases, it has, for example, been used to block NSAs providing input counterproductive to national priorities. In other cases, it has been used to stop Member States from harnessing NSAs as proxies.

Looking back to the GGEs, while their design was implemented to advance the efficiency of reaching international agreement, acting as a microcosm of the UN, their limited membership and closed-door nature have nonetheless constituted exclusionary practices. By prohibiting certain UN Member States from participating, their knowledge, insights, views and national priorities have been prohibited from being mobilized to influence and shape any resulting international agreement. This indeed has been acknowledged through the hosting of consultations with broader UN Members during the sixth GGE process.

Overall, when considering the identified Knowledge Mobilization practices within the context of the UN First Committee cyber negotiations, it becomes clear that an ecosystem of knowledge transmission among a constellation of actors, spanning the formal and informal spaces associated with the negotiations, has been created. The flourishing of this ecosystem has been dependent upon individual as well as collective efforts, and, in some cases, has been both hindered and helped by non-mobilization practices.

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CHAPTER 7

Led by Language, Constrained Through Consensus, Determined by Delegations

Having considered the first four stages of the KM Model applied to the context of the UN First Committee cyber negotiations, this chapter addresses the final stage, which focuses on Knowledge Utilization. This stage concerns the practices, decisions and actions that exploit and apply knowledge managed through the previous four stages of the model, thereby activating and transforming it into an asset and demonstrating its value (Bhatt, 2001, p. 73; Liu, 2020, p. 46; p. 52). How knowledge is utilized, as well as for what purposes, depends on the professional context in question, its *modus operandi*, as well as its specific objectives or mandate. For instance, knowledge can be utilized or applied to solve problems, influence actions, change behaviour, make decisions, innovate, design and produce new products and services (Liu, 2020, p. 52), as well as change policy and procedures (Diehr & Gueldenberg, 2017, p. 3). Moreover, knowledge can be applied instrumentally in a direct way; conceptually in an indirect way; or symbolically in support of certain aims (Amara et al., 2004).

The utilization of knowledge is not neutral, as has been established elsewhere in the literature (see, for example, Jasanoff, 1998). It is subject to experienced power dynamics (Soenen & Moingeon, 2004) and shaped by the needs, standards and objectives of a professional entity. These elements, in turn, influence what knowledge is accepted and considered valuable, legitimate, appropriate and (in some cases) strategic for use. As such,

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greater weight can be placed on certain knowledge assets, privileging their use over others. Thus, depending on the professional context, Knowledge Utilization can be highly contested, requiring negotiation by its users in its application (see, for example, Caponio et al., 2014).

In terms of knowledge actually being utilized, this does not simply occur through its sheer availability; a conscious decision and effort have to be made to operationalize and leverage its potential (Massingham, 2020, pp. 244–245). In other words, a professional culture needs to be in place, which is receptive to this knowledge and its application. There are many components to this, including both competent leadership (Anantatmula, 2008) and employees (Alainati, 2009), as well as the available knowledge being a cognitive fit (Vessey & Galletta, 1991). Moreover, employees need to be motivated and willing to use this knowledge and see or experience the value in applying it (Oyefolahan & Dominic, 2013). Further, trust among colleagues (Holste & Fields, 2010), as well as an emphasis on collaboration (Shehzad et al., 2021), can affect knowledge use. So too can the tools and infrastructure in place (Pandey & Dutta, 2013) (as also discussed in relation to mobilization in Chap. 6), as well as the context in which a professional entity is operating (Contandriopoulos et al., 2010; Blake & Ottoson, 2009). On this latter point, it can be considered more or less appropriate, useful, possible, or strategic to harness particular knowledge assets at a given moment in time (Blake & Ottoson, 2009).

When considering the previous four stages of the KM model, their ultimate aim is to make Knowledge Utilization possible by making knowledge assets disposable. At worst, the KM process up until this point should have conveyed the current state of knowledge to the professionals in need of it, educating them. At best, it should actively contribute to them meeting their objectives through its utilization—however that may take expression. If the right knowledge reaches the right people at the right time in a format that is accessible, and helps them meet their objectives, then the KM system has, to some extent, been effective. How effective is another question beyond the scope of this study, dependent on understanding relative to what as well as defined by whom. Ultimately, the aim of a KM system (as has been broken down into five stages via the theoretical framework applied in this book) is to help ensure that work is carried out in an informed way. It is a matter of avoiding competency gaps and a deficit in the knowledge base, ensuring skillful knowing among an organization's professionals as they do their jobs (Massingham, 2020, p. 470) and work to meet their objectives.

Knowledge Utilization in the UN First Committee Cyber Negotiations

As highlighted in purple by the process maps and illustrations in the Appendix, Knowledge Utilization within these negotiations has been embodied by the GGE and OEWG consensus reports, as well as by the Annual Progress Reports (APRs) of the second OEWG. These documents are the products of the UN First Committee cyber negotiations and have been produced through a sequence of Knowledge Utilization practices that have applied elements of the inputs contributed to the processes.[1] The practices that can be conceptualized as acts of Knowledge Utilization include the synthesis of contributions made to the discussions into draft text and its subsequent and iterative redrafting and editing. As will be illustrated and discussed in more detail ahead, these practices have been undertaken by the respective process Chairs and their support teams, based on comments and feedback received from negotiation participants. To illustrate how this utilization has taken place in practice, examples are used from both OEWGs as well as more broadly for the GGEs as a process.

Considering the first OEWG, this process consisted of three substantive sessions, which led to the agreement of a final consensus report. As discussed in previous chapters via the Knowledge Building and Knowledge Mobilization activities of the general exchange of views, as well as discussion of substantive elements, the active knowledge base of the discussions was populated with substantive content. Through these exchanges, negotiation participants have continuously worked to make sense of and narrow down the issues under negotiation. Once a baseline of content had been developed, a 'pre-draft' of the first OEWG report (United Nations Open Ended Working Group, 2020a) was shared by the Chair to provide a basis for further discussion, as well as to collect reactions to the text (Lauber, 2020a). Through this document, the initial synthesis of contributions was undertaken, with the draft being an expression of the Chair's understanding of the state of the discussions, at that point in time. To prompt the editing and/or redrafting process, the Chair sought comments, suggestions and feedback from Member States to refine the shared direction of the group in the run-up to creating the final draft. In response to this 'pre-draft', Member

[1] It should be noted here that the purpose of this chapter is not to undertaken a content analysis of which input has been reflected within these final reports. Rather the purpose is to identify and examine the practices that establish them.

States as well as non-State actors (NSAs) provided comments (see UNODA, n.d. for a list of these contributions).

Following receipt of these comments, the OEWG Chair prepared a revised pre-draft (United Nations Open Ended Working Group, 2020b), which he noted had been incrementally updated, and upon which he hoped to receive further guidance from States during upcoming virtual meetings, to enable further additional revisions (Lauber, 2020b, p. 1). In preparing for these virtual meetings, the Chair emphasized that they would not constitute a line-by-line negotiation of the text but would rather be an exchange among Member States on the broader elements of the draft (Ibid.). As such, further comments were offered, and as a result, the Chair then prepared a 'zero-draft' (United Nations Open Ended Working Group, 2021). With this 'zero draft', the Chair worked to include the views of all Member States in a balanced and as predictable a manner as possible, avoiding any major surprises for delegations (Lauber, 2021a, p. 1). This draft was also subject to revisions by the Chair (including being restructured), which were based on delegation reactions, resulting in what was called the 'first draft' (Ibid., 2021b, p. 1). Finally, the 'first draft' was transformed into the 'final draft' after delegations had undertaken further discussions at the third substantive session of the first OEWG (Ibid., 2021c).

Although the second OEWG has been longer in its duration than its predecessor (operating from 2021 to 2025 and spanning 11 substantive sessions), a similar process of Knowledge Utilization has been observed, both in terms of creating the APRs, as well as the final consensus report. Considering the third APR as an instructive example, iterative discussion here too acted as a starting point to gather material for populating an initial draft report. This initial draft came in the form of a 'zero draft', which the Chair shared with Member States for their consideration (Gafoor, 2024a, p. 1). In the process of creating this report, the Chair aimed to capture as much incremental progress as possible (Ibid., p. 2). In releasing this draft, he invited all delegations to a virtual open-ended town hall meeting to obtain input on the document (Ibid.). In reviewing and considering points raised by delegations at this meeting, the Chair then prepared a revised draft of the third APR (Ibid., 2024b, p. 1). In doing so, he worked to reflect the various suggestions, ideas and proposals that delegations had put forward, while at the same time working to keep a balanced text comprised of language amenable to consensus (Ibid., pp. 1–2). This draft was then again subject to the consideration of Member States, and as a result, the Chair made further adjustments to fine-tune the text (Ibid.,

2024c, p. 1). This concluded with the final draft of the third APR being written, which the Chair noted as representing his best effort at consolidating contributions made by States and crystallizing the collective work of the group towards creating a consensus text (Ibid., pp. 1–2).

When considering the final report of the second OEWG, the process is exactly the same. Member States went through iterative discussions, which ultimately resulted in the Chair releasing a 'zero draft' of the final report (Gafoor, 2025a). The Chair again held a virtual informal town hall meeting to hear reactions and receive comments on this draft from delegations (Ibid., 2025b). Based on suggestions put forward at this meeting, the Chair then shared an updated version of the text—the 'Rev. 1 draft' of the final report (Ibid., 2025c). This text was then subject to negotiation (Ibid., 2025d), and the final consensus report was thereafter produced (Ibid., 2025e).

Regarding the GGE processes, while there is a lack of transparency as to how exactly each iteration was carried out, they are known to have been undertaken in a similar fashion to the OEWGs (Anonymous Interviewee, personal communication, October 1, 2021). Initially, experts have discussed the thematic issues under consideration topic by topic, populating the active knowledge base, which has ultimately led to a draft text. This draft too has then been subject to negotiation among experts, with subsequent revisions (if indeed there have been any in a given GGE process) being made to the text (Ibid.).

It is important to note that in producing and providing these drafts—both during the GGEs as well as for the first and second OEWG—the Chairs have been aided by a support team. In drafting these documents, the support team has been responsible for working with and synthesizing official contributions made to the negotiations (J. A. Lewis, personal communication, October 12, 2021). This has involved identifying cross-cutting concepts, organizing considerations by theme, understanding what has been important for the negotiation text to embody, refining submissions and rephrasing text to capture the main ideas presented (Ibid.). Centrally, these professionals have teased out the issues at the centre of the discussions, based on the submissions and statements made to the negotiation process (Ibid.). The substance of these contributions has not been changed by the support team (Anonymous Interviewee, personal communication, July 20, 2021), but rather drafted into language thought agreeable to negotiators (J. A. Lewis, personal communication, October 12, 2021). This text has then been presented to participating delegations,

and based on their discussions, the Chair and support team have repeatedly revised and returned the draft to them for their further consideration (Ibid.; see, for example, Gafoor, 2024c).

Moreover, in addition to utilizing the input offered by Member State representatives, in the context of the second OEWG, the Chair, his staff and the support team were also noted as taking careful notes and going through UN Web TV recordings of the substantive sessions, to ensure that key input was not missed and indeed represented in the respective drafts (UN Web TV, 2022a). In the case of the sixth GGE and the first OEWG, the same support team aided both processes and was thus responsible for ensuring consistency, complementarity, as well as the harmonization of language across the two negotiation texts (Anonymous Interviewee, personal communication, July 20, 2021).

Analysis

Considering the practices that have resulted in the final products produced by the GGEs and the OEWGs, it becomes clear that language is the raw material guiding the Knowledge Utilization process. To illustrate, in the case of the APRs of the second OEWG, the aim of these reports was to be more than the sum of their parts (UN Web TV, 2024). The purpose of these documents has been to capture the spirit of the discussions in a way that could navigate the red lines of Member States, foster convergence and command consensus on the topics under discussion (Ibid., 2023a, 2023b). As such, rather than directly reflecting every word of all contributions offered to the process (Ibid., 2023a), the Chair and the support team have collected, complied and collated ideas that overlap and resonate across inputs offered for consideration (Ibid., 2022b). Thus, Knowledge Utilization has in part taken expression through the synthesis of input, provided to the negotiations, into text reflective of the whole.

Given that language has constituted the building block towards achieving consensus, careful wordsmithing has been required to ensure that text previously agreed has not become subject to renegotiation (Ibid., 2024). Indeed, wordsmithing has constituted a form of textual micro-politics, condensing the inputs contributed to the negotiation arena into a material artefact and protecting them from future political meddling. An emphasis has been put on reinforcing previously agreed language, while at the same time, building upon it and agreeing new language. Where the intention behind repetition in language across outcome documents has been to

create, maintain and reinforce confidence, comfort, as well as trust among Member States (Ibid.), reinforcing Knowledge Utilization throughout consensus documents.

For language to be productive in terms of facilitating agreement among Member States on the topics under discussion, it thus becomes clear that it must have lent itself to consensus. In the context of the UN, consensus is the absence of objection rather than the attainment of a majority through a vote (Dag Hammarskjöld Library, 2022). As both the GGEs and OEWG were consensus-based processes, this principle has constituted one of their touchstones (J. A. Lewis, personal communication, October 12, 2021). Obtaining consensus has therefore created a parameter and dictated what areas, and subsequently what inputs, it has made sense (and indeed been possible) to utilize in the negotiations towards developing the respective outcome documents. As such, the inclusion of any particular input within the final text has been dependent upon its political palatability to all negotiating parties. Thus, the utilization of knowledge or inputs contributed to these negotiations has (unsurprisingly) been a political question, rather than a scientific one reflective of current capabilities, opportunities and threats associated with ICTs relative to international security.

