Building bridges between local and global knowledge: new ways of working at the World Health Organisation

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Over the last decade, capturing knowledge in organisations has been a key concern for practitioners across a wide range of sectors of the knowledge economy. Despite this continued interest, surprisingly little research has been carried out in globally dispersed organisations, or in terms of examining issues of managing knowledge in a global context (Desouza and Evaristo 2003). International development agencies are one such example of global institutions that have recently turned to knowledge-based development strategies. For example, the World Bank has been reframed as the 'Knowledge Bank' (Stone 2003), and has distinguished between global knowledge and local knowledge institutions. Whilst there is a growing literature in this area, further research is needed to understand and address the challenges development agencies face in managing knowledge in a global context. Earlier work has sought to provide insights for corporate executives from the problems of learning and knowledge-based transformation experienced by the World Bank (Ellerman 1999). In this paper, we examine knowledge initiatives at the World Health Organisation (WHO) and consider implications for new ways of working.

We start by conceptualising some key concepts on the nature of individual and organisational knowledge in global organisations. We then review knowledge strategies of multi-national product and service firms along four key dimensions: utilising local knowledge, building knowledge capacities, local-global knowledge sharing, and the transition to knowledge-based organisational forms. We subsequently describe our case study of the WHO and discuss some of its recent knowledge management initiatives over the last two years. Our case analysis draws on the four dimensions to examine the benefits and limitations of the WHO's global knowledge strategies and includes a comparative analysis with other multi-national product and service firms. We conclude with some key implications for knowledge brokering strategies at the WHO.

Part I: Conceptualising knowledge in global organisations

The rise of objective, codified knowledge

Knowledge has always been central in the functioning of society. However, in today's 'knowledge economy', organisations are increasingly aware of the need for a 'knowledge focus' in their organisational strategies as they respond to changes in the environment. For many organisations this has meant that the character of knowledge has changed (Bell 1999) towards a more objective, theoretical knowledge with a focus on the codification of knowledge into systems. Over the last decade, this focus on codification and 'explicit' knowledge has led to the widely misunderstood view that the knowledge creation process (Tsoukas 2003) merely involves the 'capturing',

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KM4D Journal 1(2): 31-46
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'translating', or 'converting' of 'tacit' knowledge into 'explicit' knowledge, facilitated increasingly by IT (Nonaka 1995). Such a conceptualisation of knowledge as an 'object' is reliant on science and explicit ideas, which may be overly representative of an erroneous Western rationality (Nicolini et al. 2003). The development of evidence-based medicine with its reliance on objective, generalised forms of knowledge is one such example (Sackett et al. 2002). In contrast, we develop a personal view of knowledge which suggests that knowledge can be differentiated by the capacity of individuals to exercise judgment, presupposes values and beliefs, and is closely connected to action (Tsoukas 2003).

Knowing-in-practice
While global organisations are making significant use of codified forms of knowledge, we agree with others that the tacit or personal character of knowledge is *inseparable from* (and not in opposition to) explicit knowledge (Walsham 2001). That is, individuals themselves are knowledgeable, but their tacit knowing cannot always be 'captured', or 'transferred' as explicit knowledge in any strict sense, as it is not necessarily connected to explicit forms of knowledge.

Building on the view that our knowing is *in* our action (Polanyi 1969), the concept of 'knowing-in-practice' argues that knowledge and practice are closely linked:

> *As people continually reconstitute their knowing over time and across contexts, they also modify their knowing as they change their practices. People improvise new practices as they invent, slip into, or learn new ways of interpreting the world.* (Orlikowski 2002)

Furthermore, since knowledge is personal and depends on our own initial dispositions and unique life experiences, sharing of knowledge should not be misconstrued as two people coming to the exact same understanding. Rather, they can have the same access to (or share) the same flows or 'stocks' of knowledge but these are always individually interpreted (Boland 1996). These concepts have been operationalised to some extent in regular assessment of knowledge, attitude and behaviours when assessing the success of health promotion campaigns.

