



Exploring the Role of Open Government Data & New Technologies

The Case of the Philippines

Opportunities in Maternal Health and Child Care
(MHCC) & Micro, Small, and Medium Enterprises
(MSMEs)

Sherwin Ona • Ian Jason Hecita • Estefanie Ulit
De La Salle University – Manila, Philippines

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Chapter 1

Country Context and General Recommendations

Introduction

Since 2010, the Philippines has adopted a development philosophy that is anchored on addressing the basic needs of its people through governance reform. Known as “Daang Matuwid” (The Straight Path in Filipino), this philosophy equates good governance to good economics. Coming from a heap of corruption-related controversies, this philosophy was generally welcomed by the majority of Filipinos. The “Daang Matuwid” theme allowed the Philippine government to embark on numerous reform initiatives. Most notable of which are national programs that are geared towards transparency and accountability of local government units (e.g. The Seal of Good Housekeeping), participatory budgeting in national offices, and its efforts to reorganize national revenue agencies. Another milestone is the participation of the Philippines in the Open Government Partnership (OGP) in 2011. As one of its founding members, the government has identified 19 projects as part of its commitment to the OGP. And by January 2014, the Open Data Philippines was launched by President Benigno C. Aquino III during the Good Governance summit held in Manila. Open Data Philippines is an emerging movement that aims to create an environment that can foster transparency, participation and collaboration through open data. Aside from the government, it envisions the active participation of the private sector, civil society and the academe. In addition to governance reform, the Philippines is also addressing a litany of socioeconomic challenges. Foremost of which is its Millennium Development Goals (MDGs) targets of reducing poverty and ensuring inclusive growth through increased business competitiveness.

In our case studies, we explored the potentials of open data in two priority development areas, namely Maternal Health and Childcare (MHCC) and Micro-Small and Medium Scale Enterprises (MSME). In both areas, transactional-service related practices were examined. For MHCC, our case examined community health service practices. While for MSME, our study focused on cooperatives and how these cooperatives promote competitiveness and productivity of their MSEM members. In both cases, we looked at opportunities for which open data techniques can be used to support these practices.

Using a case approach that included 3 provinces, our study examined how work activities in these development areas were done. Moreover, our study also looked at the type of data sets, its current use, and how ICT can be used by local stakeholders.

In this chapter, we present the local context and open data initiatives in the Philippines. This chapter also includes an overview of the national MSME and MHCC programs. Furthermore, the chapter provides the general recommendations and future research direction based on the cases examined in the succeeding chapters.

Country Context

In 2011, the Philippines embarked on a development path that highlights the importance of inclusive growth through good governance. Known as the Philippine Development Plan (PDP of 2011-2016), this serves as the general strategy of the Aquino administration to fulfil what it deems as its social contract with the Filipino people. Anchored on the idea of good governance equals good economics, the PDP seeks to achieve a robust and sustainable economic growth by ensuring that the benefits of development are cascaded to the lowest levels of society. In particular, the plan calls for a renewed effort in pushing for social development and poverty reduction, citing its importance in achieving the Millenium Development Goals (MDG).

For its social development thrust, the PDP envisions the *“improved the access of Filipinos to quality basic social service delivery in education, training and culture; health and nutrition; population and development; housing; social protection; and asset reform”* (NEDA, 2011). While recognizing that the country is on track in meeting its MDG targets on gender equality, child health and disease control and sanitation, the PDP admits that the country lags in improving maternal health, and combating HIV/AIDS. The social development sector, the PDP focuses on ensuring an enabling policy environment for inclusive growth, poverty reduction, convergence of service delivery, maximized synergies and active multi-stakeholder participation

In the aspect of poverty reduction, the PDP stressed the importance of increasing the competitiveness and productivity of MSMEs. Recognizing the potentials of MSMEs, the PDP puts forward strategies aimed at raising the competitiveness of small-medium industries by improving the business environment; raising productivity and efficiency and inculcating quality consciousness among manufacturers and producers to offer quality goods and services. These strategies were identified as a) improving governance, strengthening economic zones and b) strengthening national brand identity/awareness. To increase productivity and efficiency, the PDP focuses on interventions in key priority areas, provide firm level support to MSMEs, increase market access, expand industry cluster development and intensify the culture of competitiveness. Proactive measures to empower consumers, promote competition and enforce trade regulations shall also be pursued (NEDA, 2011).

Challenges in attaining inclusive growth and the public clamor for good governance

In 2013, amid the government’s “Daang Matuwid” theme, a corruption scandal involving the executive and legislative branch erupted. The controversy stemmed from kickbacks and commissions allegedly received by legislators in their development budget allocations known locally as the Priority Development Allocation Fund (PDAF). Commonly referred to as the pork barrel scam, the PDAF controversy has dragged prominent legislators from both sides of the political fence. The executive branch was also accused of realigning public funds without the approval of Congress. Known as the Disbursement Allocation Program (DAP), this practice involves the realignment of financial saving to other expenditure areas. A case was filed in the Supreme Court against the government questioning the constitutionality of the DAP. In general, Filipinos expressed disgust and demanded for justice against the accused. (see Box 1-1)

Box 1-1: Filipinos express their outrage against the pork barrel scandal

Originally meant to address the development needs of their constituents, the pork barrel system has long been rumored to benefit personal interests, propagate political patronage and breed corruption. In April 2013, an estimated 75,000 people gathered at the Luneta park to express their outrage against the PDAF and the pork barrel system. Dubbed as the “million people march”, the event was also highlighted by a call to abolish the pork barrel system and to bring to justice the people who are involved in the scam. It is said that the event was largely organized through social media. (See Philstar.com & Inquirer.net)

As of February 2014, the Department of Justice (DOJ) has filed cases against three senators and their cohorts. New evidence has also prompted the DOJ to file the second set of cases involving more legislators. Meanwhile, the Office of the President has assured the public that there will leave no stones unturned and vowed that it will safeguard the public interest. The Palace further encouraged state investigators to pursue the cases where the evidence leads regardless of the personalities involved.

Meanwhile the Philippines is continually challenged in its socioeconomic front. Despite achieving an impressive economic growth in the last 5-years, the Philippines continue to grapple with the phenomenon of jobless growth and how to ensure that the benefits of growth redound to positive outcomes for the marginalized and underserved sectors of society. (see Box 1-2)

Box 1-2: Addressing the Jobless Growth Phenomenon

In a February 2014 cabinet meeting, the director-general of the National Economic Development Agency (NEDA) Sec. Arsenio Balisacan reported on the prevalence of the jobless growth phenomenon. This phenomenon is characterized by an increase in the unemployment/underemployment rate despite achieving robust macro-economic growth. Furthermore, Sec. Balisacan announced that with this phenomenon, the Philippines is unlikely to meet its inclusive growth targets. Moreover, the meeting also underscored the difficulty of the Philippines in addressing MDG targets specifically the measures pertaining to poverty reduction and maternal health.