Whether or not, as well as how, and to what extent, certain inputs have been reflected (utilized) in creating the final established agreements, has been a matter of political convenience, strategic alignment amongst Member States and a reflection of a compromise of national interests. Rather than necessarily the encapsulation of considerations of knowledge at the frontier of ICT developments and its most critical implications for international security. Indeed, the design of the process has positioned consensus as the critical factor for establishing the framework for responsible State behaviour in cyberspace (Efrony, 2021). With this, inputs made to the discussions have come to cater to, and honour, the design of the process. If contributions have been conducive to consensus (to any particular extent), then they have been utilized. If contributions made to the process have not, however, fit within the mould of producing a consensus outcome, their consideration has either been completely omitted from the negotiation process (Anonymous Interviewee, personal communication, September 15, 2021) or potentially saved for later discussion—should an atmosphere more receptive to their consideration develop (UN Web TV, 2023a). In the case that negotiating delegates have been unable to get past a point of contention and were unwilling to move beyond it as a point of consideration, then the negotiation process has failed (J. A. Lewis,

personal communication, October 12, 2021). The latter scenario occurred, for example, during the fifth GGE negotiation process, where one issue was that the Cuban expert could not accept the final draft presented, due to its referencing of international humanitarian law, as from their perspective, this would have legitimized military actions as well as war in the cyber context, which was deemed unacceptable (Rodriguez, 2017). As such, the fifth GGE was unable to produce a consensus report, and so the inputs that had been contributed to that process and utilized in creating the draft report, ultimately, did not contribute to advancing international agreement on the topic. The absence of elements in a negotiation text (whose presence would otherwise be expected), or indeed of a text altogether, gives clues to points of contestation, lacking prioritization, as well as areas of desired ambiguity, as Knowledge Utilization did not occur in these instances.

Acknowledging that the negotiations are constrained by consensus in the ability of negotiators to utilize contributed input, another observation arises. Namely, that there have been variations in the influence different actors in the negotiations have wielded over the utilization of knowledge in the drafting of the outcome reports. Sitting under the umbrella of the UN, these negotiations have been Member State processes. The negotiations have been run by Member States, for Member States, and it is ultimately Member States who have made the decisions within them. Member States have been the authoritative knowledge providers, offering the primary and only official input into the negotiations (Anonymous Interviewee, personal communication, July 1, 2021). Member States have controlled the content and scope of the discussions, first through the negotiation of the resolutions mandating the work of both the GGE and OEWG processes (United Nations General Assembly, 2003, 2006, 2011, 2014, 2015, 2018, 2019), and then through the programme of work of the substantive sessions and the themes upon which they should focus.[2] Member States (most notably the United States and Russia, as discussed in previous chapters) have also, to a large extent (especially during the GGE years), determined the framing and narrative of the discussions.

In addition, countries have decided who can, and who cannot, be involved with the negotiations, as is highlighted by the fact that NSAs

[2] As a reminder, the key themes under discussion in the UN First Committee cyber negotiations have been existing and potential threats; norms, rules and principles of responsible State behaviour; confidence and capacity building measures; the application of international law; as well as the conduct of regular institutional dialogue.

without ECOSOC Consultative Status have been excluded from attending substantive sessions of the OEWG (see, for example, United Nations, n.d.). Indeed, by exerting their authority over which stakeholders have been invited to contribute to the discussions, Member States have actively allowed certain forms of input to gain a presence and potential utility in the negotiations (remembering that availability does not necessarily guarantee utilization), while dismissing and denying that of others. Having no official status as negotiators, NSAs have been subordinate knowledge providers, who have worked to have their input integrated and reflected in the final outcome reports.

Up until 2019, avenues for the direct participation of NSAs in these negotiations had not been institutionalized. As noted elsewhere, this changed with the introduction of the OEWG format and the hosting of the regional consultations supporting the sixth GGE. Throughout the regional consultation process, various meetings were held with NSAs, giving them the opportunity to offer their input towards advancing the GGE discussions (UNODA, 2019). In the setting of the first OEWG, all NSAs were invited to participate in the Informal Intersessional Consultative Meeting, but only those with ECOSOC consultative status were granted access to the formal substantive sessions. Where for the second OEWG, ECOSOC accreditation was also required for participation in substantive sessions.

Gaining ECOSOC accreditation is a long process, in which the Committee on Non-Governmental Organizations must receive applications by the first of June the year before an NSA wishes to be considered for recommendation for this status (United Nations, 2018). For example, applications submitted between the second of June 2015 and the first of June 2016 were considered by the Committee in 2017 (United Nations Department of Economic and Social Affairs, n.d.). With the first OEWG officially initiated in December 2018 (through its mandating resolution) and work already beginning in June 2019, any NSA that wished to participate in that negotiation process would have to wait to have their ECOSOC application considered at the earliest in 2020. This required status affected many. For example, during the first two substantive sessions of the first OEWG, 18 NSAs lacking accreditation were rejected for participation in the first substantive session of the OEWG and 30 were rejected for the second, with 8 and 14 ECOSOC-accredited NSAs being accepted, respectively (United Nations, n.d.; Kumar & Kaspar, 2020).

While the opportunity to contribute to these negotiations has, to a certain extent, increased for NSAs (as shown through the examination of Knowledge Mobilization practices in the previous chapter), their contributions are not equally considered alongside those of Member States (Anonymous Interviewee, personal communication, July 1, 2021) and do not contribute directly to the final agreement (J. A. Lewis, personal communication, October 12, 2021). For its official reflection and consideration in the discussions, NSA input is dependent upon Member State delegations absorbing them into their own official positions (Anonymous Interviewee, personal communication, July 1, 2021; Anonymous Interviewee, personal communication, September 15, 2021). Thus, States opening the negotiations to the participation and contributions of some NSAs is not necessarily reflective of it actually being utilized in establishing a final agreement (Anonymous Interviewee, personal communication, July 1, 2021), as Member States are not obliged to do so. The negotiations have not constituted a democratic process, wherein all presented input has been taken under equal consideration (Ibid.). Indeed, it can simply be ignored (D. Broeders, personal communication, November 29, 2021). Ultimately, input contributed to the negotiations by Member States carries official weight, whereas that of NSAs does not.

With this and considering the mobilization practices outlined in the previous chapter, it could be that there has been the illusion of utilization, where knowledge is nominally mobilized from NSAs but functionally excluded from actually being utilized in shaping the state of the outcome of the negotiations. As a result, it may be that input mobilized for the sake of advancing the negotiations actually never moves into the Knowledge Utilization stage. To determine this, however, is beyond the scope of this study. Such an exercise would require careful content analysis, through which the origins of a particular input from an NSA would first have to be established. That input would then need to be traced to determine the extent to which it has ultimately been reflected in any final negotiation text.

With this dependency on Member State absorption, NSAs do not necessarily maintain control over how their contributions are represented, used in developing the discussions and ultimately configured in the final text of the consensus reports. This is because these contributions face the potential (or likely) subjectification to political handling and tailoring to enhance country positions. In other words, NSA contributions may be cherry-picked, framed or spun to suit particular national interests.

Moreover, it is also not guaranteed that when these contributions are picked up by Member States, they will actually be reflected in any final agreement established, as the content of the discussion fluctuates and evolves as they advance. Indeed, content that gets a lot of attention in some negotiation sessions may not necessarily be reflected at all in the final agreement (R. J. S. Chima, personal communication, January 29, 2022). This emphasizes the position of NSAs as subordinate knowledge providers, as although they can contribute to the discussions, they have limited, if any, power in determining whether, and if so, how, their input is utilized in creating the outcome product of the negotiations.

That being said, NSAs have used various strategies in an effort to boost the utilization of their contributions. For instance, as seen through consistent engagement with the negotiations, a persistent effort has been made by some NSAs to influence the discussions, through, for example, continuously providing contributions and hosting events (Anonymous Interviewee, personal communication, July 1, 2021). This is not surprising, considering long-term involvement is a key factor in successfully providing a negotiation with expert input (Weible et al., 2012, pp. 14–15; Rietig, 2014, p. 158). Moreover, some NSA representatives have also joined Member State delegations in the cyber negotiations (Anonymous Interviewee, personal communication, July 1, 2021). This too is unsurprising, given it has been found to be an important strategy for policy entrepreneurship, as through membership in a State delegation, NSA representatives gain a potentially high level of influence in their official access to the negotiation text (Rietig, 2014, p.158). Further, NSAs lacking ECOSOC accreditation have also joined the delegations of their counterparts who have had this credential to gain physical access to the negotiation room (Anonymous Interview, personal communication, July 1, 2021). Thus, while Member State delegations determine what input is subject to Knowledge Utilization within the negotiations, NSAs do have agency in increasing the potential influence of their contributions.

Lastly, while Member States determine the input that can potentially be utilized in establishing the final agreement, it is the Chair and support team who actually handle as well as process this input, synthesizing it into draft text for consideration. While they do not change the substance of the input, they do make sense of it and weave it into cohesive negotiation text (J. A. Lewis, personal communication, October 12, 2021). It has been the job of the support team to work with the substance of the process and fuse it into consensus language (Anonymous Interviewee, personal

communication, July 20, 2021). For example, according to UNODA's dedicated OEWG webpage, 48 contributions were provided by Member States (including independent and joint proposals) on the initial pre-draft of the OEWG report, and 57 combined for both its zero and first draft (UNODA, n.d.). Working with the Chair, the support team used this material to create the final report. So in essence, while the Chair and support team are dependent upon Member States providing them with input for populating, updating and revising respective drafts, they are the main agents of Knowledge Utilization.

When considering the fifth and final stage of the KM Model applied, Knowledge Utilization has been the most centralized of the five, being embodied by the resulting outcome consensus texts as well as the practices that have resulted in their creation. These practices have constituted an iterative approach to text development—synthesis of inputs contributed, drafting, redrafting and editing of that text. As such, Knowledge Utilization has ultimately been document-based, with its final expression being the establishment of international agreement. This agreement has been constricted by the necessity of reaching consensus and based upon inputs contributed by Member States, who have constituted the ultimate knowledge authorities in the negotiations.

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CHAPTER 8

Paradigm Proficiency? Procedural Progress?

The Approach Taken to KM in the UN First Committee Cyber Negotiations

Although an explicit KM strategy, policy or approach has not been articulated for the UN First Committee cyber negotiations, the previous five chapters have provided clear evidence that practices related to these discussions can indeed be conceptualized as acts of KM. Thus, input contributed to these multilateral negotiations has, to a certain extent, been managed, but this management has not been officially or consciously labelled as the practice of KM. In effect, KM is 'being done' in this professional context, but the formal language to give it form (as used in the business community and literature) has not diffused into the sphere of multilateral diplomacy—at least not in this case. As such, it becomes clear that the KM system in place in the UN First Committee cyber negotiations has been implicit in nature.

Furthermore, regarding location of these practices,not only have acts of KM been executed in the formal setting of the negotiations themselves, but they have also been performed informally in other UN spaces as well as outside its institutional setting. This means KM in this professional context has had a life beyond the official workflow of the negotiation process. Indeed, when considering the process maps and illustrations (see the Appendix), especially in relation to the OEWGs, the intersessional periods are heavily populated with KM activity. Considering who has

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undertaken these practices, an authoritative knowledge manager has not emerged nor been officially established. Rather, the various actors involved with the negotiations were all found to have carried out multiple KM functions—both in formal and informal settings. Thus, considering the diversity of implementers as well as the varied locations in which KM practices have been undertaken, the second characteristic of the KM approach comes to light—namely, that it has been dispersed.

Examining the sequencing of the identified KM practices, it is revealed that they have not neatly mirrored the order outlined by the five stages of the KM model applied. Rather, some KM practices (again, as shown by the process maps and illustrations) have been more procedurally prominent (for instance, Knowledge Building and Knowledge Mobilization activities) than others (for example, Knowledge Holding), occurring consistently throughout the negotiation process, without advancements necessarily being made (directly) to the next stage outlined by the model. As such, the practices that can be conceptualized as acts of KM are not comprehensively connected. This highlights that the approach taken to KM in the UN First Committee cyber negotiations has not been systematic per theoretical expectations, but can rather be characterized as unsystematic.

Moreover, some of the identified practices have had multiple KM functions simultaneously. This has been particularly prominent in the case of Knowledge Building, Knowledge Mobilization and Knowledge Validation activities. Given the dynamic and interdependent relationship between learning and transmitting knowledge, the dual function of some practices as both building and mobilizing knowledge is not unexpected. However, that validation is embodied by some of these practices as well, underscores that KM functionalities are not necessarily as easily distinguishable in practice as the KM model suggests—at least in this particular professional context. This may be the result of the hyper-political nature of the setting and the fact that the inputs contributed to the negotiations have been a mix of factual information, perspectives, values and foreign policy priorities, which have not necessarily been easy to pick apart, given how the negotiations have been undertaken. This observation highlights that the approach taken to KM can further be characterized as messy, as practices that would otherwise be discrete and distinct in their KM role have been bundled.

Overall, KM in the context of the UN First Committee cyber negotiations has been implicit, dispersed, unsystematic, as well as messy. However, when considering the progression of the negotiation process, it is clear

that an evolution has occurred in these practices from the time of the GGEs and into the OEWGs.