Organisational knowledge
For knowledge-based organisations operating in a dynamic environment, organisational knowledge and organising knowledge is a critical part of what organisations do (Seely Brown and Duguid 2001, Tsoukas and Vladimirou 2001). Though the personal view of knowledge, as reflected in knowing-in-practice, considers individuals and their practice in an organisation, another important dimension recognises the collective level of knowledge within communities of practice (CoPs) In inexplicable ways, organisational knowledge in CoPs is more than the sum of the individuals' parts (Seely Brown and Duguid 2001, Storck and Hill 2000).

Furthermore, it is increasingly accepted that large global organisations can be usefully conceptualised as a 'community of communities of practice' (Seely Brown and Duguid 2001, 1991), a hybrid group of overlapping and interdependent communities or a 'network of practice'. The latter emphasises practice, and recognises the global

organisation as having several CoPs not only across the organisation but beyond it. Organising knowledge across these hybrid communities is the essential activity of organisational management. However, hierarchical relations and divisions of labour within organisations can lead to organisations wrongly esteeming knowledge solely at the top of the hierarchy which can lead to barriers between groups, and ineffective coordination and transfer of organisational knowledge across CoPs.

Architecture for organising knowledge
Given the inherent community of CoPs within global organisations, these firms must therefore rely on 'inter-communal negotiation' between quasi-autonomous communities. Seely Brown and Duguid (2001) identified an enabling architecture for organisational knowledge and spreading knowledge between communities that includes the use of *translators, brokers* and *boundary objects*.

Translators mediate negotiations between members across different communities. To be effective, they need to develop trust amongst members of different communities and also be sufficiently knowledgeable about the work of different communities. Knowledge *brokers*, on the other hand, are participants of overlapping communities and are inherently more likely to be trusted in their efforts to facilitate the flow of knowledge between them. B*oundary objects* are often defined as technologies, techniques or processes that have the potential to forge coordinating links among communities and facilitate negotiation. Through boundary objects, a community can both self-reflect and better understand another community's practices, attitudes and world-view, and facilitate inter-communal negotiation. Common examples are business processes, such as planning, which can enable productive cross-boundary relations by different communities who negotiate and propagate shared interpretations. A darker interpretation is evident in coercive organisations where business processes may impose compliance through 'frozen negotiation'.

Part II: Knowledge dimensions in multi-national firms

In this section we examine knowledge strategies deployed by multi-national product and service firms. Doz and Santos (2001) identify what they call 'meta-national' firms as a particular set of multi-national product firms that have learnt to operate effectively in a knowledge economy. Table 1 summarises the strategies of meta-national and global professional service firms across the dimensions of utilising local knowledge, building knowledge capacities, local-global knowledge sharing and transitioning to knowledge-based organisational forms.

Utilising local knowledge
There are some interesting parallels between the strategies of meta-national and global professional service firms concerning the role and use of local knowledge. To operate effectively, Doz and Santos (2001) suggest that meta-national organisations must harness diverse and specialist local knowledge from multiple peripheral locations, including developing countries. In accessing such context-dependent knowledge, firms need to plug into local networks and build external alliances with customers, distributors, suppliers and other entities.

Table 1: Knowledge dimensions across meta-national and global professional service firms

Knowledge dimension	Meta-national firms	Global professional service firms
Utilising local knowledge	Harness diverse local knowledge Build alliances & local networks	Respect local professionals Learn from diverse local knowledge
Building knowledge capacities	Sense and process complex knowledge globally Mobilise & facilitate transfer across countries Operationalise into day to day activities	Achieve multi-dimensionality across three axes: Country firm Services and products Industry insight
Local-global knowledge sharing	Co-location ICTs, models and templates as carriers of knowledge	Professional networks Central knowledge centres Firm methodology ICTs and knowledge repositories
Transitioning to knowledge-based organisational forms	If global projector… - Show benefit of local innovation to global players If multi-domestic… - Show benefit of global knowledge to local players	Use of overlapping task forces and 'bumble bee' approaches Utilise existing professional associations and networks

In a similar vein, literature has suggested that global professional service firms have to 'learn from their environment, especially their clients' and 'deliberately access multiple and diverse sources…. often in corners (of the world) far removed from central decision-makers' (Greenwood et al. 2003). Along with this sensitivity to locality, and valuing unique local knowledge, their distinctive professional culture respects local partner autonomy in using their discretion to manage clients.