According to news reports, this prompted the President to order his cabinet to focus on job generation and social development. The President also directed his officials to prioritize low income provinces by allocating more resources and ensuring that every peso is well spent. (See Philstar.com and inquirer.net)

Data-driven Governance and Open Government Data

Amid these controversies, the government saw these events as an opportunity to further pursue its good governance drive. The launch of the open data portal by the national government signalled a new chapter in the Philippines' quests for inclusive growth through good governance. Known as the Open Data Philippines portal (data.gov.ph)(Fig.1-1), this venue serves as the official repository and access point of open government data. Currently, the Open Data Task Force (ODTF) under the Office of the President spearheads the drive to push and sustain OGD initiatives. Government CIO and Undersecretary Richard Moya of the Department of Budget and Management summarized the importance of OGD for the Philippines, "We envision a government that is data-driven. A mature democracy that base its decision not only on political considerations, but also on data coming from various sources. This is a new form of democracy that open data can help foster". At present, the ODTF is reaching out to various stakeholders within and outside of government to advocate for OGD. It has also outlined numerous programs that will promote the culture of openness among government agencies and develop competencies to support OGD. Lastly, a freedom of information bill is currently being deliberated in the Philippine Congress. As of March, 2014 the Philippine Senate has passed its version of the measure while committee-level discussions are ongoing in the House of Representatives.

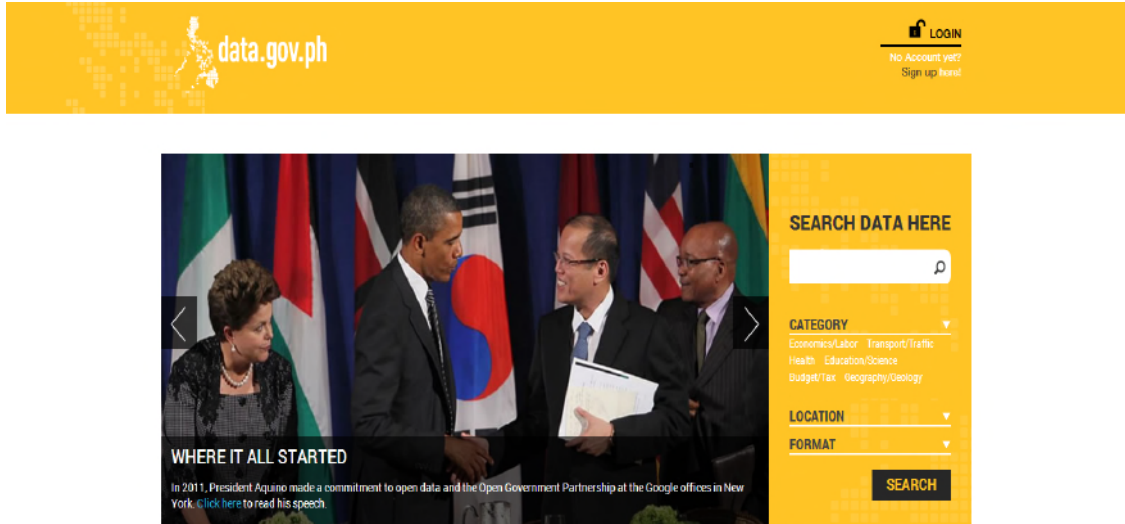


Figure 1-1: Screenshot from the Open Government Portal of the Philippines (data.gov.ph)

Overview of Prevailing Literature

This section presents a brief overview of the emerging perspectives and trends on open data (OD) by showing 3 aspects of the concept. First, OD as a global movement that advocates for transparency, participation and collaboration. Second, this review showcases OD as a trend led by the US, the UK and multi-lateral agencies. Lastly, the review will focus on the sector specific developments in OD.

OD is an emerging movement that advocates for openness, through increased transparency and accountability (O’Hara 2012; O’Rain et al, 2012 and Jansen, 2011). It calls for the opening of public data by making them accessible and reusable by the private sector, interest groups and individuals (Bauer & Kaltenbock, 2011) thus promoting “richer transparency” by encouraging citizens to actively participate in governance. (Li et al, 2011) Using standards for making data more accessible such as machine-readable, complete, timely, and non-discriminatory, these standards are believed to foster re-use and exploitation of data to create value. (Kalampokis et al, 2011) Moreover, OD is also seen as a tool that can enable the sharing of information among stakeholders (Cortada et al, 2011), support innovation initiatives (Conradie et al, 2012; Chan, 2013) and spur new economic activity. (Bauer and Kaltenbock, 2011)

On the global stage, the US and the UK are countries that are regarded as leaders in OD. In the US, the open government directive (2009) instructed all federal agencies to open public sector information. This directive also provided the necessary guidance for federal agencies on how to share data and ensure greater participation in governance. (McDermott, 2010) In September of 2011, the US convened the Open Government Partnership, which endorsed an open government declaration and announced the action plans of participating countries. In 2009, the UK formally commissioned a study on how to make

public data more accessible. This study resulted to the creation of the data.gov.uk in 2010 and by 2011, it is said that over 6900 data sets are available through the UK portal. (Janssen, 2011) Furthermore, multilateral institutions are also taking the initiative on OD. The World Bank, for example, has made available its data sets through its data catalogue portal (<http://datacatalog.worldbank.org/>). While the UN has its own portal that allows access to datasets of its attached agencies (<http://data.un.org/>)

However, despite these trends, much has to be done in order to fully exploit the potentials of OD. Dawes et al (2010) underscores the need to determine the demand and capabilities of various interest groups participating in OD initiatives. While Masip-Bruin et al (2013) stressed to need to continually engage citizens and application developers using open data sets. Another notable characteristic of OD initiatives is its developed country-western roots, thus there is a need to explore OD using the lens and context of developing countries. (Davies et al, 2013)

Another important aspect of OD is to examine sector-specific impacts and outcomes. In the health sector, publication of health data of hospitals in the UK is said to give a better picture of the performance of health units and allow benchmarking. (The Guardian) While the study of Cure (2013) used open data to provide educational tips on drugs sold in various countries. A possible challenge for this sector is the highly dispersed nature of the data, thus increasing the difficulty of access and cost. Another challenge is the political implications of health data when linked to program and performance thus adding to the difficulty of such assets. There is also a need to look at information-level practices in the health sector, which can identify opportunities for OD. Referring to the use of information and data resources, these practices cover the information requirements of public health.

For the private sector, open data are envisioned to level the playing field (Janssen, 2011) and spur new economic opportunities. (Bauer and Kaltenbock, 2011) OD can also include the sourcing of business news, marketing information and competitor data from various websites. (O’Rain, 2012) However, for small and medium-scale enterprises (SME), the absence of direct OD studies in the field requires a closer examination of the possible effects and outcomes for this sector. In this paper, we linked OD to the service-related practices. Similar to the health sector, these practices covers the information requirements of the entire production life cycle from the sourcing of raw materials to the processing of orders, design and development of products up to marketing. (Jiwei et al, 2010) Informatization practices are also recognized as an ingredient for supporting innovation through industry clustering. Often referred to in literature as digital business environment, information resources and ICT enable the adoption of e-business and e-commerce practices, allowing SMEs to be part of business networks and giving SMEs the ability to co-evolve with its partners. (Tawab et al, 2011) At this point is now important to further examine these practices to determine the possible use of OD and project its outcomes. However, SMEs is often regarded as victims of the “liability of smallness” which is characterized by limited financial resources and lack of multi-disciplinary competence thus restricts the capacity of SMEs

to innovate. (Parida et al, 2012) Moreover, because of inadequate resources and capacity, MSMEs also experience difficulties in adopting ICT tools to support their operations. (Ona and Cristobal, 2014)

Lastly, this review included the possible IT practices and infrastructure implications of OD. Kalampokis et al (2011) proposes the adoption of an open data stage model that enumerates phases in the development of OD initiatives. Citing the need to supplement existing e-government models, the authors stressed that OD requires a classification scheme and further identified generic classes of OD based on organizational complexity and added value. While Li et al (2011) stresses the greater potential of linking OD sets by creating an ecosystem which uses stages in the data organization and metadata; workflow; and measure on how to ensure community impact.