Its Evolution

As has been established, an explicit effort to embed KM practices within the UN First Committee cyber negotiations has not been made. Indeed, when considering the consistent choice of the GGE format to advance these discussions for the majority of their lifetime, it seems the intention has, in fact, been the opposite. Given the closed-door, off-the-record nature and ad hoc establishment of these groups, little if any foresight can be claimed to have been given to the long-term preservation and institutionalization of this topic on the UN's agenda. With the considerable turnover in staff from one GGE to the next, this format set the discussions on a path characterized by a high level of knowledge loss and engendered an impoverished institutional memory, as no form of official record keeping (beyond the mandating documents and outcome reports of each group) was kept for almost two decades. Yet, KM practices still developed inadvertently. Most strikingly in the area of Knowledge Holding, which was prompted by the way in which membership of the respective GGEs was set up from one iteration to the next.

With the establishment and implementation of the OEWG, KM practices have moreover become even more prominent. As the OEWG format opened the negotiations up to the participation of all UN Member States—most of which had never been involved with the discussions before—as well as some non-State actors (NSAs), an emphasis has (unsurprisingly) been placed on practices that have been conceptualized as acts of Knowledge Building as well as Knowledge Mobilization. This has been evident in both the formal and informal settings associated with the negotiations. Within the formal setting, an extensive and indeed increasing amount of time has been dedicated to the general exchange of views as well as to thematic discussion. This is, for example, highlighted through the extended format of the second OEWG. Whereas the first OEWG was held over three substantive sessions over three years, with an intersessional programme; the second OEWG took place over eleven sessions spread out over five years, with many more informal meetings hosted in the total intersessional period. Thus, the contact time offered both through and between the substantive negotiation sessions increased significantly from the first to the second OEWG. Indeed, even with the sixth GGE,

Knowledge Building and Knowledge Mobilization increased with the hosting of the regional consultations, which engaged broader UN membership as well as other actors, thus drawing upon more sources of knowledge.

Furthermore, over time, a robust community of practice (Wenger, 1998) populated by NSAs, has developed on the fringe of the negotiations. While having their own objectives in engaging with the discussions (Anonymous Interviewee, personal communication, July 1, 2021), an aim of this community has been to build the capacity of States. Both in terms of enhancing State knowledge of the processes and the issues under discussion, as well as strengthening national capacity to implement the outcomes of the negotiations. This community has also worked to enhance the capabilities of its own members, helping counterparts become more involved with the UN processes and understand what they are indicative of (B. Hogeveen, personal communication, October 20, 2021). This effort has, for example, been highlighted by the objectives of the wide range of events that have continuously been hosted by NSAs in conjunction with the negotiations (as was further discussed in Chaps. 3 and 6).

Change also occurred in terms of Knowledge Validation. Moving from limited to universal Member State participation; welcoming (some) NSAs; increasing process transparency; and publicly releasing drafts of the Annual Progress Reports (APRs) as well as the final consensus reports, enabled a wider spectrum of knowledge authorities to assess the robustness of the OEWG discussions. Moreover, regardless of their official access, the public streaming of the negotiations allowed NSAs to raise targeted awareness of their work and position themselves as thematic experts in respect of the OEWG, in a way the GGE format never allowed.

When considering Knowledge Holding practices over time, significant developments have occurred in this area too. With the implementation of the first OEWG, a concerted effort was made to capture material informing the discussions, and this practice continued into the second OEWG. With this, the institutional memory of the process has become much more substantial as well as substantive than it was under the format of the GGEs. Moreover, where Knowledge Holding was previously predominantly tacit, being stored mainly in the minds of process veterans, it has become more explicit, being captured in audio-visual recordings and documents stored through various UN digital platforms. As a result, the material characterizing the negotiations has become more accessible and is

now institutionally safeguarded. While process veterans are still privileged through their experiential insight, the adoption of explicit Knowledge Holding practices has been a big step towards leveling the knowledge playing field and narrowing asymmetries.

When considering Knowledge Utilization through the processes of the first and second OEWGs, a significant evolution in terms of actual practice has not occurred. The procedure of using input contributed to the negotiations to create an outcome product through synthesis, drafting, redrafting and editing has not changed in that sense. This is not unexpected, given that the undertaking of UN negotiations is highly standardized procedurally, and that the aim of the processes has remained the same—to produce reports. What has, however, changed is that the practice of Knowledge Utilization has become visible through the OEWGs. This increased transparency has had positive implications in terms of the legitimacy and accountability of the negotiations. Moreover, a product new to the cyber negotiations—the APRs—has also been developed through the second OEWG. As a result, more products resulting from Knowledge Utilization have been produced in recent years.

Overall, when considering KM practices from the time of the GGEs into the OEWG, an evolution has occurred towards a seemingly more substantial, substantive and systematic approach to managing contributed input. Indeed, it appears that this is a case of emergent KM (Zieba et al., 2016), where no formal plans for KM had been put in place, yet KM practices nonetheless developed. In effect, it seems that a KM approach is being pieced together in the UN First Committee cyber negotiations through:

(a) An increased emphasis on the hosting of sessions and events catalysing the transmission and development of knowledge
(b) The engagement of all UN Member States as well as some NSAs to bring further legitimacy to the negotiation process, the positions taken within it, as well as its resulting outcomes
(c) Through more institutionalized approaches to safeguarding inputs and enriching the institutional memory of the process, as well as
(d) The increase in the number of consensus outputs being produced.

While an explicit approach to KM remains to be articulated for the UN First Committee cyber negotiations, it is clear that KM practices have

organically developed and evolved through the set-up, format and design of the GGEs and OEWGs. It seems that with the increased complexity of the OEWG, with many more States, NSAs and people in general becoming involved, it was no longer possible to ignore KM practices at a practical level. At least not to the extent that it was in the much smaller, more concentrated and controlled GGE processes. Considering this, it is fair to say that the UN First Committee cyber negotiations are demonstrating procedural progress towards a more systematic and intentional approach to KM. However, given the characterization of the KM approach taken—that it is implicit, dispersed, unsystematic and messy—proficiency in the KM paradigm is yet to be fully achieved.

Considering the evolution observed, the tendency towards greater usage and systemization of KM practices, as well as the impending establishment of the new permanent global mechanism on the topic (at the time of writing), the time is ripe to consider the form of KM going forward. This is especially pertinent, given that it has been the set-up, format and design of the negotiation process, which has been formative to how KM has unfolded in this particular multilateral context . How the new mechanism is designed will have significant implications for how input contributed to these discussions in the future is handled. Thinking about this, it is instructive to consider broader advantages and disadvantages associated with formal and informal approaches to KM.

Advantages and Disadvantages of Formal KM

A formal KM system encompasses structured systems, official practices, protocols, processes and tools specifically targeted at managing knowledge. Having such a system in place offers an entity a range of benefits. For instance, it ensures that the knowledge assets of an organization are handled in a consistent, structured and standardized manner. This ideally engenders predictability, enhances efficiency and saves time, as involved employees do not have to reinvent the wheel each time they deal with a (new) knowledge asset (Gamble & Blackwell, 2001, p. 39). Moreover, having such a system in place allows for scalability (Short et al., 2023), enabling an organization to continue to smoothly handle larger volumes of knowledge as it expands and grows in size.

A formal KM system can also help protect the integrity of a professional entity's operations, competitiveness and/or sovereignty or autonomy. It does so by controlling who has access to which knowledge assets and who does not. For instance, through such a system, particular structured

safeguards can be put in place to control access to sensitive knowledge—such as trade secrets, particular intellectual property or information relating to issues of national security (see, for example, Ahmad et al., 2014; Zieba & Bongiovanni, 2022).

Moreover, with a formal KM approach in place, it becomes easier for everyone working in a particular professional setting to access, retrieve, deposit, store as well as capture knowledge relevant to their tasks. Knowledge assets stored (nowadays usually) via digital repositories, can be made ubiquitously available to all professionals working within an entity, offering and ensuring equal access. Further, having an entity's knowledge assets concentrated and logically cataloged also facilitates training as well as the onboarding of new employees (Brødsjø et al., 2023). This is because knowledge needing to be shared or drawn upon is easily accessible and navigable, ensuring these employees can take advantage of it. Moreover, such a system can foster innovation (by building on existing knowledge) as well as collaboration across disparate teams, breaking down or preventing siloed approaches to work, from developing (Onyame et al., 2025).

A formal KM system can further help capture an entity's institutional memory (Adobor et al., 2019) in a systematic way. This not only helps protect an organization's legacy, but it also produces transparency, which enables measurable performance tracking, auditing, compliance and risk management. It enables good record-keeping, through which the use and impact of the professional entity's knowledge assets can be analysed. Developing an institutional memory also improves knowledge retention and reduces the risk of losing knowledge when employees leave (Galan, 2023).

Implementing a formal KM system does, however, also come with certain potential disadvantages. Initially, the cost of implementing the system can be expensive (Yu et al., 2012), as this may involve purchasing particular equipment, hardware or software; designing and developing the system in consultation with KM experts; as well as training staff to use it. Moreover, once the KM system has been put in place, it needs long-term maintenance, which requires manpower as well as financial investment (see for example, Dennis et al., 2014). Further, in implementing a formal KM system, if it is overly complex; time-consuming to use; does not align with existing practices; as well as the prevailing professional culture, then the adopting organization may face user resistance from its

employees (Chua & Lam, 2005). It could also be that without the right incentives, engagement with the system remains low, hindering it from reaching its potential (Ibid.). Moreover, if the system is poorly designed, it risks becoming counterproductive, making knowledge harder rather than easier to find (Ibid.).

The centralized nature of (most) formal KM systems also means that the knowledge assets stored within it may become a bigger target in terms of cybersecurity-related threats, such as hacking and data breaches, decreasing its associated level of security (see for instance, Heeren-Moon, 2023). With a centralized and (usually) digital infrastructure forming the core of the contemporary KM system, it may also be that the capture of tacit knowledge is deprioritized or forgotten, becoming undervalued within an organization, losing valuable assets (Chua & Lam, 2005). With that, an over-reliance on technology may also develop, where employees spend too much time on making the KM system work, rather than using it to enhance and complete the critical tasks of their profession. In line with this, if the purpose of the KM system is not clear nor clearly communicated to employees, a culture of over-documentation and defensive KM practices may develop, cluttering the system and making it harder to use.

In addition, formal KM systems can lack agility and be slow to adapt to the rapidly changing operational environment of a professional entity. This can harm an organization's efficiency as well as competitiveness, as it tries to maintain its relevance—both to its audience as well as among its competitors and counterparts.

Advantages and Disadvantages of Informal KM

When considering informal KM approaches, they can provide a level of flexibility, adaptability and agility, which a formal KM system may not necessarily offer. Through an informal approach, highly proceduralized protocols (which often take time to execute) can be avoided, as they generally do not involve a high level of bureaucracy. Moreover, given this lack of bureaucracy, informal KM practices are often ad hoc and can more easily be adjusted to real-time changes occurring in an entity's operational environment—encouraging more spontaneous and prompt responses. Furthermore, as informal approaches to KM usually do not require the setting up and utilization of formal analogue or digital infrastructure, they are generally low cost.

Informal KM practices are moreover often relationship-based, and as such, can catalyse stronger bonds and build resilience among colleagues, enhance trust, as well as prompt collaboration, breaking down silos and strengthening teamwork. This, in turn, can spur innovation (Taminiau et al., 2009) and creativity as employees naturally engage without having to navigate bureaucratic constraints to acquire what they need from respective knowledge assets to meet their professional objectives. Harnessing existing knowledge assets may also be catalysed through informal KM practices, as individuals may feel more at ease sharing their knowledge with others informally, rather than having it captured in a central database for all to access (and potentially scrutinize). By sharing their knowledge informally, a certain level of control over how it is disseminated, and by whom it is leveraged, can be maintained. Indeed, having an informal KM approach in place may be less intimidating, as it may not require employees to utilize new digital systems and thereby need to gain more advanced technical skills (Akhavan & Pezeshkan, 2014), which could potentially affect older professionals disproportionately (Soja & Soja, 2020).

Taking an informal approach to KM does, however, also come with various possible disadvantages. Informal KM practices are more short-term in focus, prioritizing immediate problem-solving over building institutional memory and developing an organization's long-term legacy. With knowledge generally not being captured through informal practices, the risk of its loss is high, as the professionals in possession of it take it with them if they change roles internally or leave the organization all together (Ouriques et al., 2019). Given this lack of documentation, reusing knowledge can be hindered due to lacking access or limited recollection (Dalkir, 2005, p. 115).

As knowledge is not contributed to a centralized depository through informal KM approaches, siloed working practices as well as fragmentation can develop within an organization, as knowledge remains locked in among particular individuals. This can lead to the duplication of efforts, as professionals may unknowingly be repeating work already done or being undertaken elsewhere, wasting time and resources. Moreover, this approach to KM can be exclusionary, as some employees (in other teams or new to an organization) will not have access to this knowledge or even have awareness of its existence. This unequal access can have negative implications. As only some people are in the know, knowledge bottlenecks may form,

giving these professionals dominate positions in informal knowledge networks and a (potentially) unfair advantage. This can foster practices by these individuals (such as knowledge hoarding (Kang, 2016, p. 146)), which are unhelpful to the organization. Moreover, it may encourage professionals, not in the know, to partake in knowledge hiding (Ibid.) in the future, in an attempt to level out the playing field. This can decrease trust and the willingness to collaborate, ultimately impacting the efficiency of an organization, as employees are hindered in doing their jobs. Further, given informal KM practices are heavily dependent on personal relationships, the flow of knowledge within an organization can be interrupted if trust declines or completely disappears, interpersonal ties weaken or a critical link in the network disappears (such as through role change) (Rutten et al., 2016). Depending on individuals to manage knowledge can also mean that bias is more likely injected into its transmission and delivery, as their previous experience impacts their understanding and prioritization (see for example, Snyder et al., 2015). It is also because knowledge can be strategically shared in a way that reflects or furthers particular interests and agendas.