Building knowledge capacities
The meta-national firms rely on three distinct knowledge capacities in leveraging unique local knowledge from multiple locations, namely *sensing, mobilising and operationalising*. First, organisations learn how to sense and process complex knowledge globally by identifying new sources of relevant technologies and capabilities. Second, meta-national organisations *mobilise* local knowledge using new 'magnet' structures to attract, 'meld', and transfer geographically dispersed complex knowledge into the network of day-to-day operations. Third, knowledge is operationalised by configuring and managing its operations for successful growth and profitability.

Global professional service firms build knowledge capacity by accessing diverse sources of information across three axes (or dimensions) of differentiation: country, service and industry. First, the 'country' or national firm has historically been the building block of the global firm and therefore the value of 'country level' knowledge is deeply established. Second, lines of service such as assurance and tax represent the core products and services delivered to clients, and global firms have developed methodologies around these lines of service. Third, global professional service firms structure along industry lines to develop deeper capacities and capabilities in specific industries and related market sectors. These three diverse knowledge capabilities are synthesised, in a multi-dimensional manner, to enable decision-making across the firm.

Local-global knowledge sharing
In contrast to one-way sharing/transfer of knowledge of new products and services by global organisations from headquarters to the local subsidiary, the meta-national recognizes two-way sharing between the local and the global in harnessing and 'melding' knowledge from multiple diverse locations. Knowledge sharing takes place through 'carriers', which imperfectly embody knowledge in the form of a co-located worker, blueprint, tool, template or model.

For example, global organisations invest heavily in tools such as intranet, video-conferencing and ICTs to manage information flows and to facilitate the moving and sharing of knowledge. However, carriers such as ICTs do not manage and meld complex context-dependent knowledge that is key to the competitive advantage of the meta-national firm. Instead, this requires reinterpretation by the recipient in their context.

Knowledge sharing in global professional service firms, facilitated by overlapping professional memberships, multiplies the possibility of local innovations from dispersed corners of the firm being recognised and communicated to central locations; enabling local knowledge to become global. Global professional service firms have long used IT and common audit methodologies to spread global generalised knowledge, and to facilitate global integration and coordinating of work (Gendron and Barrett 2004). This initial knowledge focus has been a technical one involving the creation and maintenance of large knowledge repositories without concomitant organisational design elements of structure, human resource practices and culture. For example, busy professionals are often not adequately stimulated to enter lessons in the knowledge repositories. One the contrary, their performance measurement continues to be largely focused on billable hours and building client relations.

Transition to knowledge-based organisational forms
Doz et al. (2001) suggest that the key transition challenge for traditional multi-national corporations as 'global projectors' is to reverse one-way knowledge flow from their home base to 'teach' dependent overseas subsidiaries, and instead to facilitate 'learning from the world'. To do so, global projectors need to build unique local knowledge as subsidiaries and 'plug' themselves into the local external environment.

A second transition challenge for firms with 'multi-domestic' characteristics is their geographically fragmented knowledge base. These entities often have a lot of 'imprisoned' local knowledge in subsidiaries as they are solely plugged into local environments and can only 'meld' diverse sources of local knowledge. They find it difficult to mobilise complex knowledge from global contexts, not only because they lack global networks of knowledge but because independent-minded subsidiaries may jealously guard what they see to be their source of power.