Purpose of the Study

The purpose of our study is to look at the current transactional-service related to the MHCC and MSME areas. By asking the question, ***“how are data sets used in community health and local cooperatives?”*** our study examined how these practices are creating and using datasets. Moreover, our study focused on how the data sets were sourced, created and stored. Another concern is how the concept of OGD and its related techniques can be used to fully utilize these data sets. Using deductive analysis, we used the concept of open data to identify possible “improvement points” that can further enhance the use of existing data sets. Lastly, we created an implementation roadmap that can aid LGUs in adopting and sustaining OGD initiatives.

Research Design

Our study used a qualitative approach in its research design. Adopting the case study method, the study identified themes and practices using the critical incidence technique (CIT). The CIT enabled the identification transactional-service related practices by identifying work activities and the review of local policies, plans, and programs. For MHCC, the focus of the case is on the community-level health practices and how communities (known locally as “barangays”) participate in the various programs. Barangays are regarded as the smallest administrative unit in a local government and is the Filipino equivalent of a village. For MSMEs, our case examined the cooperative or association-level practices on productivity and competitiveness.

For data gathering, our study used key informant interviews, participant observation, and document review. These themes and practices were aggregated into an area profile to provide a view on the existing on the ground situation. The design also included a validation phase, which includes both expert validation and public consultation through focus group discussions.

As for the areas covered, our study included two cities in Negros Occidental province, namely Bacolod and Bago cities. In Ilo-ilo province, one municipality and one city were included. While In Lanao del Norte province, the City of Iligan was included our study.

Sector Overview: State of Maternal Health and Child Care (MHCC) in the Philippines

The Challenge of Achieving the Millennium Development Goals

Complications arising from pregnancy and childbirth are regarded as one of the major leading causes of death in the Philippines. (WHO, 2012). Maternal deaths account for 14 percent of all deaths of women in reproductive age (DOH, 2011). While there are significant gains in reducing infant mortality rate (IMR) and child mortality rate (age under five) in the last twenty years, the achievement in reducing the maternal deaths are decelerating. The rate of progress is needed to reach the MDG targets – MDG 5 maternal health and MDG6 child mortality - are less than the actual rate of progress (United Nations, 2012).

From 1990 to 2006, IMR was reduced to half (57 infant deaths per 1000 live births in 1990 to 25 in 2008). The child mortality rate also went down from 80 to 34 per 1000 children (FES, 2011). Given these improvements in gross children birth rate, the country still needs to reach the 14:1000 thresholds before the end of 2015. On the other hand, maternal mortality ratio (MMR) is pegged at 99 over 100,000 live births (UNICEF, 2012). The World Health Organization (WHO) reports that MMR in the Philippines is 66 to 140 (2013). The rate of reduction of the MMR went down from 3.8% in 1990 to 2000 to 1.7 % in 2000 to 2010. With nearly more than one year to go, the Philippines faces the perennial task of achieving the mortality rate of 43 is to 100,000 (UNICEF, 2012).

The teenage pregnancy rate is also increasing. In 2010, a total of 1,324 under the age of 15 years old gave birth (WHO, 2010). The Young Adult Fertility and Sexuality Survey (YAFS) reports that Filipino girls in the age of 15 to 19 more than doubled in the last six years, from 6% in 2006 to 13.6% in 2013 (Rodriguez, 2014). The country also records a 55% adolescent birth rate (UNICEF, 2012). This makes the Philippines the 3rd highest country in Southeast Asia with regard to teenage pregnancy (2014).

Overview of MHCC Policies and Programs

The Philippine Development Plan of 2011-2016 outlines the *Aquino Health Agenda (AHA): Achieving Universal Health Care for All Filipinos*. Using the framework of inclusive growth, the Philippine government is committed to implement health sector reforms to achieve the Millennium Development Goals in 2015 and improve health outcomes.

As an integrated anti-poverty and enhancement of maternal health flagship program of President Benigno S. Aquino III, the Philippine government is implementing the Pantawid Pamilyang Pilipino Program (4Ps). Implemented by the Department of Social Welfare and Development (DSWD), the program is aimed at meeting the MDGs, the 4Ps invest in health of poor households. Incentivizing utilization of government health services and facilities, the government provides cash grants to beneficiaries who will comply to the following conditions: pregnant women must avail of pre-and post-natal care and be attended during childbirth by trained health professional; parents must attend Family Development Sessions (FDS); 0-5 year old children must receive regular preventive health check-ups and vaccines, and 6-14 years old children must receive deworming pills twice a year (DSWD, 2014).

Another critical policy framework that has implication to MHCC service delivery is the passage Republic Act No. 10354 or the Responsible Parenthood and Reproductive Health Act of 2012. This policy development guarantees universal access to methods of contraception, fertility control, and maternal care.

MHCC Service Delivery

The system of delivering maternal health and childcare and services reflects the policy framework of the Philippine health sector. In a devolved setting, cities and municipalities through their City Health Offices (CHOs) and Municipal Health Offices (MHOs) are mandated to provide primary care, including maternal and child care services, nutrition services and direct service functions through public health and primary health care centers like rural health units (RHUs) barangay health stations (BHS) (DOH, 2013).

The MHCC services delivered at the local level include the following: pre-natal checkups, monitoring of blood pressure and weight, health education on safe pregnancy, proper nutrition for mother and child, family planning, and proper breast feeding. Barangay Health Workers (BHWs) also conduct post-natal home visits. Childcare services include: immunization, blood pressure monitoring, deworming, “operation timbang” (data collection of children’s weight), medical and dental check-ups, and supplemental feeding. The role of BHWs is very critical in the implementation the delivery of MHCC programs. BHWs serve as conduit of service delivery between the RHU and the community. BHW also helps the RHU in identifying target clients, delivering education about MHCC in the community, and providing feedback on health services to the RHU (DOH, 2013).

Challenges and Gaps

While there are policies and programs in-place to improve the chances of achieving MDGs related to MHCC, the sector needs to overcome several systemic and programmatic capacity challenges and gaps. The MHCC sector faces the following gaps and challenges: weakness in responsiveness in health care system; weak coordination among local government units and national government as well as public health provider and private health provider; persistence of institutional capacity deficits in areas of financing, planning, information systems, knowledge management, policy making, and monitoring; lack

of participation of community in all MHCC programs; lack of synergy among local stakeholders to address MHCC issues; absence mechanisms to ensure sustainability of best practice of MHCC programs, lack of private sector or business participation in MHCC program development, implementation, and monitoring, and lack of incentives for policy stakeholders to focus on MHCC programs. (UNICEF, 2011).