Informal KM practices can also be problematic in terms of accountability and accuracy. With knowledge mainly being shared by word of mouth, it is harder to hold an individual formally accountable for its legitimacy. It can thus be difficult to establish who is responsible for any impact (positive or negative) this knowledge may have, as an organization works to meet its objectives—both in terms of disciplining or rewarding an individual. Given its tacticity, it can also be hard to measure the actual impact of a knowledge asset (Gubbins et al., 2012). Further, as there are no standard processes in place for verifying the legitimacy or accuracy of knowledge assets, their consistent quality cannot be guaranteed, and the risk of misinformation or disinformation increases. Moreover, as formal safeguards have not been put in place, sensitive information may be mishandled, causing potential compliance issues, security risks and leaks (Ahmad et al., 2014).

Discussion

When considering both formal and informal approaches to KM, it is clear that there is value to be gained from both. However, each approach does come with its own limitations, which must be carefully managed so that the KM practices applied can reach their full potential and not become

counterproductive. As such, it is likely that the UN First Committee cyber negotiations going forward would benefit most from preserving its pre-existing informal KM practices, while at the same time, formalizing and further developing those implicitly occurring in its formal settings. This would allow this multilateral process to harness the value offered by both, as well as off-set their respective disadvantages. Indeed, going forward in setting up and developing the new permanent global mechanism, it will be vital to view formal and informal approaches to KM as complementary methodologies in managing inputs related to the negotiations, and not as distinct alternatives (see McEvily et al., 2014; Ben-Menahem et al., 2015; Värk & Reino, 2020; Min et al., 2024). In doing so, the balance or ratio of informal to formal KM practices will likely have to be experimented with. While the emphasis in the pertinent scholarship has been placed mainly on conceiving and executing KM as a formal endeavour (Ibid., p. 163), various examples highlight counterintuition or unexpected results vis-à-vis the formal versus the informal, indicating the highly context-dependent nature of the appropriate combination of KM practices.

For instance, in some cases, a close connection has been found between informal and formal KM practices. Zhou and Baines (2024), for example, found complementarities between informal and formal commercial knowledge exchange activities, where the former was found to catalyse the latter in interactions between higher education institutions and non-academic organizations. Thus, informal KM practices can prove a key component in making their formal counterparts work. Looking at Chinese knowledge-intensive firms, Min et al. (2024) found that formal and informal KM practices played complementary roles, and together had a positive effect on knowledge quality and subsequently, indirectly on knowledge creation. Considering German manufacturing firms, Grimpe and Hussinger (2013) found that informal and formal knowledge and technology transfer mechanisms between them and academia worked well together and catalysed a higher level of innovation. As such, formal and informal practices in a given environment may be mutually dependent on one another for their value to be realized. Furthermore, in the setting of aerospace engineering, Brennecke et al. (2025) argue that formal organizational hierarchies support informal action as well as interaction among knowledge workers. Thus, formal practices can actually boost their informal counterparts.

Further, in some cases, informal practices adopted in particular professional contexts were found to be (potentially) more effective or impactful

than their formal counterparts. For example, Topi et al. (2006) found that informal notes have constituted a largely overlooked resource within a division of a Fortune 500 company that provides maintenance services for the engineering products that it manufactures. These notes, the authors argued, had the potential to have a greater impact on the structure as well as norms of the organization than its formally communicated policies did. Further, Taminiau et al. (2009) uncovered that informal knowledge-sharing practices, in fact, proved to be the most fruitful path to innovation in Dutch consultancy firms. Thus, the impact of informal KM practices should not be underestimated, even though they may not have crystallized as officially sanctioned professional practice. Moreover, Foster et al. (2023) came to the conclusion that the informal mechanisms of trust and energy were vital factors in knowledge creation and sharing processes, and that knowledge transfer was, in fact, reduced through higher levels of formalization. This shows that formal KM practices can indeed be counterproductive at times. In addition, looking at knowledge sharing in R&D networks, Allen et al. (2007) found vast differences between informally developed practices and those formally imposed top-down. The latter were found to result in a lack of collaboration as well as fragmentation, with there being much to gain from exploiting informal networks. With this, careful attention should be paid to the specific environment to see how KM practices unfold in their actual impact. Further, Kukko (2013) demonstrates that in the context of a software company, relying on informal knowledge-sharing practices was not enough; resources need to be allocated to the practice, and management needed to intervene for it to successfully occur. This underscores that sometimes, informal KM practices can also prove insufficient in their own right.

A range of studies have also shown that formal KM practices are not immune to failure. For instance, Serenko and Bontis (2016) revealed that the presence of KM policies and systems did not reduce the practice of knowledge hiding. Rather, curbing this behaviour was dependent upon the knowledge culture of the organization overall (Ibid.). Martinsons et al. (2017) found that the implementation of formal KM systems did not improve work productivity nor knowledge transfer, with key reasons being the lack of employee involvement and incentives as well as deficiencies in strategic management. Chan and Chau (2005) too found a lack of support from organization members as well as fragmented practices resulted in formal KM failing, even though the implementing entity put an emphasis on the enactment of KM. Storey and Barnett (2000) found that although

a KM system may be well-resourced and have the support of top-tier management, it can still fail if it is not complementary to the existing work culture; its purpose has not been clearly agreed and articulated across an organization; and a generic, top-down approach devoid of contextual nuances and disregarding of lessons learned elsewhere is implemented. Thus, it is vitally important that the implementation of a formal KM system is not viewed as a silver bullet that will lead to the effective management of knowledge assets without due effort.

Considering these examples, as well as the advantages and disadvantages associated with formal and informal KM approaches, it is clear that the implementation of KM is not one-size-fits-all. Expected benefits may not materialize, and unconventional, undervalued or unexpected approaches may prove more effective than would otherwise be assumed. As such, going forward, if a concerted effort is to be made to crystallize KM into an explicit endeavour through the new global permanent mechanism, it should be specifically tailored to the nuances, practices and traditions that have come to characterize the cyber discussions so far. This may mean incorporating a period of trial and error, carefully building on practices that have organically developed and not over-committing to an approach transplanted from elsewhere. It also means not prioritizing formal over informal practices or vice versa. A setting that has developed many informal practices should harness and further cultivate those—indeed, many of these practices are natural to the undertaking of multilateral diplomacy. Moreover, formalization should not be forced, especially not in an environment where a certain degree of flexibility is beneficial, given the otherwise highly proceduralized nature of the discussions themselves. All in all, there is much room to innovate in terms of finding a KM set up that can help diplomats do their jobs as they take the UN First Committee cyber negotiations forward through the new permanent global mechanism, where steps the UN can take in realizing this are further discussed in the next chapter.

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CHAPTER 9

United Minds: The UN as Knowledge Manager?

Although an explicit approach to KM has not been implemented in undertaking the UN First Committee cyber negotiations, this book has shown that KM practices have nonetheless developed organically through the design and format of this process. This underscores that the concept of KM and its associated practices are relevant to multilateral negotiations, and indeed constitute a necessity in this professional context. With this conclusion in mind, this chapter considers the benefits and limitations that formal and informal KM approaches have to offer multilateral negotiation processes sitting under the auspices of the UN more broadly. In doing so, this chapter highlights how the UN can become a more intentional knowledge manager—both in relation to the cyber discussions as well as more generally in respect of its other multilateral negotiation processes. Further, the generalizability of the findings made through this book is discussed. This chapter then brings the book to a close by offering several suggestions for taking research in this area forward and highlighting the vital importance of infusing a culture of KM into the UN multilateral setting.

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Benefits and Limitations of Formal KM Practices for Multilateral Negotiations

Formal KM is implemented through a structured approach, which is usually based on a particular centralized digital (McInerney & Koenig, 2011) and/or analog infrastructure. Having such a system in place enables the preservation as well as the standardization of an organization's institutional memory, prompting more systematic and consistent knowledge handling and retention (Davenport & Prusak, 2000). This offers a clear advantage for protracted multilateral negotiations processes, as such a system would institutionalize paper trails and automatically preserve historical records. Negotiators would rely upon established and routinized practices for good record-keeping, and not have to continuously reinvent the wheel to safeguard inputs associated with the negotiations. Having such a system in place would create a backbone, engendering process continuity and a greater level of institutional resilience as negotiations progress through time, experience staff turnover and are faced with (potentially abrupt) shifts in the greater geopolitical landscape.

Such a system would also induce a time-saving element into the conduct of multilateral negotiations, as it facilitates not only the faster handling of input but also easier access to it. Enhanced accessibility has many benefits, including, for instance, the more efficient onboarding of newcomers into a negotiation process. Not only is this time-saving for newcomers in that they know where to find the knowledge they need to get up to speed and have direct access to it, but it also saves process veterans time, as their role in helping newcomers gain a command of the procedural elements and substantive content of a negotiation process decreases.

Enhanced accessibility through such a system could also catalyse more agile bargaining in the course of a negotiation process, as it would enable negotiators to find the knowledge they need to establish and support their positions faster. Providing centralized access to the institutional memory of a process, moreover, helps level out knowledge asymmetries by democratizing access to knowledge—including between process veterans and newcomersas well as between better- and less-resourced countries. Moreover, if this system is multilingual, it facilitates more inclusive participation.

Further, as negotiation delegations may not have their own KM practices in place and generally have a rapid turnover in staff (who may never meet each other and thus not have the opportunity to share knowledge),

having a centralized repository at the UN containing documents articulating previous statements and positions for a particular process can help foster the development of consistent and coherent national approaches to any given negotiation process. For example, in drawing upon such documents, delegations can ensure that they avoid contradicting earlier statements; align with, reinforce and logically build upon previous points of national priority; are data-driven; as well as prevent the duplication of work, enhancing their position as an organized and credible negotiation partner. Having such a system in place can also help delegations ensure consistent approaches across negotiation processes dealing with distinct yet related policy areas, and here too, aid in the avoidance of duplicating work.

In addition, with all delegations having access to the same repository, the sense-making process can be synthesized to a greater extent as negotiators work from the same mutual knowledge base, reducing silos and standardizing the point of departure taken for the discussions. Thus, ideally, the formal management of knowledge through a centralized system should aid negotiating delegations in gaining an improved understanding of the associated issues as well as the views and positions of their counterparts. This can help in finding common ground, enhancing decision-making and thus, may have implications for negotiation outcomes. It would also enhance the transparency and accountability of the process, with documents clearly outlining how decisions were made. Moreover, through this transparency, trust among negotiation participants stands to be strengthened and misconceptions reduced, potentially fostering stronger relations between Member States. This, in turn, has potential positive implications for enhancing decision-making and negotiation outcomes.

Certain limitations are, however, also predicted for the implementation of a formalized KM system in the context of a multilateral negotiation process. Initially, setting up a KM system is time-consuming and potentially expensive, as it needs to be designed, constructed and operationalized. Moreover, in the long term, for a KM system to meet its potential, it must be maintained; otherwise, it risks becoming counterproductive as it lags behind. This requires the consistent dedication of human and material resources, which could be an issue at a time when the UN is facing severe financial restraints (UN Web TV, 2025). Moreover, many UN multilateral negotiation processes only conduct business a few weeks a year, and the value of establishing a long-term infrastructure for them may be seen as excessive. Furthermore, if the KM system put in place is not carefully

tailored to the specific needs and dynamics of a particular negotiation process, it could risk becoming overly bureaucratic, a high administrative burden, too rigid and too slow to reflect the speed at which a negotiation process is unfolding. In addition, given the complexity of some multilateral negotiation processes—both in terms of the institutional bodies involved as well as the volume of contributed and generated input—implementing a top-down approach may end up being unwieldy. If databases in the system are not compatible, interoperable, logical and easy to use, they can end up becoming challenging to navigate, costing rather than saving diplomats time, and ultimately discouraging them from using it. As such, the KM system could become a hindrance rather than an asset to fast-paced negotiations. Indeed, a KM system needs to be agile enough to be able to successfully adapt to evolving negotiation dynamics and potential changes in formats to ensure its ongoing utility.

Moreover, the KM system adopted also needs to be suited to the type of input it is handling. The UN operates in six official languages, develops a range of outputs through its negotiations—as illustrated by the case study in this book—and accepts contributions from a broad spectrum of non-State actors (NSAs). Creating a standardized approach to categorizing different types of input from diverse sources, written in different languages, as well as making them accessible in an equitable way, can be challenging. Developing an approach to deal with this challenge, will likely be time-consuming and have to be iterative, as new forms of input may be contributed as discussions on a topic progress and mature.

From the perspective of professional culture, Member State buy-in—critical to the functioning of a formal KM system in this context—could prove to be an issue and cannot necessarily be guaranteed. Given the political nature of this context and the sensitivity of certain inputs, Member States may be reluctant to engage with a formal KM system due to concerns relating to issues of confidentiality and security. Delegations may fear that sharing or documenting particular input (containing strategic information, for example) may expose them to political risk, decrease their bargaining power, threaten their strategic advantage and weaken their positions within a negotiation process. Knowledge captured by a KM system may be perceived as more vulnerable, as it becomes available for future reference, put at risk of being misused or (un-)intentionally disseminated to otherwise restricted audiences (through, for instance, a data breach). Indeed, States may not want their positions or contributions to be permanently available for their counterparts to refer back to and potentially use

against them in future negotiations. States may instead prefer the benefits offered by memories fading, to maintain political maneuverability, strategic ambiguity, as well as confidentiality. Thus, Member States may not be interested in, nor indeed willing to keep a record of their contributions at the UN. As such, conforming to a formal KM system could be interpreted by Member States as restrictive and even counterproductive to what they are trying to achieve through a negotiation process in their conduct of multilateral diplomacy. If trust is not placed in the formal KM system adopted, and it does not gain a critical mass of users populating and harnessing it, then it stands to, at best, be abandoned, and at worst, become a hindrance to the negotiations rather than an asset.