Global professional service firms utilise a number of organising mechanisms to support knowledge generation and sharing in the transition to a knowledge-based organisational form. First, there are teams and task forces assigned to each axis of differentiation, but whose memberships overlap to form a mosaic of lateral structures. These organisational forms are expected to facilitate formal and informal interactions between members of the global firm. Through these overlapping memberships, service professionals can be members of one or more teams across more than one axis within the firm. They also move across and within the three axes with 'bumblebee' effect doing, learning and exchanging new ideas and so providing a 'cross-pollination' of knowledge. Furthermore, professionals are members of multiple professional networks outside the firm (Gendron and Barrett 2004) which allows for wider organising and sharing of knowledge.

A critique of the knowledge perspective in meta-national and global professional service firms

The dimensions of knowledge highlighted by the meta-national and the global professional service firms literatures are helpful in exploring opportunities and challenges in managing knowledge in other global organisations such as the WHO. However, these literatures largely neglect a personal view of knowledge, which we consider crucial in developing knowledge strategies. For this reason, we now critically assess the strengths and limitations of these literatures along each of the dimensions of knowledge.

First, both literatures rightly emphasise the need for global organisations to value and utilise diverse types of local knowledge. However, a functionalistic view of knowledge is evident in the discourse of the meta-national firm. Harnessing diverse local knowledge suggests a 'disembodied' view of knowledge and 'plugging' into local networks seems to underplay the embedded nature of CoPs and the learning and identity change needed in becoming a participating member of new 'networks of practice' (Lave and Wenger 1991; Wenger 1998).

Second, the practical viewpoint of the meta-national as 'sensing', 'mobilising' and 'operationalising' knowledge using 'magnet' structures to build knowledge capacities adopts an 'object' view of knowledge as discrete, disembodied and easily 'melded'. We suggest this largely explicit focus of knowledge does not adequately appreciate tacit knowing, and instead largely adopts a functionalist view that knowledge can be attracted through 'magnet' structures, and then 'transferred' and 'inserted' into operational practices. Global professional service firms focus on sophisticated codification strategies and an informational perspective in building knowledge

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capacities across multiple axes. However, we suggest the need to go beyond this synthesising of information, and to focus more on the ability of individuals to effectively use this complex information given their backgrounds and experiences.

Third, concerning local-global knowledge sharing, the meta-national literature is thoughtful on the issue of knowledge 'flows' and presents the useful concept of 'carriers of knowledge' for understanding processes of sharing and 'moving' knowledge. This literature also demonstrates a subtle appreciation of recontextualisation of local knowledge, which challenges the ideal of knowledge transfer as moving knowledge smoothly across national, cultural and disciplinary boundaries. Concerning the role and use of IT, the meta-national recognises its limitation for sharing simple knowledge or information. The global professional service firm literature also usefully highlights the need to go beyond the use of IT in developing knowledge repositories and take account of organisation design issues in understanding low levels of use. However, this explanation does not adequately explore the limited extent to which IT can aid sharing knowledge. Attempts to make explicit people's experiences of best practice will always be at best partial, and the ability of users to use knowledge repositories will depend on their prior experiences and individual dispositions. Whilst the professional service firm literature recognises the role of professional networks as CoPs or knowledge communities, they do not adequately develop the social dynamics of learning of individuals in these networks that facilitate local-global knowledge sharing processes.

Fourth, the meta-national and global professional service firm literatures are thoughtful on the problems of existing global organisational structures (projector and multi-domestic characteristics) and the need to set up new organisational structures. However, the literatures are silent on the role of translators, brokers and boundary objects as facilitating 'inter-communal negotiation' and providing an enabling architecture for organisational knowledge so as to facilitate new ways of working. We will come back to these points of critique and their implications, but first we provide a case description of the WHO along the four knowledge dimensions.

Part III: The case of WHO

The WHO is the key United Nations' agency addressing global health issues. It is governed by its member states, through its executive board and constituent World Health Assembly, and at the regional level through its regional committees, consisting of all constituent ministries of health. Regional directors are elected by their constituents, as is the Director General in Geneva.