A 2007 review and assessment of the Philippine health information system points to the existence of “core problems” of the health and management information system. The study enumerated the following as: a) information gaps; b) under utilization of data; c) excessive generation of data; d) poor reliability and validity of data; e) inadequate skills in information management; f) lack of cost effectiveness in health management. (PHIN, 2007) The study also cited the works of Jayasuriya (1994) in which the author pointed to major information gaps due to “*inappropriateness of available information regarding needs and that such information was not used in the different management levels*”. The study also highlighted the high cost of maintaining routine information systems. (p. 28) Huntington et al (2011) further reiterated that data collection in community health remains to be a challenge, citing it as a laborious and expensive process. In particular, the study specifically points to the difficulty of harmonizing information from different data sources. Moreover, numerous studies have reiterated the findings of the PHIN assessment, citing the need to improve the health information system (HIS) to enable effective monitoring of MHCC cases. (Huntington et al, 2011)(La Vicente et al, 2013)

Sector Overview: Micro, Small, and Medium Enterprises (MSMEs)

Economic growth, job creation, and technological innovation in developing countries like the Philippines can be dependent on the proliferation of micro, small, and medium enterprises (MSMEs). Their contribution to economic development ensures that income is more equally distributed and scarce resources are more efficiently allocated. Furthermore, MSMEs have the capacity to immediately address the needs of different markets and quickly assimilate new innovations in product development and service delivery (Department of Trade and Industry – MICRO, SMALL AND MEDIUM ENTERPRISES (MSMES) – ABOUT MSME – The Organization, 2008).

As of 2012, there are 816,759 MSMEs in the Philippines, which comprise 99.6% of the entire business sector in the country. Majority of these businesses are operating in the wholesale and retail trade and other service industries. These labor-intensive industries and entrepreneurial activities provide livelihood for 63% of the existing labor force. Geographically, most MSMEs, which accounts for 63.1% of the total MSME population, can be found in the National Capital Region, Region 4-A (CALABARZON), Region 3 (Central Luzon), Region 7 (Central Visayas), and Region 6 (Western Visayas) (SEPO, 2012).

Overview of MSME/SME related policies and programs

The growth in the number of MSMEs plays a significant role in propelling the Aquino administration’s drive towards a competitive industry as aimed in the Philippine Development Plan 2011-2016. Existing

initiatives of the national government generally aim to grant MSMEs access to resources and streamlined business registration processes in order to formalize their respective business ventures. Additionally, programs that will develop MSME capabilities, including a positive culture of governance, sustainable markets, and financial support are also designed to cater to MSME needs. These are evident in the MSME Development Plan 2011-2016, the goal of which is to address the key challenges and constraints that continue to prevent the MSME sector from realizing its full potential.

The MSME Development Plan indicates four targets for improvement: business environment, access to finance, access to markets, and productivity and efficiency (MSMED Council, 2011). Respectively, some projects for each of the targets include streamlining the issuance of mayor's permit in various cities and municipalities and installing internal monitoring systems; release of loans to MSMEs and microfinance clients; creation of product research and development programs; and assistance in technology transfer and trainings.

The national government is currently aggressive in terms of implementing MSME programs and monitoring their effectiveness. The three key stewards of MSMEs in the national government include the Department of Trade and Industry (DTI), the MSME Development Council, and the National Competitiveness Council (NCC). The DTI, particularly the Bureau of Micro, Small and Medium Enterprise Development (DTI-BMSMED) oversees the overall development of MSMEs, along with the rest of the business sector, in the country. One of the department's primary goals is to ensure that the Philippines achieve global competitiveness and innovation, which provides impact to inclusive growth and employment generation. The DTI ensures that its programs are aligned with the Philippine Development Plan's strand to enhance the capabilities of the Philippine business industry and provide a favorable business environment for entrepreneurs (Department of Trade and Industry – ABOUT DTI – The Organization, 2008).

The MSME Development Council works more closely with MSMEs and is tasked specifically to ensure that MSME programs are regularly monitored and evaluated with regards to their effectiveness and relevance. The national, regional, and provincial MSMED Councils will also hold regular dialogues to ensure regular coordination. BMSMED as the Council secretariat will submit periodic reports to the Council on the progress and accomplishment of the plan.

Lastly, the NCC acts as a task force on Philippine competitiveness, comprised of the public and private sector, which aims to improve the country's competitiveness ranking by 2016 (About NCC – National Competitiveness Council, 2014). Improving the ease of doing business in the Philippines has been recognized as a key strategy in enhancing national competitiveness. Working groups relevant to MSMEs include the Streamlined Business Permits & Licensing System (BPLS) and the Philippine Business Registry.

There are also related laws for the benefit of MSMEs, including the RA 9501: Magna Carta for MSMEs and RA 9178: the Barangay Micro Business Enterprises (BMBEs) Act of 2002. The Magna Carta defines the MSME sector as enterprises with an asset size (less land) of up to PHP 100 million, or establishments with less than 200 employees. Measures to promote, support, and strengthen the growth of MSMEs, particularly rural or agri-based enterprises, are stipulated in the Magna Carta.

Challenges and Gaps

There are plenty of development opportunities for MSMEs in the Philippines, as evidenced by programs and legislations, both at the national and local levels. However, despite these efforts, MSMEs still face significant challenges in their endeavor to achieve success in their respective industries. The nature of MSMEs and their market vary in every municipality or province, thus requiring a unique set of skills and resources in order to gain customer satisfaction. Many capacity-building programs are created, but may not necessarily address the specific needs of MSMEs and their respective industries. Furthermore, there is still a significant need to strengthen MSME productivity and competitiveness, as well as expanding their linkages with large enterprises and value chain networks, as envisioned by the MSME development plan. Moreover a 2008 Congressional study revealed weaknesses in this sector. Primarily stressing the need to further mobilize resources, the study identified the following factors that hinder sustained growth of MSMEs: a) limited access to financing; b) low productivity; c) low-level investment in research and development; d) inadequate marketing and promotion strategies; e) competition from big players in the market. The study further identified the importance of using ICT in improving productivity, promotional activities and access to markets (Sawali, 2008).

However, many MSMEs continue to grapple with ICT use and how to make ICT a relevant and affordable tool. The OECD (2004) described these barriers for MSMEs as the following: a) lack of awareness of the potentials and uses of ICT; b) uncertainty with regards to the supposed benefits that ICT can bring; c) lack of human resources skills; d) set-up cost are perceived to be high and there are pricing-related issues; and d) concerns about security.

Lastly, there is a need to establish a strong partnership between the national government agencies, local government units, non-government organizations, and entrepreneurs in order to realize a business environment that is conducive to the sustainable development of MSMEs. Consequently, an open and participatory government is seen as a catalyst for MSME growth—providing a more streamlined access to and sharing of information that will allow the government and its partner institutions to identify the needs of the local business sector. Such ability will eventually lead to the design of appropriate programs and legislations, which will improve the income-generating capacity of Philippine entrepreneurs.