The introduction of a formal KM system could also be interpreted as posing a threat to informal power dynamics. For instance, some States are distinctly motivated in maintaining knowledge asymmetries within a negotiation process, as it gives them a strategic advantage. As such, they would not necessarily be interested in the implementation of a formal KM system designed to help level the knowledge playing field. Indeed, such States could even work as active saboteurs, indulging in manipulative behavior and flooding a KM system with particular input, with the aim of skewing the knowledge base of the process in a direction favourable to their interests. Such an approach would risk the KM system itself becoming a political instrument. A mechanism used to control the narrative and direction of the negotiations, as well as enhance particular national positions within them, rather than embodying a neutral tool standing to offer universal benefit to all Member States.

Another element that could limit the potential of a formal KM system in the context of UN multilateral negotiations is that the establishment of the system itself, as well as its maintenance, could become a political question, turning into a protracted process and a negotiation in itself. One which could take months, if not years, to resolve, ultimately taking valuable time away from the actual negotiations and not offering timely support. Several key questions stand to become politically contentious due to the inherent power that comes with controlling knowledge in a political environment. For instance, who will design the formal KM system? What structure should it have? How and by whom will it be funded? Who will be responsible for maintaining it? What (type of) inputs would be important to capture? What terminology should be used to make it an accessible resource to all Member States? How should inputs to the system be categorized? How many languages should the related digital platforms be

available in—all six official UN languages or just English? Should the contributed inputs be internally as well as externally available to parties beyond the UN? What kind of practices should be implemented to encourage the capture of tacit knowledge? Based on what criteria should the effectiveness of the system be evaluated? Who should be responsible for conducting this evaluation? How often should evaluations be performed?

Moreover, should the UN frame KM from a techno-centric perspective, diplomats may have an inherent aversion to it, arguing that much of the knowledge that drives multilateral diplomatic interactions is tacit, experiential and cannot be condensed into a format that can be explicitly captured (as, for instance, Kurbalija argued in this 2002 piece).

Benefits and Limitations of Informal KM Practices for Multilateral Negotiations

With informal KM practices generally being based upon personal interactions, they are well suited to the context of multilateral negotiations as the conduct of diplomacy is heavily dependent upon personal relationships (Holmes & Wheeler, 2019). Through personal interactions, good rapport can be built, relationships established, interpersonal networks developed and trust enhanced. With more trust, willingness to share tacit knowledge increases (Holste & Fields, 2010), as does the inclination towards compromising rather than competing in a negotiation process (Cronin & Weingart, 2005). Moreover, enhanced trust also has positive implications for problem-solving as well as for decreasing avoidance in a negotiation (Ibid.). All of which are unquestionably beneficial for the advancement of multilateral negotiation processes.

Informal KM practices also offer negotiators the opportunity to have frank, off-the-record exchanges, where potentially controversial, politically sensitive or highly novel considerations, ideas or solutions can be developed and tested without being subjected to external scrutiny or face official backlash (Kleine & Huntington, 2024). This can prompt potentially more creative consideration of the agenda items under discussion. It can also help prevent or defuse tensions from escalating within formal negotiations (Lieberfeld, 2002) and build agreement (Fairman et al., 2011), as candid conversations can, for instance, clarify positions and tackle any misconceptions. Additionally, informal KM practices can also allow Member States, who are not officially engaging with each other, to

harness their respective knowledge assets without breaching formal protocol (Susskind et al., 1996). These practices also enable negotiators engaged in separate negotiation processes, but which fall under the same broader thematic area, to draw upon their wider environment and harness each other's knowledge. Further, informal KM practices allow for the sharing of more nuanced, tacit and experiential knowledge between negotiators, which can be harder to document and capture in a knowledge repository (Polanyi, 2009).

Informal KM practices also offer multilateral negotiators the benefit of a large degree of flexibility and adaptability, as they are not constrained by official procedure. Sometimes, critical knowledge or input is urgently required to take advantage of momentum in a negotiation process, which might take time to obtain if formal channels of retrieval have to be navigated. Moreover, these practices are generally not dependent on institutional infrastructure and are thus relatively cheap if not completely costless. Being unrestricted by potentially cumbersome and lengthy bureaucratic processes as well as independent of any formal infrastructure, informal KM practices can be undertaken on an ad hoc basis and at pace. This makes them suitable for deployment in dynamic, complex and rapidly evolving diplomatic negotiation processes, where political and cultural sensitivity may be required as the geopolitical landscape changes.

Accompanying the benefits offered by informal KM practices to the professional context of multilateral negotiations are, however, a range of limitations that must be accounted for. As informal KM practices generally involve interactions between people, it means that rather than relying upon a centralized system, obtaining knowledge becomes heavily dependent upon personal relationships, the compatibility of personalities and the willingness of individual professionals to engage with their counterparts in a meaningful way. As such, individuals, who may be disliked, unpopular, have fallen out of favour, or who have yet to become integrated and established in a specific network of negotiators, may miss out on knowledge otherwise common among their counterparts or critical in mastering procedural or substantive elements of the negotiations. With this, therefore, comes the imperative of becoming a member of the network of 'knowers'. As this is a strategic element of diplomatic practice in general, given its highly social nature (Holmes & Wheeler, 2019), this is perhaps not a major limitation. However, this informal approach to managing knowledge does mean that the risk of potential exclusion is high. Moreover, it can cause the process of onboarding newcomers into a

negotiation to be slow and indeed error-prone, if proper recollection fails or counterparts share knowledge misleadingly. Additionally, as shown in this book in the UN First Committee cyber negotiations, informal KM practices can foster knowledge asymmetries among negotiation participants and reinforce existing power dynamics, which, while beneficial to some, will be disadvantageous to others. Informal KM practices can thus, promote unequal access to insight, critical for meaningful participation in a negotiation process as well as subsequently for obtaining an impactful final outcome.

Further, given informal KM practices are largely dependent on the initiative of the professionals involved and not driven by the institution itself, their effectiveness and use can wax and wane. In some negotiation cycles, it may be that individual relationships among negotiators are stronger (based on personal and/or State relations), their respective levels of buy-in higher, and thus the effort to engage in informal practices to further the negotiations greater. In other cycles, it may be that relations between negotiators (again either at the personal and/or State level) are weaker, suffering from, for example, trust issues or suspicion, and thus there is less inclination to harness informal KM practices. As a consequence, these practices can be difficult to sustain and scale across multiple negotiation cycles. As a result, this may prompt unsystematic and inconsistent KM throughout the lifetime of a negotiation process. Furthermore, as stated earlier, as informal KM practices generally do not capture knowledge assets explicitly, the risk of knowledge loss is high. When key knowledge holders leave, they take institutional knowledge with them, breaking links in the knowledge chain that sustains long-term multilateral negotiations, affecting continuity. Rotation is a reality in the conduct of multilateral diplomacy, and so, this is a very real concern in this professional context. Moreover, any remnants of this knowledge left behind, become impoverished (to some extent) as it loses its contextualization with its primary holders leaving.

Informal KM practices are also of consequence for the level of transparency and accountability exhibited by a negotiation process. While this is not necessarily of particular concern given that secrecy is a key (and often necessary) characteristic of multilateral diplomacy (Kleine & Huntington, 2024), it does mean that negotiators themselves may not be able to verify the origin and legitimacy of inputs in circulation. This could have implications for diplomatic buy-in, as delegations may feel sidelined or excluded, as well as struggle to confirm claims, therefore lacking the willingness to

strategically align with counterparts furthering them. It could also have implications for the overall legitimacy granted to any resulting international agreement, and thus impact the willingness of Member States to implement it.

Reflections on the UN as a More Intentional Knowledge Manager

Having considered the benefits and limitations of formal and informal KM approaches in relation to the context of multilateral negotiation processes at the UN, both offer this setting clear value. As such, there is room for the UN as an institution to take on a more active, proactive, structured and intentional role as a manager of knowledge in its multilateral processes, catalyzing elements of both.

Within the UN First Committee cyber negotiations specifically, the need for KM practices has been clearly highlighted by their organic development. Indeed, at the time of writing and as noted in Chap. 8, these discussions are at a critical point in time. As of 2025, with the conclusion of the second OEWG, the negotiations are on the cusp of institutionalization with the establishment of a permanent global mechanism planned to take them forward. Considering the evolution towards a more systematic approach to KM, the moment is ripe for harnessing this momentum and embedding a more structured approach to managing knowledge informing the discussions in the future. The UN as an institution can play a firm but subtle top-down role in making this happen by directly building on the practices that have so far evolved and taking them a step further.

In setting up the permanent global mechanism, a valuable first step would be to commit to one centralized repository. Making sure that all existing documents and input related to the discussions are captured there, and that going forward, this will be the authoritative database hosting the explicit institutional memory of the negotiations. Individualized websites—such as those developed for the sixth GGE and first OEWG (see UNODA, n.d.-a, n.d.-b, n.d.-c)—should be avoided in the future. Committing to one centralized repository would not require a grand IT overhaul or integration process. Rather, it would be sensible, logical, as well as time-saving to use one of the existing digital platforms, which has already captured a substantial amount of the related material—such as the

UN Office for Disarmament Affairs' *Meeting Place*—as the point of departure.

In committing to this platform, an initial step would be to ensure that it is all-encompassing. It should be updated to reflect all related material, including a comprehensive, cataloged and chronological overview of all documents and audio-visual recordings developed through and contributed to all past sessions of the discussions. Then, upon the conclusion of all future sessions, updating this database should be institutionalized as a standard administrative task of the permanent mechanism's Secretariat. In terms of dealing with sensitive documents, access to any confidential material in this centralized repository should be distinguished by a UN login feature. Meaning it would (or could potentially) have both an internal and external-facing side—standard practice in most organizations today.

Considering the amount of work undertaken in the intersessional period, it would also be valuable for this repository to reference (though not necessarily endorse) events taking place between official negotiation sessions, capturing any related material produced through them. For the sake of transparency and integrity, for these events and their materials to be reflected in the UN repository, disclosure of who their hosts and funders were should be made. Further, it should be the responsibility of event holders to make the Secretariat aware of these events and share any documents that are to be uploaded.

Having this centralized and consistently updated repository would mean that input associated with the UN First Committee cyber negotiations is safeguarded in an incremental and standardized way, making it far more manageable in the long-term. Moreover, concentrating material in one place and reemphasizing its existence from one substantive session to the next will routinize Member States and interested NSAs in using it as their official point of reference for negotiation material.

With the establishment of the global permanent mechanism, the UN could also enhance Knowledge Building and Mobilization through the funding and provision of a dedicated research staff put at the disposal of Member States, sitting within the Secretariat. Initially, this could be a small team placed on a temporary contract, in order to gauge demand and ultimate usage by Member States. However, given the amount of events hosted in parallel to the OEWG negotiations, there is a clear gap at the UN and a distinct demand for greater Knowledge Building and Mobilization opportunities. The work of this staff would be predominantly driven by State demand, where Member States could commission

this team to conduct research or host expert events (for instance, during the intersessional periods) in particular areas relevant to the discussions that need more focused development beyond that possible at formal negotiation sessions. The research produced would not only be available to the commissioning State, but to all involved in the discussions, if not to the general public as well (depending on the sensitivity of the topic in question). This service would be particularly useful for States with more limited capacities. In following the negotiations, this staff could also undertake research based on their own initiative, as well as make universally available any existing work they encounter that could prove useful for Member States in their engagement with the negotiations. In building this team, inspiration could be taken from elsewhere in the UN system—for instance, looking at the Implementation Support Unit of the Biological Weapons Convention, which has various functions (UNODA, n.d.-d).

On the specific point of Knowledge Mobilization, given the development of the community of practice surrounding the cyber negotiations and its already enhanced involvement with the discussions, the UN is in a good position to regularize as well as institutionalize this engagement to a much greater extent than it has already done. While NSAs will ultimately not decide the outcome of this State-led process, they can be more actively drawn upon and given more space to inform the process and enhance State capacity. With the new global permanent mechanism, the opportunity for these stakeholders to consistently contribute their expertise can be built into its architecture, through, for example, independent consultative meetings hosted in relation to substantive sessions—going beyond intersessional meetings that are not assured and limited stakeholder sessions during the actual negotiations. As the Informal Intersessional Consultative Meeting of the first OEWG, as well as the wealth of contributions made throughout its three-year duration alone demonstrated (not even accounting for the second OEWG), there are many NSAs, who have important things to say, knowledge to share, and who are interested in supporting and contributing to these discussions. It would be prudent of the UN to harness this existing resource and enable Member States to learn from NSAs if they so wish. Member States would, of course, not be obliged to attend consultations with NSAs, but could do so if it was deemed helpful to their own Knowledge Building initiatives. In doing this, the UN would also be fostering informal KM practices as Member States and NSA representatives would develop their relationships further, likely prompting them to engage outside the institutional setting of the UN.

In terms of building on Knowledge Validation and Knowledge Utilization practices, the UN can add a requirement for an enhanced level of reporting in outcome documents, creating a culture of KM as a deliverable. In future resolutions on the cyber topic, it can be requested that, in delivering their consensus outcome, an accompanying document should offer a more explicit record of why and based on what, particular elements were included in any final outcome product. This should be done, to the extent possible, without politically compromising any participants, to offer greater accountability, legitimacy, transparency and enhance the efficiency of the discussions going forward, avoiding repetitive conversations. This would also contribute to better safeguarding the institutional memory of the process, which may be useful for a variety of communities in the future, including for example, diplomats, auditors, administrators, academics and policy planners. This institutional memory can be helpful in terms of understanding how and why things developed in the way that they did, as well as establishing lessons learned. The OEWG processes have already made progress in this respect, including through the production of the *Chair's Summary* of the first OEWG (United Nations General Assembly, 2021a) and the *Compendium of Statements in Explanation of Position on the Final Report* of both the first and second OEWGs (United Nations General Assembly, 2021b, 2021c, 2021d, 2025).