WHO and its management of knowledge: two basic approaches
WHO has numerous global programmes and partnerships to help generate the knowledge required by member states to deliver their national health objectives. Broadly speaking it does this in two ways. First, by working with global expert networks, typically non-government actors such as academic communities and practicing public health practitioners. Using science and the dissemination of 'good ideas' through expert panels, global alliances and collaborating centres, these networks seek to agree on standards and global guidance, advocate action for

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vulnerable populations, mobilise resources for health, draft legislation to promote and protect health, and increase access to global public health goods. This is often formalised as a World Health Assembly Resolution, which aims to provide a global consensus that all member countries should follow.

Second, working directly with ministries of health and other government institutions, the WHO seeks to bring global standards to national public health policies and programmes, strengthen public health institutions and networks, increase coverage of public health services and build demand for better health.

We now use the four -dimension knowledge framework (utilising local knowledge, building knowledge capacities, local-global knowledge sharing and transitioning to knowledge-based organisational form) to describe how WHO currently manages its knowledge so as to carry out these two roles.

Utilising local knowledge

Local health data
Central to much of WHO's work is the collation and dissemination of data on health situations in-country. The focus of WHO's efforts, and this is particularly the case of the Geneva headquarters, is to develop global knowledge using data which has been validated using internationally agreed norms and consensus, and thereby allowing for comparisons across countries. Meanwhile, in a given country, the same problem may be assessed using other measures, even if they do not fit with WHO standards. These measures retain local credibility because they come from existing information management systems and are locally 'owned' by government and the institutions it uses to gauge population health.

WHO country cooperation strategies
The WHO has recently introduced strategic planning exercises at the country level to better define where WHO's efforts should be focused to address local knowledge needs, and which partners should be involved in its production and delivery. This has also helped WHO better understand its capacity requirements (e.g., competences and resources) at the country level, and to determine how resources at different levels can work better with national agencies to meet individual country needs.

Building knowledge capacities

Capacities within member states
Given that WHO is a membership organisation, most of its efforts at building knowledge capacities are focused on the needs, rightly, of member governments (Task Force on Health Systems Research 2004). Some national institutions need to have similar capacities and functions in many countries, making it easier for WHO to focus on developing similar services and products in different settings. For example, WHO works with Ministries of Health to ensure that internationally accepted standards to improve and maintain a population's health are adapted and used in all countries, and national capacities can be assessed to see if this is the case (Yach and Ruger 2005).

Capacities within the WHO secretariat
The first priority, however, has overshadowed the need for the WHO secretariat itself to better recognise knowledge as one of its key assets; it has not always learned the lessons from effective knowledge management systems in other global organisations. This has been compounded by loss of knowledge through inadequate human resource strategies as well as inefficient and overlapping internal systems for management of knowledge. Sensing local knowledge in country offices has been limited due to insufficient human and ICT capacity, with some noteworthy exceptions, such as Polio eradication or Tuberculosis control. Another constraint currently being addressed concerns the insufficient integration of internal knowledge management systems and standards, such as intranet and document management, leading to large areas of duplication and inconsistency across the different parts of WHO.

Local-global knowledge sharing

Application via science, technology or models
At headquarters, global knowledge tends to focus on accepted good practice, which in recent decades has meant 'evidence' coming from scientific studies and other mechanisms for gaining an intellectual consensus on what works and what does not. At the local level, where WHO focuses on influencing government policy through direct engagement, the reliance on science and international consensus is not assured, as ideas often come from local practice. Further, scientific evidence from national institutions, even if at odds with globally agreed knowledge, will tend to be more influential. Where professional practice is linked to science, such as medical and nursing care, or international law, as in trade agreements on drugs, headquarters is in a better negotiating position than local country offices. On the contrary, in work areas related to 'macro' policies, such as how financial and human resources can be mobilised and managed to deliver services, local or regional experience is often more powerful. These local-global negotiations are sometimes influenced through headquarters' relationships with international funding bodies, which may link the use of their funds to internationally agreed 'evidence' of good practice. Clearly, however, the success of programmes must be sensitive to local knowledge, which is culturally and contextually specific, and may quite rightly be at odds with generalised global knowledge.