General Findings and Recommendations

In our study, we examined the transactional-service related practices in community-level MHCC programs and cooperative level programs of MSMEs. In the process, our study has uncovered key activities present in these practices. Moreover, the key themes were identified regarding opportunities and challenges occurring in these practices. Aside from identifying key themes and activities, our study also uncovered the existence of data sets in both areas. To recap, Table 1-1 provides a summary of the different activities in the community level practices of MHCC. These activities occur during the delivery of MHCC services in the barangays.

Table 1-1: Summary of work activities for community level MHCC practices

| Work Activities | Description | Sub-activities |
|---|--|---|
| Monitoring | Case monitoring; Data sets are created in the form of log books and the TCLs. MHCC cases are monitored weekly and monthly depending on the type of service | Record management through data capture forms; Check ups done in the barangay health center and community visits |
| Targeting & Service Delivery | Use of data sets to determine recipients of services | Spot Mapping Group meetings for the dispensation of services |
| Service Evaluation | Evaluation is done by looking at existing data sets and through informal meetings; | Barangay level reporting MHO reporting |

For the cooperative level practices, Table 1-2 shows the various activities of MSMEs.

Table 1-2: Summary of cooperative-level MSME practices

| Work Activities | Description | Sub-activities |
|------------------------------------|--|---|
| Capacity Building | Capacity building activities are organized based on perceived trends and needs of the members; | Organize training activities |
| Targeting Demand of Members | Member MSMEs are asked regarding their preferences | Capture the requests of members through informal channels |
| Determining the Market | Cooperatives determine current market needs and determine basis for expansion | Review of government plans |

In both areas, our study revealed the existence of data sets. However, these data sets were mainly used for transactional and record management purposes. Furthermore, these data sets are usually in hard copy format. For MHCC, most of these data sets are in the format of individual patient records, service monitoring, and report generation. For MSME, existing data sets are membership records and results from informal surveys. In both cases, websites were used to communicate with stakeholders. However, most of these websites are information dissemination sites, while some allow PDFs to be downloaded. Using the OD standards, these existing practices fall short of the definition.

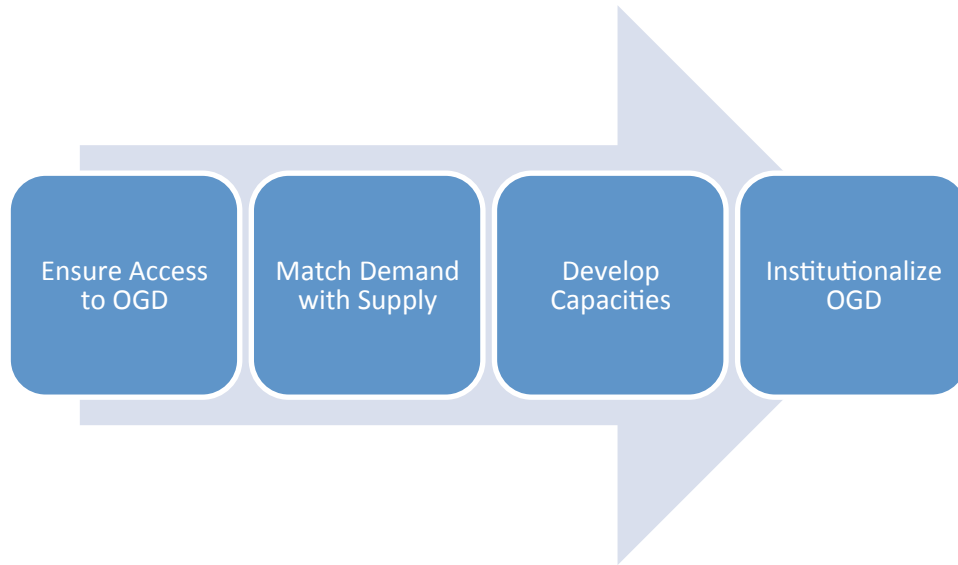


Figure 1-2: Proposed OGD Implementation roadmap for LGUs

Recognizing these gaps in OD practices, we propose steps on how to operationalize open data in MHCC and MSME (see Figure 1-2). These phases can guide LGUs in the implementation of OD program. We also propose that local government units (LGUs) spearhead the OD initiatives in their respective areas. We believe that LGUs are strong venues for localize OGD programs. Since LGUs are considered as the “front liners” for the delivery of public services, immediate feedback and outcomes can be realized. Its autonomous status, LGUs can also enact programs and ordinances to spur innovation and growth of its constituents.

Ensuring Open Data Access

We propose that this phase be considered as the initial phase for implementing OD in LGUs. This phase calls for the identification and publication of data sets. Provisions must be made to make online access to data sets possible. At this point, it is important for LGUs to recognize the benefits of OGD and how it complements open government initiatives. This requires a review their current open government/good governance programs. Possible incentives and support mechanisms of the national government should also be identified to motivate local officials in implementing OGD.

The unilateral publication of initial data sets should be treated as a sign of commitment from the LGU. The release of these data sets should be done on the basis of perceived value in terms of its potential to elicit participation and its transactional ability. Transactional ability refers to the potential of data sets to enhance performance of its users. In particular, we refer to the transactional needs of community health personnel and local cooperatives. Furthermore, there is a need to revisit existing IS policies and capabilities to ensure that OD can be supported.

Box 1-3: Highlights of the Ensuring Open Data Access Phase

- i. Ensure an enhanced Web presence that can support access to OD sets
- ii. Identification and publication of initial data sets and uncover the value of such data sets
- iii. Review of open government and governance reform programs

Matching Demand and Supply

We regard this phase as the constituency building phase of OD. The initial release of data sets should be followed by an engagement mechanism that will uncover needs and demands of stakeholders. Through this process, additional data sets can also be identified for publication. Moreover, this phase underscores the importance of validation in determining the value of open data sets. Through consultation and feedback possible revisions to the OD program can be pursued. Lastly, this phase can also be used to benchmark existing OD effort with best practices.

Box 1-4: Highlights of the Matching Demand and Supply Phase

- i. Constituency building for LGUs: Identify stakeholders and partners that can benefit and use open data sets;
- ii. Develop an engagement mechanism that can uncover demand and needs for OGD;

Developing Capacities

The results of our study point to the existence of data sets in MHCC and MSMEs. However, the challenge lies in how to fully utilize these data sets to support decision making and encourage participation. At this juncture, we see the need to develop a capacity building program that will touch on the following competences: a) Data management; and b) Visualization and mapping techniques.

For LGUs, steps must be taken to ensure that OGD supports its decision making process. The engagement mechanisms for OGD should result to better public programs in MHCC and MSMEs. For civil society and people’s organizations, the program should result to an enhanced capacity to use OGD and

enable quality engagement with the LGU. Lastly, developing capacities should also ensure the creation of sponsors, local champions and technical agents that can support OGD initiatives.

Box 1-5: Highlights of the Developing Capacities Phase

- i. Develop organizational capacities to support OD program
- ii. Develop human capacity for data management, data visualization and mapping techniques
- iii. Develop sponsors, local champions, and technical agents

Institutionalize

This last phase envisions the creation of institutionalization techniques that aims to ensure the sustainability of OGD initiatives. We therefore recommend that OGD program should be linked to the existing open government or good governance program of LGUs. Ideally, these programs should be backed by local ordinances to guarantee the long-term commitment of the LGUs. Furthermore, OGD programs must be aligned with the existing MIS plan or ISSP of the LGUs. This would guarantee that mid-level management of LGUs are involved in the OGD initiative. The participation of the mid-level management of LGUs is essential to ensuring the continuity of the OGD program beyond the political terms of elected officials.