Considering these elements, the UN as an institution does not need to make major, potentially disruptive interventions in furthering the implementation of systematic KM in the First Committee cyber negotiations. Instead, by building on, promoting, as well as institutionalizing organically developing and already evolving KM practices, the UN can join up currently dispersed KM activities in a way that is subtle but which can have a powerful impact on the negotiation process going forward. Key to this will be fostering a strong core at the Secretariat and investing in staff to maintain and develop it. As the previous chapter discussed, KM is not one size fits all. Its effective implementation is highly sensitive to the contours and culture of the professional context in question. Considering this, the UN should harness the low-hanging fruit, optimizing existing (implicit) KM practices in the cyber negotiations wherever possible, to help mitigate against inequalities as well as help further support diplomats in doing their job.

Not only can the UN as an institution act as a more intentional knowledge manager in the case of the First Committee cyber negotiations, but it can do so more generally in all of its multilateral processes. Indeed, the

suggestions outlined previously can also be considered in other contexts and are timeless in that sense, while being more urgent for the cyber negotiations given the impending establishment of the permanent global mechanism. In order to do this, it is important to manage expectations and re-emphasize that the implementation of KM requires careful contextual consideration. Moreover, given the complexity of the UN institution, instigating a massive top-down initiative across multilateral processes is unlikely to be the most productive approach. To harness the best KM has to offer, incremental, bottom-up approaches furthered through individual negotiations are likely to prove more impactful as they can be developed organically, building on any pre-existing (informal and/or formal) practices, rather than being forcibly imposed from above through a generalized blanket approach.

That being said, to enable the potential towards long-term standardization in UN multilateral KM practice, it would be worth the UN's while to develop a KM posture, outlining the institution's stance on key principles, tools and practices as a general guide for its multilateral processes. Moreover, to help initiate more explicit approaches to KM within its individual multilateral negotiation processes, the UN could start integrating KM terminology into its mandating resolutions, as well as requesting KM deliverables within them as standard practice (as suggested earlier for the cyber negotiations). In doing so, the UN could nudge its processes in a more KM-orientated direction, by planting seeds that bring greater awareness and help cultivate a professional culture of KM. Indeed, many negotiation participants probably already undertake KM practices or execute KM functions—as shown in the UN First Committee cyber process—but may not realize and conceptualize them as such, lacking familiarity with the associated terminology. However, by being exposed to the language of KM, these professionals can become more intentional in their tasks, developing and recording best practices along the way.

A further tangible initiative, which the UN could take, would be to have staff specifically tasked with delivering KM—such as a KM officer—within the support teams assigned to each of its multilateral negotiation processes. These KM officers could, in turn, report to a central KM unit focusing on the UN's multilateral negotiation processes, which could take on a more general function of drawing lessons learned, prescribing best practices and supporting these officers. Professionalizing KM in this way within the UN would both humanize and centralize the practice.

Moreover, while a major IT overhaul is unlikely to be a viable and worthwhile option for furthering KM initiatives, investment in the harmonization and centralization of certain parts of the UN's digital infrastructure would make stored material much more searchable and accessible. Additionally, to make databases more user-friendly, and to explicitly capture more substantive input, the UN could harness the potential of emerging technologies (as was discussed with specific reference to Knowledge Holding in Chap. 5). However, with this in mind, it is important to be wary of taking too techno-centric approach to KM initiatives at the UN. Indeed, digital technology undoubtedly plays a key role in executing KM; however, they should be seen as a tool to realize the end product and not be the end product in itself.

Ultimately, the point of KM in UN multilateral negotiation processes would be to offer diplomats scaffolding to support them as they engage, navigate and try to make sense of the increasingly complex issues animating the international agenda that they are tasked to address. The UN is obliged to serve all its Member States regardless of their capacity, level of development or size. By putting effort into, and thinking systematically about, how the input diplomats use to advance the causes of the UN are managed, the institution certainly holds the potential to unite minds and become a viable knowledge manager.

In implementing KM within its multilateral processes, the UN must, however, take special care, given their political nature. It will be essential to define the parameters of any KM system, realizing that confidentiality and secrecy are inherent characteristics in the conduct of foreign policy. These tools should not, however, be allowed to stifle the potential KM can offer diplomats in making sense of the issues about which they need to make serious decisions. Moreover, multilateral diplomatic practice should remain flexible to the changing tides of the geopolitical landscape, but at the same time, it would be imprudent to ignore a whole field of practice already taking expression within the UN's multilateral negotiation processes—and which is being readily harnessed in an array of other industries, as highlighted in Chap. 1. The UN should take advantage of contemporary management approaches as well as available technologies to ensure its negotiation processes remain competent and fit for purpose. It is likely that not all approaches to KM will work in this context, and that must be accepted. As noted in the previous chapter, a mix of formal and informal approaches will almost certainly be needed, where in some areas the formal may outweigh the informal, and vice versa.

The Applicability of the Book's Findings

Negotiation processes conducted under the auspices of the UN each have their own unique characteristics. These are carved out through the dynamics of the issue areas they address, the personalities of their participants, as well as the relationships between their Member States at any given point in time. That being said, the procedures for undertaking multilateral negotiations at the UN have been highly proceduralized. Thus, while the conclusions made through this study may not be fully applicable elsewhere, it is likely that other UN multilateral negotiations exhibit a range of similarities, should they be subject to the same examination as the UN First Committee cyber negotiations were in this present study. This is especially plausible given the fact that a top-down strategy for KM for UN multilateral negotiations more broadly has not been issued by the institution. This study, therefore, sets a precedent for advancing understandings of how knowledge has been managed more broadly across the UN in other multilateral negotiations. Indeed, the methodology and adapted theoretical framework offer a blueprint for further research in the area, and the findings provide empirical guidance as to how KM practices may have taken expression in other instances of this professional context.

Areas of Further Research

Looking forward, and given the novelty of this work, multiple interesting areas for further research become apparent. Keeping the focus on the UN First Committee cyber negotiations, future work can explore why an explicit and systematic approach to KM was not put in place upon the initiation of this process. Was it determined that implementing such an approach was unnecessary? If so, how was this determined, and on what considerations was this decision based? Or perhaps the embedment of a KM system was not considered at all. Understanding why an explicit KM approach was not embedded within these negotiations from their inception could yield important insights both for KM as a craft, as well as in respect to how future multilateral diplomatic negotiations are designed and account for the inputs populating their active knowledge base.

Moreover, widening the net and considering the management of knowledge in other UN multilateral diplomatic processes will be vital for understanding the broader currents characterizing KM in this particular professional setting. Although these processes are proceduralized, as

mentioned earlier, variation does still exist across them—for example, in their format, size, duration and level of multistakeholder engagement. To obtain a more comprehensive understanding of KM (or the lack thereof) within UN multilateral diplomatic negotiations, further research will be required. This will be important both in terms of enhancing theoretical KM understandings as well as gaining an appreciation of what support is or could be useful in helping diplomats do their job in the multilateral setting. The study of more cases will help determine this, allowing for the creation of a profile on the subject, creating a body of knowledge in the area and also illuminating whether there are sophisticated examples of the implementation of KM systems within UN multilateral diplomatic negotiation processes.

It is first, once this has been done, and a wealth of findings has been established, that any real generalizations, comparisons, larger trends and broader evaluations relating to KM in the wider context of UN multilateral diplomatic negotiations can be undertaken. Close engagement with the KM literature will continue to be relevant. On the one hand, this scholarship can be used as a guide in identifying and defining how KM has been undertaken in cases where an explicit strategy has not been articulated. On the other hand, in parallel, this body of knowledge can help adopt, adapt, or improve the efficiency of KM in practice.

Once the broad shape and state of KM in the wider professional context of UN multilateral negotiation processes have been established, scholars can move on to subject them to various lines of enquiry. This includes, for instance, researching why explicit approaches to KM have or have not emerged in particular multilateral negotiation processes. Understanding this could highlight potential unique elements of the diplomatic environment and the shape of KM as professional practice in diverse contexts. Furthermore, exploring the broader impact of an evolving negotiation format on any KM practices or systems in place could offer lessons in terms of the resilience and adaptability of these practices. It would also offer insight into how these practices are intentionally re-calibrated or inadvertently altered in dynamic diplomatic settings. Insights, which could be useful for developing procedures for future negotiation processes. It is also interesting to investigate whether shifts in negotiation formats led to the formalization or indeed de-formalization of KM practices already in place. Where in the cyber case, the tendency was noted as moving towards formalization.

Furthermore, as negotiation formats shift, it may be that certain KM practices are no longer possible to undertake. Studies could be undertaken to explore what impact this has had on negotiators in furthering their objectives, and whether substitute mechanisms developed—either through deliberate intent or organically—and how they affect the level of KM formality. Indeed, it would also be valuable to examine, which KM practices have remained in place from one negotiation format to another and understand why those particular practices outlasted others, subsequently drawing lessons learned. In addition, the impact of any changes in KM practices experienced in response to format changes on the progression of the conversations and on diplomatic positions would be useful from a negotiation perspective.

Should a formal KM system be identified in a given multilateral negotiation process, research can also be undertaken to evaluate how effective it has been. In such cases, the aims of the KM system can be compared with the consequences of its implementation, and an evaluation of its effectiveness and ultimate success can be established.

Finally, it would be useful to conduct further research into the role and impact of NSAscarrying out KM practices informally and externally to any given UN multilateral diplomatic negotiation process. Investigating, for instance, how these practices affect the status and relevance of any formal or informal KM practices already in place within thatprocess In researching this, the literature on epistemic communities could offer important insights.

In Conclusion

This book has made two key contributions to the literature. It has created a unique interdisciplinary methodological blueprint for studying KM in the setting of multilateral diplomacy. It has also applied this methodology, undertaking the first known examination of KM in this particular professional context, creating an initial empirical foundation for this new area of study.

Considering its origins, this research was a reaction to the observation that diplomats are tackling topics characterized by accelerating knowledge growth. Given that the UN is the primary as well as premier arena for addressing such issues, it was reasonable to assume that the institution has taken special measures to help diplomats manage this rapidly developing knowledge environment. However, as shown through this book's

examination of the UN First Committee cyber negotiations, this has not been the case. A conscious, systematic and explicit approach to managing inputs provided to these negotiations has not been embedded within their architecture. This is a striking finding, considering that the ICT area has experienced considerable developments since discussion of the topic commenced at the UN in the late 1990s—both in terms of what is technologically possible as well as understandings of what the implications of these possibilities are socially, (geo)politically, economically, legally, as well as environmentally (see, for example, Salamatian et al., 2021; Zhang et al., 2024; Collingwood & Simpson, 2024; Malmodin et al., 2024).

Interestingly, while the UN has not made a concerted effort to incorporate KM practices, they have nonetheless developed organically through the set-up, format and design of the cyber negotiations. As demonstrated through Chaps. 3 to 7, a wide variety of activities undertaken in relation to these discussions can in fact, be conceptualized as acts of KM. When considering these KM practices, they have, however, been implicit, dispersed, unsystematic and messy in nature, developing in some cases inadvertently and with detrimental effect (see Chap. 5). These findings highlight the relevance of KM to the context of multilateral negotiations as well as the necessity of developing an explicit approach to its implementation. Not only to better support diplomats in doing their job, but also to ensure that practices counter to the mission of the UN do not develop. The fact that the UN has not taken deliberate measures to support its diplomats in managing knowledge associated with this rapidly developing and extremely complex international issue is, at best, concerning and potentially speaks to a wider issue within the institution.

Managing inputs contributed to UN multilateral negotiation processes matters because they ultimately shape international agreement on any given topic under discussion. These agreements in turn, define the contours of world order and influence the direction of national policies. Both of which impact every person on the planet. For this reason, it is vital that KM assumes a more prominent role at the UN.