Similarly, technology or models are often developed along with global knowledge for application at the country level. Quite often, however, even new technology that has been proven to be successful elsewhere will require local studies to validate whether it is really useful in that context.

Challenges to WHO's working: the global and local divide
One key element that can block the flow of knowledge is the different use of language, both formal language systems (e.g., English and French) and the types of wording used within a language. The UN officially has six languages, although the WHO global networks are dominated by three: English, French and Spanish. Locally, the indigenous language is the most influential, and can even be multiple in a certain country (especially in Africa, where national borders were not set up to respect original 'tribes' and languages, as in Europe or Asia). In contrast, global knowledge is generally codified using the language of those places where its generation is financed;

where this causes problems of communication, it can be translated into local languages. For local languages however, there has been little effort to translate the local storage of knowledge (national journals, etc.) into the global languages. For example, the China WHO office needs a translator to assist in the translation of a high volume of research in Chinese as well as to facilitate interactions with government officials who may only speak Chinese.

Local-global professional networks
WHO's work has traditionally been dominated by certain professional groups, in particular medically qualified epidemiologists and public health physicians. However, in recent years, other professional groupings, such as those working on health economics and pharmaceuticals, have also developed as the WHO has had to negotiate with different global stakeholders; for example, global commercial institutions involved in influencing international health capture knowledge for reasons of profit and future investment in knowledge creation. Global players (e.g., drug firms) use the international patent system with great effect, and with strong legal backup, to ensure their investment in knowledge creation, or in buying of knowledge, leads to maximum commercial success. Whilst this may seem fair from a commercial standpoint, it does sometimes prevent local players and beneficiaries from benefiting from the knowledge because of barriers to access or because of cost. With the increasing move towards global institutions capturing knowledge through the use of patent laws, WHO is having to enter into the international legal sector in order to ensure its global knowledge networks can still be used.

Transition to knowledge-based organisational forms
In recent years, WHO has put a lot of effort into considering how it could improve its management of knowledge. We now discuss constraints to management of knowledge and attempts to build CoPs for local knowledge sharing.

Systemic constraints to the management of knowledge in WHO
WHO has missed opportunities in-country to influence national health improvement by having too much of a focus on global knowledge and paying insufficient attention to local knowledge. WHO has been a leader in the development of global norms and guidance, often centred in Geneva or its regional offices; this knowledge is often 'projected' at countries, with those based in country offices complaining about the volume produced, often at a rate that makes it difficult to properly disseminate in country. With the change of the Director General in 2003, a new department was set up to address some of these systemic constraints. Of particular importance was the move to combine future strategies for knowledge management and information communication strategies. In addition, the deficits in WHO human resource management are being addressed, through more robust contracts, development of core competencies that include knowledge sharing, and more attention to promoting rotation and mobility of personnel. There is still a long way to go, however, and WHO has not made the kind of investment in knowledge management strategies, such as using ICTs to facilitate CoPs, that others such as the World Bank have made in this field.

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Part IV: Case analysis and discussion

Changing processes of knowing at the WHO
Historically, the WHO, working with global networks, has focused on the development of global generalised public health knowledge, which it has subsequently projected for use in local countries. Hierarchy and divisions of labour across this global organisation have typically privileged academic public health knowledge over local health care delivery knowledge. However, the rapid growth of international organisations into this sector has put significant competitive pressure on the WHO and eroded its dominant reputation of health leadership. These pressures have led to a rethinking of the role and use of local knowledge and its interaction with global knowledge at the WHO, and emphasised the inadequacy of its 'global projector' nature. The organisation has increasingly focused on complementing its global expertise and knowledge with a broader focus on local country knowledge needs, facilitating 'joint working around country'.