Box 1-6: Highlights of the Institutionalize Phase

- i. Ensure the alignment of OGD initiatives with existing open government and good governance plans and programs of the LGUs
- ii. Enact local ordinances to ensure support and commitment of LGUs
- iii. Formalize partnerships with stakeholders

We also suggest that the OGD program be adopted by the local communities and CSOs. In partnership with the LGU, these organizations should formalize their engagement with the LGU regarding OGD. This can be in the form of MOUs and MOAs formalizing the roles and responsibilities of the various stakeholders in open government and OGD.

Implications for IT Management in LGUs

As mentioned in the previous discussion, implementing OGD will have implications in the current IT management practices of LGUs. LGUs must look beyond static websites and use online technologies as a platform for engagement and participation. This is true especially for open government data. To do this,

we propose of the 5 components for implementing ICT for development initiatives. (Harris, 2004) Table 1-3 provides a snapshot of how the 5 components were mapped with the OGD implementation phases.

Table 1-3: Matching ICT4D components with the OGD Implementation Phases

| Phases of OD adoption | IT Management | Implications |
|---------------------------------|---|---|
| Ensuring OD Access | <p>Applications Development: ensure that data sets are available online and ease of use;</p> <p>Data/Content Management: Ensure that OD standards are followed</p> <p>Infrastructure: Provisions for additional storage for OD sets must be set;</p> | A decision must be made by the LGU and Public health units on what data sets can be made available; |
| Match demand with supply | <p>Applications and Content Development: Update data sets; Electronic data capture forms in place;</p> | Initial datasets must be validated by stakeholders and partners; Additional data sets can be identified |
| Develop Capacities | <p>Human Capacity: Implement a capacity building program that can support and sustain local OD initiatives;</p> | Identify sponsors in the LGUs that can promote the programs; Identify community champions for OD and data management; |
| Institutionalize | <p>Policy Development: Ensure sustainability of OD initiatives through the enactment of local ordinances and MIS policies for LGUs</p> | |

Application Development

This component provides the public face of the OGD implementation scheme. Occurring primarily in the ensuring access and matching phases, this component includes the creation of an enhanced website that can accommodate OGD features. Moreover, this component calls for the possible redesign of existing websites and use existing APIs. For the website redesign, portal capabilities can be considered in the application design to enhance user experience. The inclusion of features that allows feedback and engagement (e.g. online fora, email, etc). The integration of mobile applications is also a strong possibility given the pervasiveness of mobile phones. Lastly, the OGD application should consider the inclusion of visualization and mapping features using published data sets.

Data-Content Management

The goal of this component is to ensure the publication of relevant data sets. Related to the matching demand and supply phase, this component calls for the creation of engagement mechanisms to ensure that the published data sets are relevant and that the published data sets are consistent with OD standards. Furthermore, this component must contain data management and application design practices that promote transparency and joint design. Lastly, this component should include the periodic review of published data sets.

Infrastructure Development

The next component is concerned with determining the IT infrastructure requirements of the OGD implementation. This component consists of ascertaining the hardware requirements (e.g. Computers, laptops, etc.) storage capacity, physical infrastructure and access modes for the LGU. Security and backup arrangements are also part of this component.

Human Capacity

The human capacity component is closely related to skills enhancement mentioned in the developing capacities phase of the OGD implementation approach. It highlights the updating of skills for MIS personnel of the LGU. Practices must be in place to ensure that the IT organization can support open government and the use of OGD.

Policy Development

Lastly, this ICT4D component aims to ensure the sustainability of OGD initiatives. This component includes the creation of standards in terms of data set format and management practices. This component also encourages the implementing organizations to address issues of recurring cost and present the benefits of the OGD effort.

In the succeeding chapters, we examined the current practices in MHCC and MSMEs. For MHCC, our study focused on the community level (known locally as “barangay”) practices primarily touching on the activities of barangay-level stakeholders and the role of the local government units. For MSMEs, the discussion centered on the practices of local business chambers and associations. Moreover, our MSME discussion also included the role of the LGUs in ensuring the productivity of MSMEs.

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Chapter 2

Exploring the Opportunities for Open Data in Maternal Health and Child Care

Potential of Open Data for Health Service Delivery

With the advent of information technology and the emergence of “Big Data”, development stakeholders and scholars have been looking at the potentials of open data in fostering development outcomes. One application area being examined and practiced in few countries is open data in health service delivery. Open data is publicly available data that can be universally and readily accessed, utilized, and redistributed free of charge. Data is released in ways that protects private, personal, and propriety information (Mc Dermott, 2010; O’Hara, 2012). While only 40 countries in the world practice open data in various government services, there has been wide consensus and debate about its benefits and costs, particularly in the health sector (Bauer and Kaltenbauk, 2010).

The National Health Services in the United Kingdom have underlined value propositions that highlight the benefits of open data application in health. Open data in health can exact accountability on health service delivery provided by the government and the private sector. Political and economic accountability includes the ability of citizens as clients to hold health care professionals responsible for their health service delivery based on the standards provided by an open data regime. Standards of service and financial value of health services can be readily accessed by citizens. Open data also allow for citizen participation in the decision making processes of the public health sector by demanding the sector to respond to data and information accessed by citizens. Open data can ensure that health professionals are meeting standards and hospitals are held responsible for poor practices (NHS, 2014).

Open data in health service delivery widens the choice of citizen-clients both in the variety and quality of information they get about particular services. Patients are able to make informed decisions about their preferred health services. Citizens accessing health services can seek out the services that best suit their needs, thus enabling the customer-oriented practices. Open data also improve the efficiency of health services in terms of operations (flow of information and decision), cost savings, communications (improved communication between patients and health service professionals), and resource allocation. Comparative data on health service provision can be used to develop service standards and best practices (Verhulst, Noveck, Caplan, Brown, & Paz, 2014).

With regard to health outcomes, patients can demand and set standards about indicators of health outcomes based on accessible data. Measurable outcome targets become relevant as patients are able to participate in standards development through open data development. Quality of care is assured as services are measured against the expectation of clients based on open health data. Data exchange can drive competition and innovation for improvements for health services.

Costs of Open Data in Health Service Delivery

As a reform initiative in health service delivery, implementing open health data can be costly due to institutional barriers. Bureaucratic and cultural resistance are general barriers to any reforms geared towards transparency and accountability. Having the ability to veer away from “closed government” practices requires changes institutional environment, political culture, and policy framework. Resistance on opening public documents for citizen use is well documented across both developed and developing democracies (Kalampokis et al 2011).

Another apprehension about implementing open health data is protection of privacy. Privacy issues emanate from the absence of institutions that will ensure private rights of individuals are respected. To what extent can open data be open? What data should be open? These questions are addressed in a difficulty process of politics- advocacy and policy making (Conradie and Maulder 2012).

One of the perennial barriers to practicing open data is the lack of information management capacity. In the Philippines, national and local governments have weak knowledge management systems. This weakness results in misguided development planning and implementation. Data cannot be accessed in its most relevant form if it is not documented, stored, and managed.