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Appendix

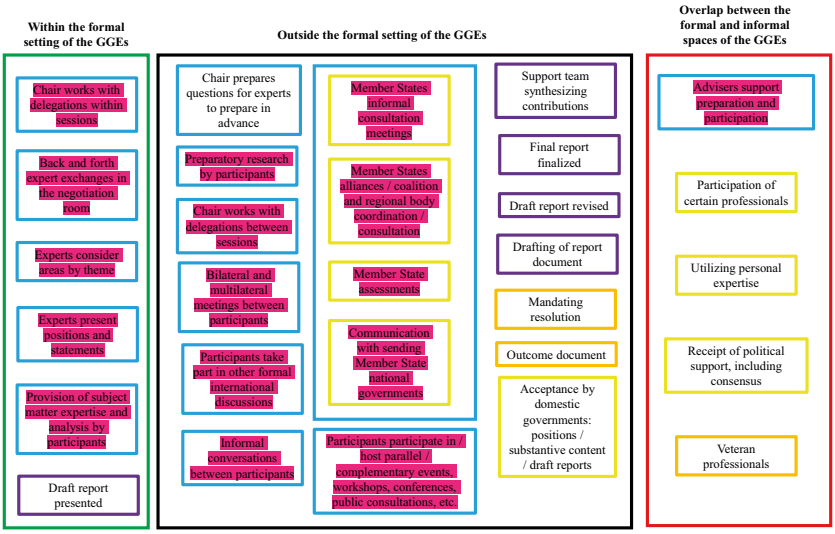

Fig. A.1 GGE Practices

L. H. Andersen, *Knowledge Management in Multilateral Diplomacy*, Studies in Diplomacy and International Relations,
https://doi.org/10.1007/978-3-032-11414-3

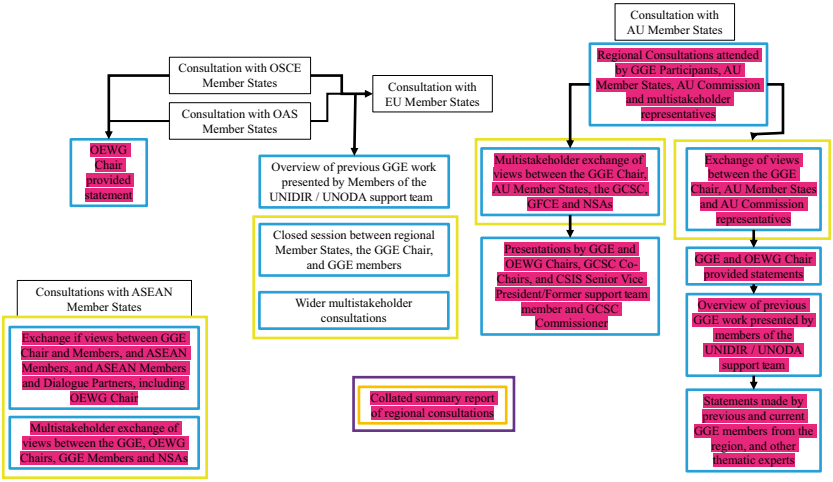

Fig. A.2 Regional Consultations of the sixth GGE, 2019

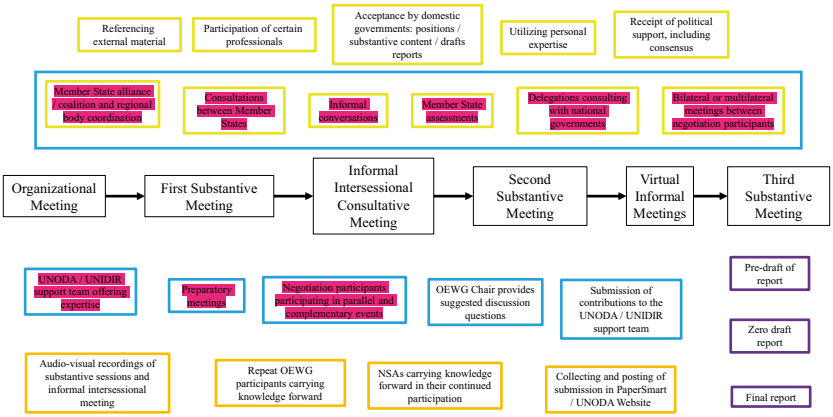

Fig. A.3 First OEWG Practices

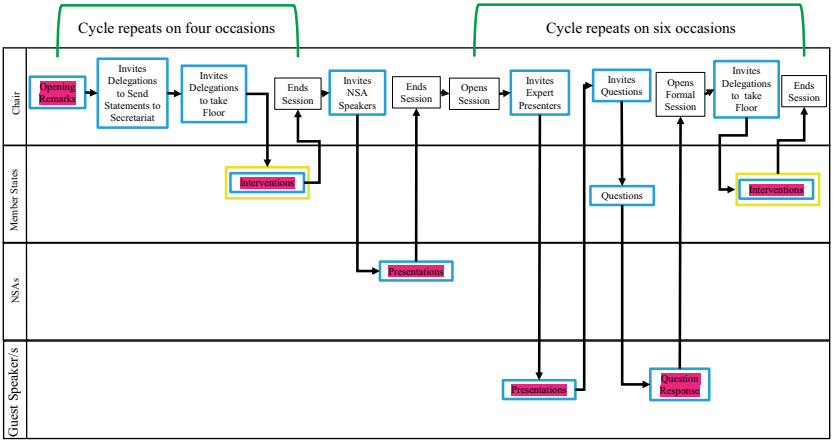

Fig. A.4 First OEWG: First Substantive Session, September 2019

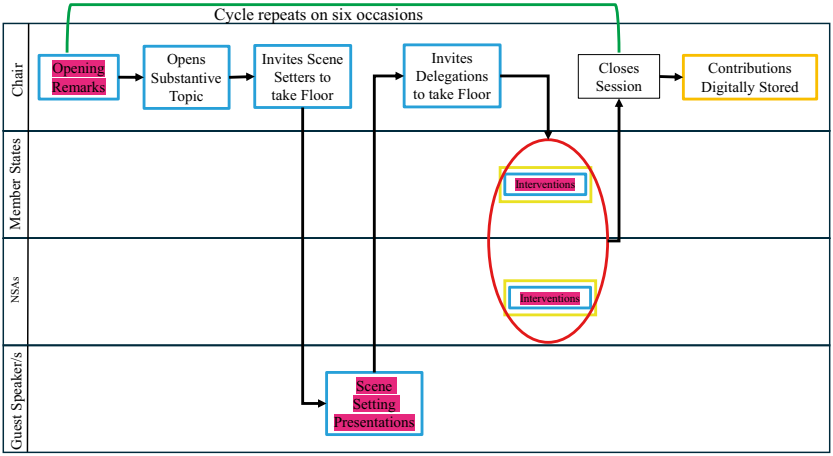

Fig. A.5 First OEWG: Informal Intersessional Consultative Meeting with Industry, NGOs and Academia, December 2019

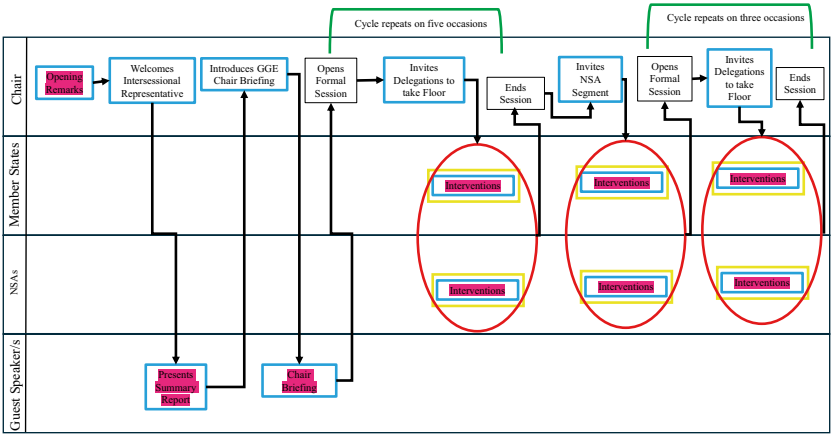

Fig. A.6 First OEWG: Second Substantive Session, February 2020

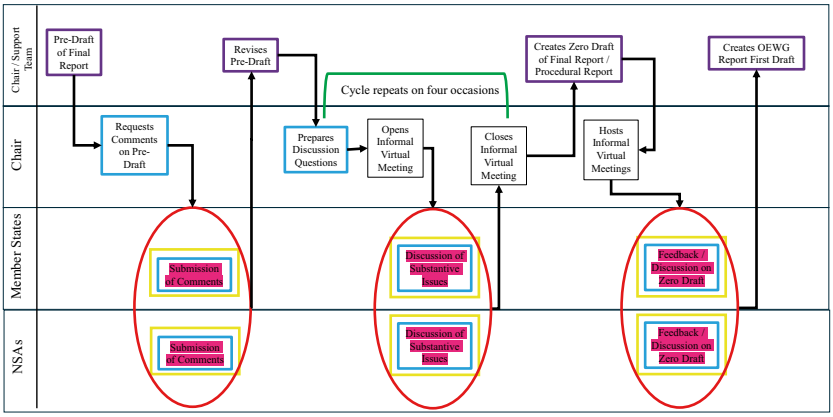

Fig. A.7 First OEWG: Intersessional between the Second and Third Substantive Session, February–July 2020

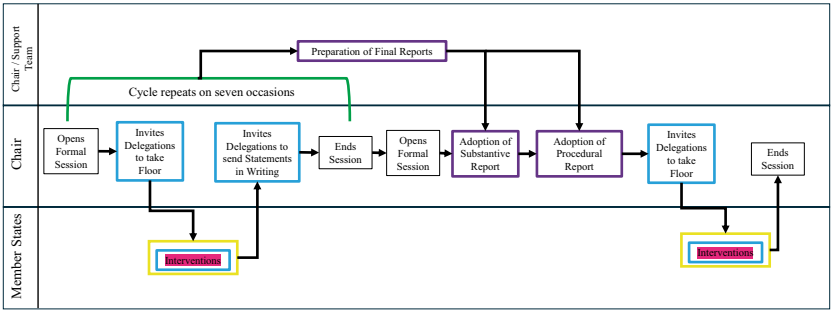

Fig. A.8 First OEWG: Third Substantive Session, July 2020

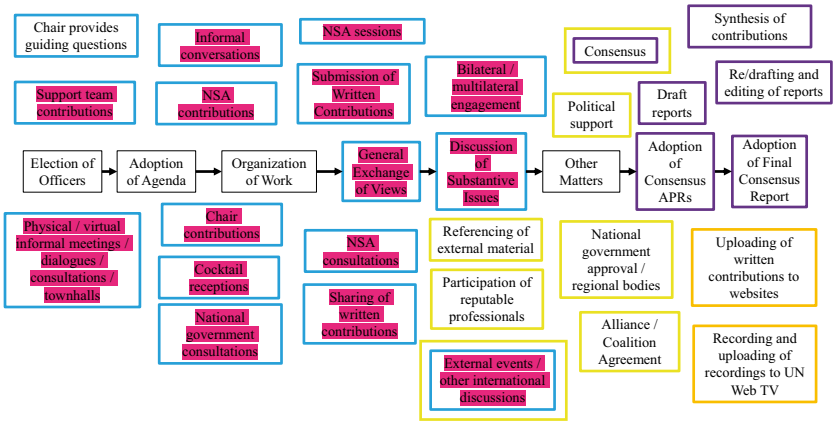

Fig. A.9 Overview of the Activities of the Second OEWG (2021–2025)