Tensions between global and local knowledge
Global networks, along with WHO headquarters, develop a number of different types of global generalised knowledge, such as tools, methodologies and science/ideas for potential use in member countries. These global networks legitimise the prioritisation of the value and use of such global knowledge over local knowledge by drawing on their associations with networks of medical professionalism and associations of donor networks who provide the funding. On the other hand, national institutions develop indigenous knowledge using alternative indicators and measures collected in locally developed information systems. These institutions are able to prioritise the value and use of this local knowledge over global generalised knowledge in some work areas. Local-global tensions develop which require sensitive inter-communal negotiations on key issues such as: 'what is the appropriateness of generalised data or science generated elsewhere?' and 'what is its relevance in a culturally specific local context?'

Representatives in the in-country WHO office are challenged in managing these tensions between global and local knowledge in their work practice. Whilst knowledge can 'leak' between the local WHO office and the wider network of practice involving national institutions such as the ministry of health, knowledge sharing between the local office and the global headquarters at WHO is often 'stickier' due to political and organisational design issues between the local, regional and global levels. A key challenge for WHO representatives is therefore to work across these boundaries as knowledge brokers to facilitate inter-communal negotiations.

WHO compared with other global organisations across knowledge dimensions
We now compare WHO with other global organisations along the four knowledge dimensions: utilising local knowledge, building knowledge capacities, local-global knowledge sharing, and transition to knowledge-based organisational forms.

As in other global firms, a key issue for the WHO is the role and use of local knowledge, and new ways of working 'on the ground'. However, while staff in global service firms and health care workers are both professionals, the former are able to

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exercise local discretion and autonomy in using their local knowledge with respect to global knowledge as materialised in firm-wide technologies and methodologies. Whereas the WHO develops generalised knowledge in *global networks*, global service firms develop their generalised knowledge from their audit or consulting engagements 'on the ground', albeit in different locales. This approach reflects their historical sensitivity to locality and professional discretion given to local partners. In contrast, at the WHO, generalised knowledge is developed by public health researchers who rely on their global networks of practice and scientific methods, such as evidence-based practice, which do not typically take the local context into account. This issue raises the long-standing challenge as to whether 'Western' science is able to appreciate traditional cultures and their indigenous knowledge, and respect the values and beliefs of local knowledge in the development and implementation of health programmes. For example, recent studies have demonstrated the need for health officials to more carefully appreciate the values and beliefs of local people in designing appropriate delivery of care of HIV/AIDS patients

There are also interesting differences at the country level between the WHO representative and the local partners of global service firms. First, in-country WHO representatives have different pressures of client service. WHO's clients are government institutions such as ministries of health rather than commercial clients. Unlike staff of global service firms, WHO representatives do not have a direct profit incentive, although they are experiencing other financial pressures. For example, institutional rivalry between themselves and emerging health institutions locally has led to a loss of power and a drop in budgetary income. Donors are channelling funding to other international institutions viewed as being more responsive in providing effective delivery of care on the ground. In response, WHO is attempting to better utilise local knowledge so as to take more seriously the 'working with countries' slogan.

Global service firms have led the way in using codification approaches to develop knowledge capacities, with a focus on the value and power of multidimensionality, allowing decision-making across a number of relevant axes. Whilst the WHO does have access to a lot of data, the large majority of this data capture comprises global knowledge along some key areas or axes, such as technical programmes and scientific evidence. Further development of knowledge capacity to include health and non-health data at the local level would better facilitate decision making across multiple dimensions of global and local information.

Political realities challenge local-global knowledge sharing. WHO's structure differs from that of global organisations in that regional leadership is voted in by countries in the region, and these contexts of power influence knowledge sharing between headquarters and other levels; this is further complicated by the fact that each region has a different institutional history and enjoys a somewhat unique relationship with headquarters and the country office.