Another barrier is the challenge of system and data interoperability. Open data assumes smooth flow of sharing of information across developers and users. This assumption can be realized if complex, nested, and nebulous data can be coordinated in a standardized manner. In the Philippines, one major challenge the Open Data program is addressing is the need to translate various forms of data into one single format (NHS, 2014).

Potential of Open Data in Maternal Health and Child Care in the Philippines

Open data in particular service area such as in maternal health and child care is not well documented. In developing economies such as the Philippines, MHCC services are lodged at the sub-national government units such as cities and municipalities. Implementation of MHCC services are in coordination with national governments.

Information about services are channelled through a national health information portal called the Field Health Service Information System (FHSIS) of the Department of Health (DOH) of the national

government. The system requires internal and vertical reporting among public health service providers about defined health service indicators and measures. While the system allows for coordination among public health service providers, the system is criticized for being “supply-centred, inaccessible, paper-intensive, and inappropriateness of information. While data is produced at the local and community level, the community cannot participate in health planning and demand data availability (Marcelo & Canelo, 2010).

Given the weaknesses of the Philippine Health Information System, the national government is implementing strategic plans to upgrade systems and services such as health application systems, knowledge management for health, and development of telemedicine and health services. In particular, telemedicine services for MHCC are being developed such as the Watching over Mothers and Babies (WOMB) which is a patient monitoring system to address maternal health issues and attain MDGs.

With scant knowledge on open data practices, open data is seen as an important reform area that can improve MHCC service delivery and outcomes. Using open data, national governments can effectively monitor and track aggregated information about maternal health and child care services and outcomes. These information, as open as they are, can be validated by development stakeholders, health professionals, patients, and citizens in order to craft relevant health plans and programs. At the local level, open data empowers local service providers with regard to producing, collecting, and validating data before channelling data to the national health information systems. Open data systems can help make service delivery more participatory and innovative as citizens and local providers can demand for relevant services addressing needs at the local level.

Sector Analysis

Patterns of Practices

Devolved MHCC practices and the role of community health service provision

The MHCC service and information delivery system in the Philippines is a reflection of the overall devolved setting of the public health sector in the Philippines (See Figure 2-1 and Table 2-1). Lower-tiered local government units play big roles in the MHCC service provision.

Local health offices are lodged under the local government units through the municipal or city health offices (M/CHOs). These offices are tasked to implement MHCC programs based on the policy directions and guidance of the Department of Health (DOH) of the national government. M/CHOs also coordinate with local chief executives or municipal or city mayors about the implementation of local health policies, plans, and programs.

To scale down implementation of maternal health and child care programs, Barangay Health Stations (BHS or community-level health stations) provide services at the community level. Community service providers include the local Midwife, Registered Nurses, Barangay Health Workers and Barangay Health Volunteers. Moreover, Barangay Officials can supplement MHCC programs implemented by the local government unit by mobilizing the community and promoting available health services. Personnel at the M/CHO level include physicians and nutritionists. The M/CHOs through the BHS and local health centers conduct pre-natal check-ups, monitoring of blood pressure and weight, health education on safe pregnancy, proper nutrition for mother and child, family planning, and proper breast-feeding (See Table 2-1).

Community health workers can also implement post-natal home visits. Childcare services at the local level include: immunization, blood pressure monitoring, deworming, “operation timbang” (data collection of children’s weight), medical and dental check-ups, and supplemental feeding.

Table 2-1: MHCC service provision per type of service provider¹

| Services | Public Sector Provider | Private Sector Provider |
|------------------|---|--|
| Health education | Health centers | Family and community practitioners, pediatricians, obstetricians, physicians and some subspecialists |
| Family planning | Barangay health stations | |
| Maternity health | Activities are highly variable and depend on the local government unit | Some organized NGOs initiate activities |
| Child care | Community health teams provide education and information at family levels in the community. They also work with poor families to determine health needs, services available and receive PhilHealth benefits | Large-scale programs are rarely provided by the private sector |
| | Hospitals conduct multi- media health promotion activities in their waiting areas, lobbies and OPDs | |

¹ Department of Health Report, 2013.

| | | |
|--|---|--|
| | <p>Some LGU-operated birthing facilities Include: Pre-natal care for mothers, Iron</p> <p>Anti-rabies for animal bite centers</p> | |
|--|---|--|

M/CHOs can also craft customized programs aligned with local development objectives. Municipal governments can implement social welfare programs that integrate MHCC services. Social welfare programs may include access to MHCC services, facilities, and equipment provided by the local government units². LGU-operated MHCC services may include maintenance of birthing facilities, provision of pre-natal services, and provision of iron for mothers and vitamins for children³.

An effective MHCC data system which links service providers with clients is vital in service delivery. Prevention of maternal deaths requires provision of MHCC programs facilitated by informed decision of target clients such as mothers and children. Informed decisions are enabled by effective data systems that allow health providers to identify needs in the same vein as the families and the communities being informed about available services. Promotion of MHCC programs also purports data access and sharing across service providers and the target community clientele.

² The municipal government of Pavia in Iloilo Province in Central Philippines implements the “From Womb to Tomb” program which integrates local development social welfare and MHCC services.

³ Based on interviews with the Iloilo Assistant Provincial Health Officer Dr. Socorro Quinon last July 2013.

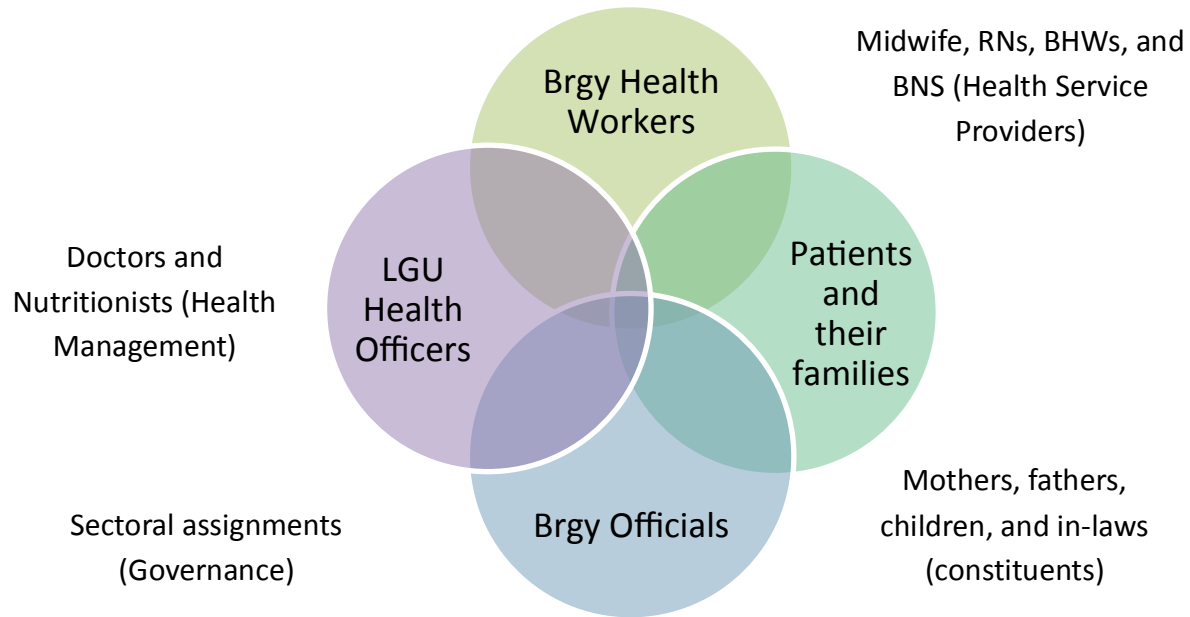


Figure 2-1: The Devolved Terrain of the Philippine MHCC

Information for service delivery: spot mapping, client targeting, household visit, and advocacy

Information about MHCC programs are primarily provided by BHWs to the clients. BHWs inform the community about MHCC programs, services, and schedules. Advocacy and capacity building programs on nutrition, family planning, and breast-feeding of the M/CHO are implemented at the barangay level through seminars, distribution of IEC materials, and the conduct of symposia (see Figure 2-1).