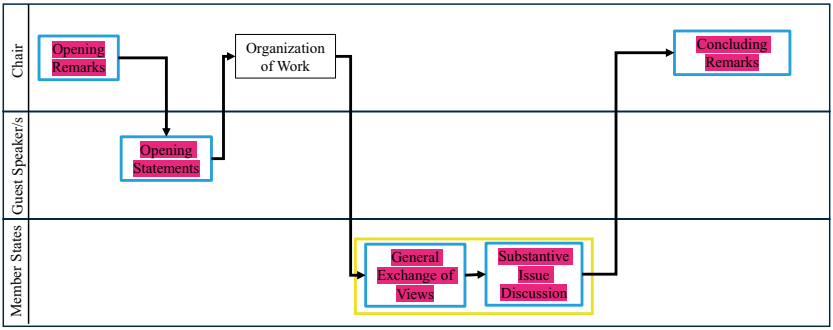

Fig. A.10 Second OEWG: First Substantive Session, December 2021

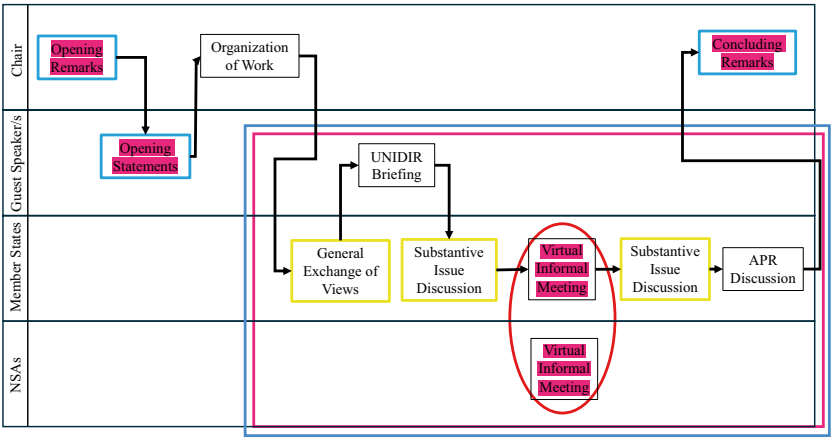

Fig. A.11 Second OEWG: Second Substantive Session, March–April 2022

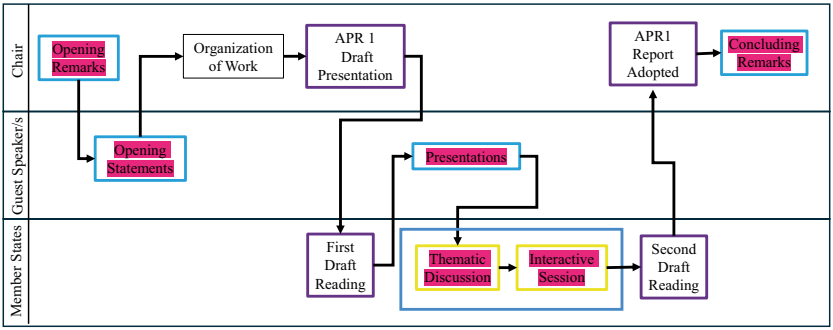

Fig. A.12 Second OEWG: Third Substantive Session, July 2022

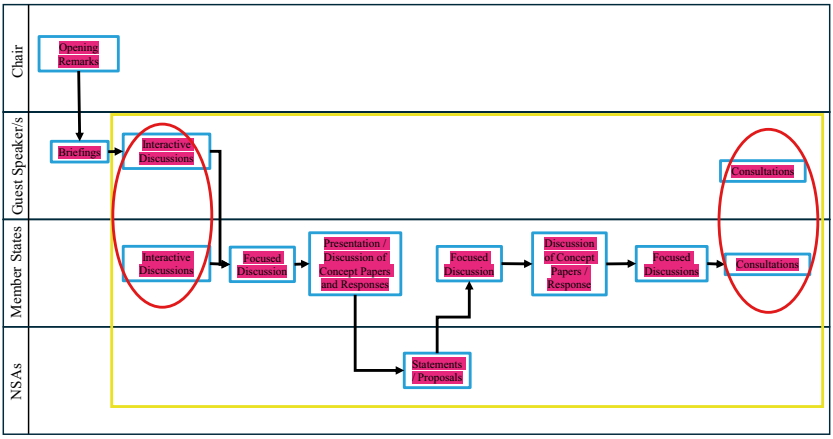

Fig. A.13 Second OEWG: Informal Intersessional, December 2022

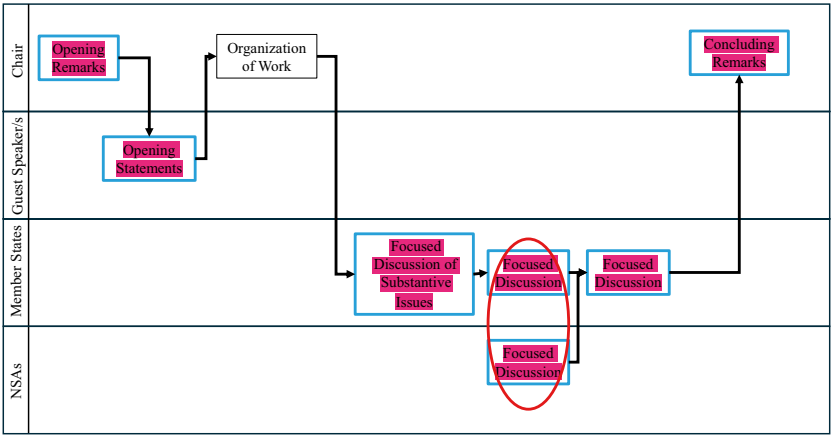

Fig. A.14 Second OEWG: Fourth Substantive Session, March 2023

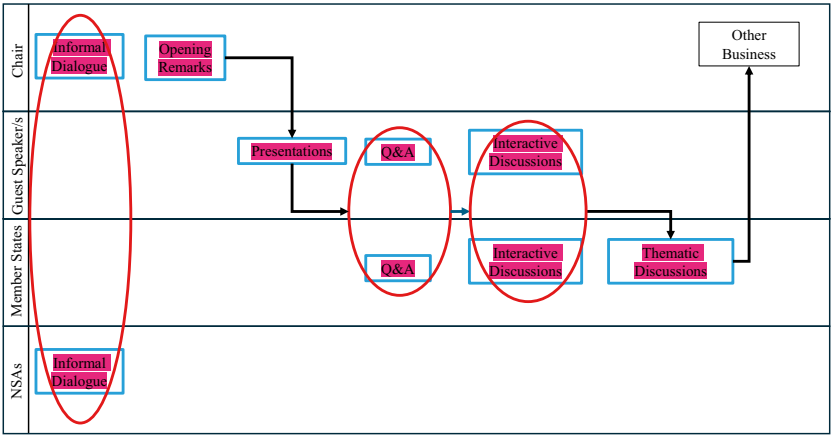

Fig. A.15 Second OEWG: Informal Intersessional, May 2023

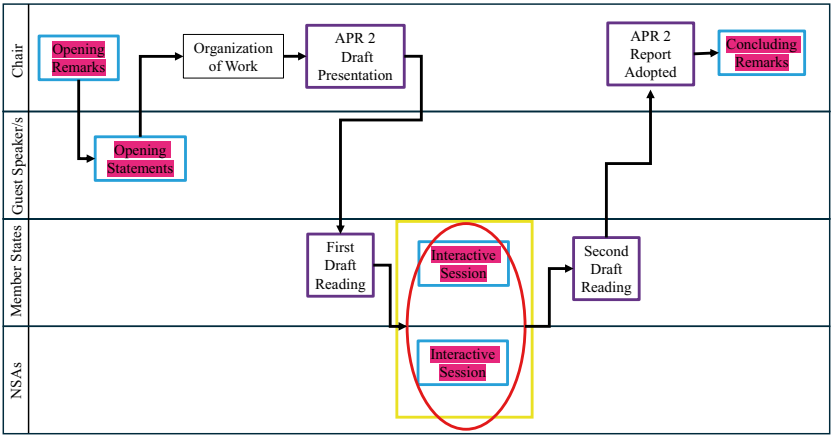

Fig. A.16 Second OEWG: Fifth Substantive Session, July 2023

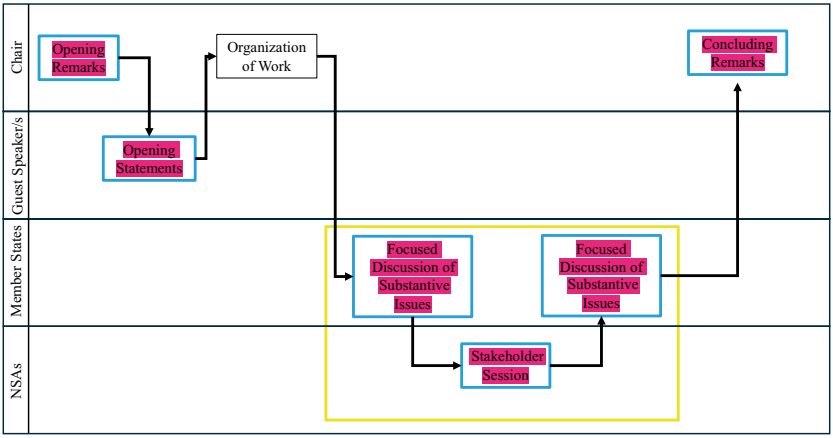

Fig. A.17 Second OEWG: Sixth Substantive Session, December 2023

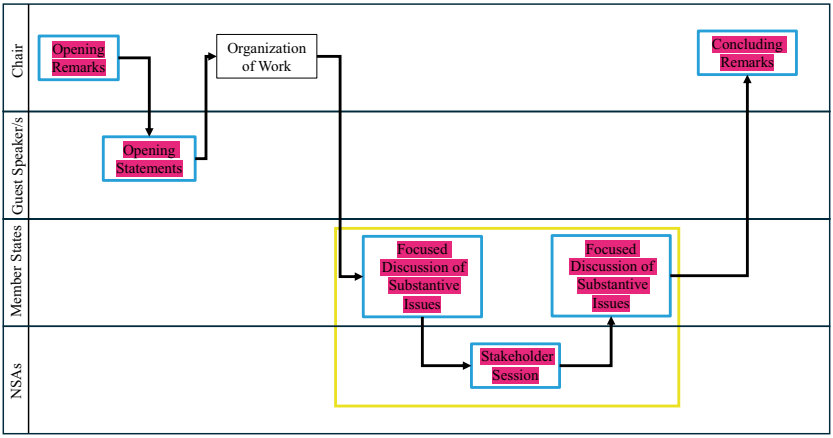

Fig. A.18 Second OEWG: Seventh Substantive Session, March 2024

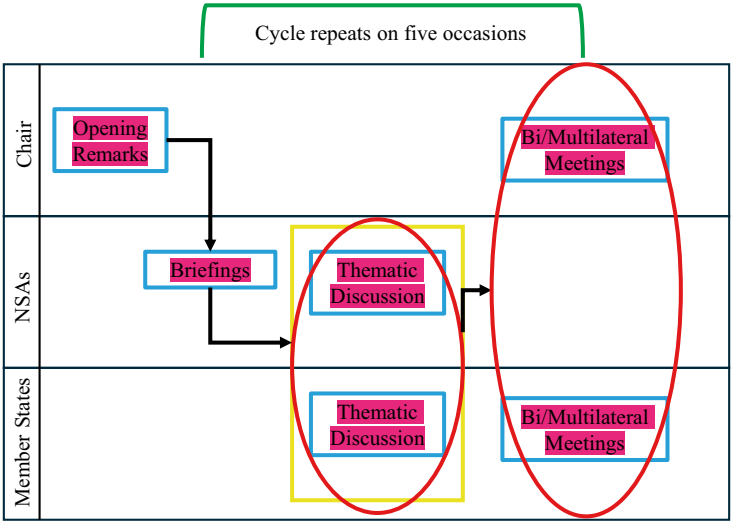

Fig. A.19 Second OEWG: Global Roundtable on ICT Security Capacity-Building, May 2024

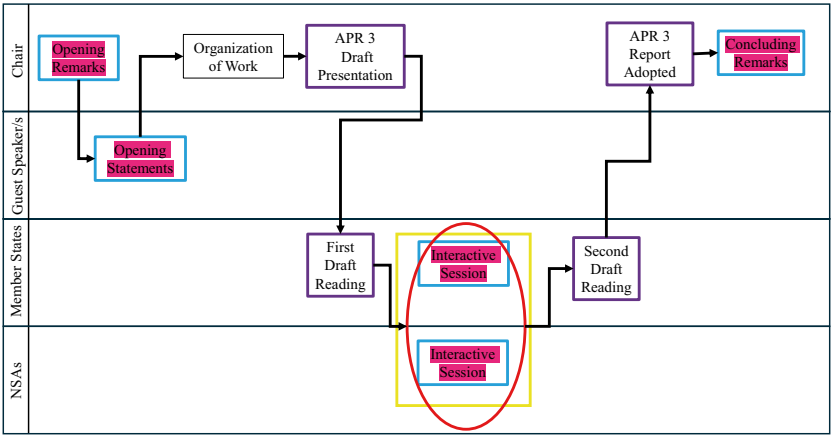

Fig. A.20 Second OEWG: Eighth Substantive Session, July 2024

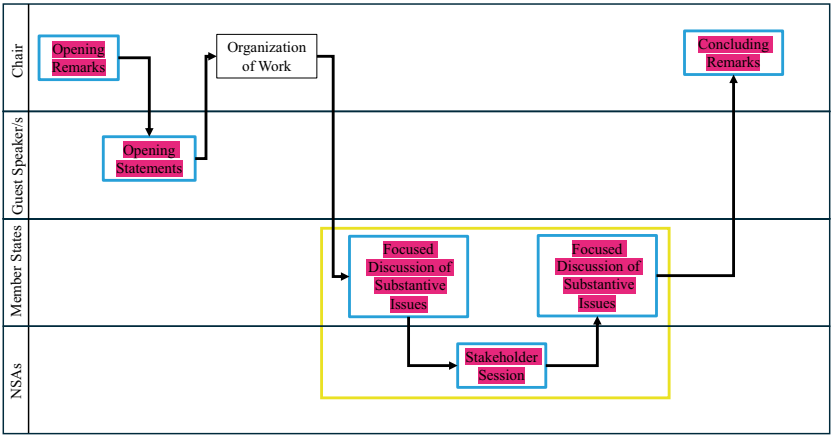

Fig. A.21 Second OEWG: Ninth Substantive Session, December 2024

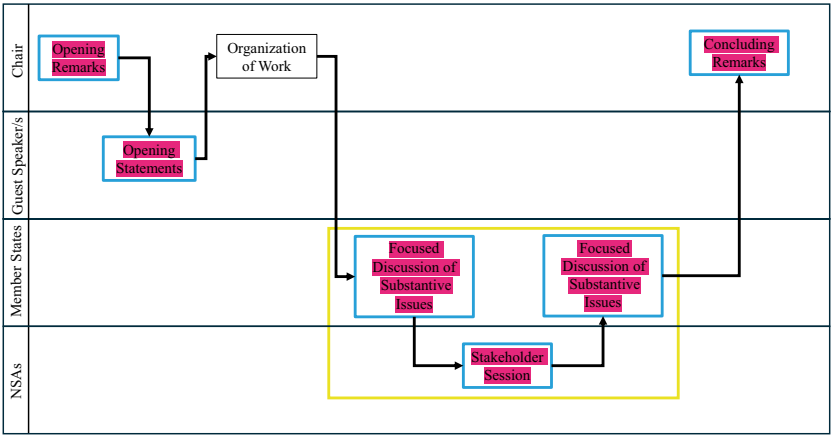

Fig. A.22 Second OEWG: Tenth Substantive Session, March 2025

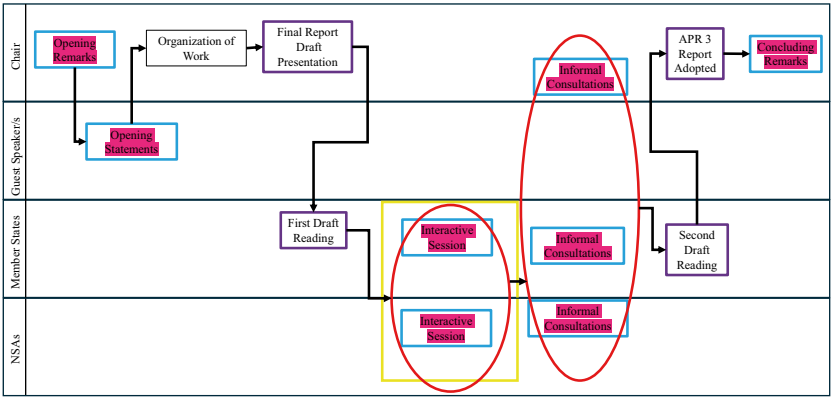

Fig. A.23 Second OEWG: Eleventh Substantive Session, July 2025

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[1] Note: Page numbers followed by 'n' refer to notes.

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