Culturally, medical professionals, highly represented among WHO staff, do not tend to be as comfortable or experienced with the use of ICTs to support local-global knowledge sharing in their work. Medics tend to be autonomous and independent, typically limiting their sharing to other trusted professionals, often known to them on

a personal basis or by reputation. These realities emphasise the need for more face-to-face forums and meetings across the organisation at headquarters and regions to work in parallel with ICT-supported initiatives in an effort to facilitate overlapping memberships on taskforces, as is common in global professional service firms.

As the WHO makes the transition to becoming an effective knowledge-based organisation, there are signs that it is following the path of other international organisations. First, the WHO has recognized the need for changes in mind-set if new ways of working are to be achieved. Traditionally, the organisation at headquarters has tended to operate as a 'global projector' working successfully at developing global public health goods at headquarters and then implementing programmes with a one-way flow for use at the country level. There has, however, been some movement towards recognising the need for two-way knowledge flows, using unique local indigenous knowledge.

Second, structures and processes need to accompany this mind-set change. There are plans afoot to increase the frequency of rotation of people from the centre, involving periods of co-location in the country office to facilitate sharing of knowledge and co-development of appropriate programmes for use locally. However, despite these good intentions, the reality is that people come with a different set of experiences and initial dispositions, and have an inherent bias in privileging different types of knowledge (e.g., professional medical/scientific knowledge, country level macro-level knowledge and indigenous knowledge) across these different communities. A key challenge, therefore, will be for WHO representatives to work across these boundaries as knowledge brokers to facilitate inter-communal negotiations between government, non-government organisations and the various internal communities at different levels of the WHO.

Finally, the fragmented knowledge base, typical of international organisations, is reflected in WHO's technical and organisational systems, structure and culture. For example, some regional entities, such as the Pan American Health Organisation (PAHO), have developed local knowledge that could be valuably shared with the rest of the global organisation and with partners. To stimulate such knowledge sharing, pilots could be started in country offices to work with these regional offices and headquarters in an effort to transition the organisation away from this multi-domestic structure. Successful organisational (re)design will be key in stimulating change in these deeply embedded historical practices of the organisation, allowing for more effective bridging of local-global knowledge and a new organising form.

Part V: Conclusions

Building bridges between local and global knowledge at the WHO is closely linked to new ways of working, and involves significant change in work practice. WHO local representatives need to be trusted in terms of knowledge provisioning and given more local autonomy and discretion. A key challenge will be for WHO professionals to decide how to develop and incorporate global-local knowledge sharing into their practice. In other words, how can they draw on globally produced knowledge alongside locally produced knowledge in their practice? To facilitate this change,

more unified access to information systems and knowledge management systems across the organisation is necessary but not sufficient. Whilst technology and process play a role in managing knowledge to enable the shift in work practice, people and communities are central to changing processes of knowing. Local representatives of the WHO need to perform the challenging role of working with a wider network of practice across boundaries, and must be given adequate structural and political support in this endeavour. Establishing a new set of guidelines in this expanded network of practice will be important to agree on standards accepted as legitimate and appropriate across different communities.

WHO representatives and their teams in country offices are central to the building of bridges between local and global knowledge systems. In addition to developing negotiation skills and effectively operating in a wider network of practice, these WHO representatives will need additional resources, such as information analysts and specialists at the local office, to facilitate information collection and analysis across multiple dimensions or axes for programme strategy and development. Indeed, it is this inseparable blend of technology, individual knowing-in-practice and organising knowledge in networks of practice that will be important to effectively bridge and build local and global knowledge, and so motivate new ways of working at the WHO.

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Abstract

This paper examines knowledge strategies of global organisations and considers the implications for new ways of working at the WHO. We analyse WHO knowledge strategies along four dimensions: utilising local knowledge, building knowledge capacities, local-global knowledge sharing and the transition to knowledge-based organisational forms, and conclude with some implications as to how the WHO might build bridges between local and global knowledge.

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