BHWs also conduct spot mapping activities to survey geography of service area, verify target clients, assess immediate MHCC situation in the community, and monitor teenage pregnancy cases and incidences of malnutrition. In terms of information usage on MHCC service delivery, health centers both at the LGU and barangay level update data on BP, OPT, and prenatal check-ups. Service providers also monitor supplementation of vitamins and vaccination.

Aside from targeting clients, data provision on MHCC is also critical in monitoring and evaluation of MHCC programs. Outcomes and outputs of local MHCC intervention can be verified through collection of data from the target clientele and health service suppliers.

Information collection for monitoring, assessment, and local planning: Use of informal community networks

Monitoring of service delivery is primarily characterized by person-to-person social relations and communications. The barangay health workers including the nurses and midwives are prominent individuals in the community as they serve as the only resource of MHCC information and service. BHWs

implement house-to-house visits to check on conditions of family clientele of MHCC services⁴. BHWs and volunteers develop social networks with the community that facilitates an informal system of MHCC service delivery and monitoring. These informal social networks are premised on social capital developed among the service provider and the community.

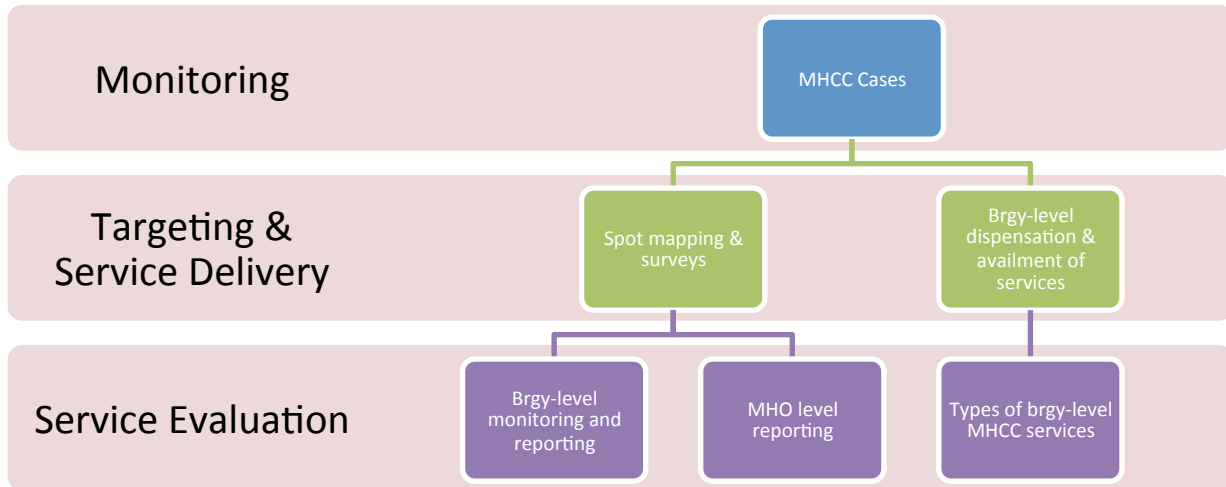


Figure 2-2: Patterns of practices of MHCC at the community level

BHWs conduct monitoring of service delivery by updating manual (i.e. notebooks, field notes) database of target clients and status of service provision per family. Moreover, BHWs delivers information on status of community MHCC to the RHU through submission of reports and filling up of monitoring forms provided by the RHU (Corpuz, Ladia, Garcia, et. al , 2012.) (also see Figure 2-2).

BHWs keep records through their notebooks about cases and data collected in the MHCC service delivery. The practice of record keeping through notebooks is not officially required by local health offices. The records kept in the notebooks are provided to the midwives to be inputted in the official MHCC reporting forms as required by the C/MHO and the DOH through their system the Field Health Services Information System (FHSIS)⁵.

A community MHCC evaluation is conducted through weekly meetings between the clientele and the BHWs; weekly meetings between the BHWs, midwives, and local health officers; spot visits of BHWs in indigent families; midwives completion of health center reports; local health officer weekly supply inventory; and random informal interviews of BHWs with MHCC clientele (see Figure 2-2 and 2-3).

⁴ Based on interviews with the Municipal Health Officer of Pavia and Zarraga, Iloilo last July and August 2013.

⁵ Inputs from Focused Group Discussions conducted in Iloilo Provincial Health Office and Iligan City CHO.

Box 2-1: MHCC Programs in the “From Womb to Tomb” Program of Pavia, Iloilo⁶



WHILE IN THE WOMB

Pre-natal care is given to expectant mothers and the baby they are carrying. Mothers are given vitamins and medicines depending on the need of the expectant mother and the baby.

DURING DELIVERY

Health Centers, even those in the barangays, are equipped with delivery rooms so that mothers can deliver their babies well. Midwives are on call, 24 hours a day, when there is impending delivery.

Delivery rooms have clean comfort rooms, shower areas, delivery beds, electricity, stoves for sterilizing equipment, and waiting rooms for husbands or folks. In case of problems or emergencies, the three (3) ambulances of the municipality are on standby to bring the expectant mother to the hospital of their choice. PHILHEALTH Cards are given to indigent citizens of Pavia so that their immediate hospitalization needs can be taken care of.

AFTER BIRTH

The health of the mother and the baby is constantly monitored by health workers. Vitamins and medicines are provided according to their needs. Mothers are injected with anti-tetanus and their babies are given immunization shots to safeguard their health. Mothers are encouraged to practice healthy childcare, like breastfeeding and bring their babies to the health centers for regular check-ups.

SCHOOL AGE

Provision of educational materials; scholarship programs for poor children; barangay day care centers; computer literacy programs; feeding program; school improvement program; and financial assistance to students.

ECONOMIC DEVELOPMENT

Infrastructure development; maintenance of peace and order; enhancement of health care programs; Livelihood loans for small businesses; provision of materials for agricultural business; tax incentives for

⁶ Extrapolated from <http://pavia-iloilo.gov.ph/programs-and-projects/from-womn-to-tomb/> June 2013.

compliant businesses; and enhanced health care program

UNTIL DEATH

Free burial services provided by the municipal government and financial assistance for the bereaved family

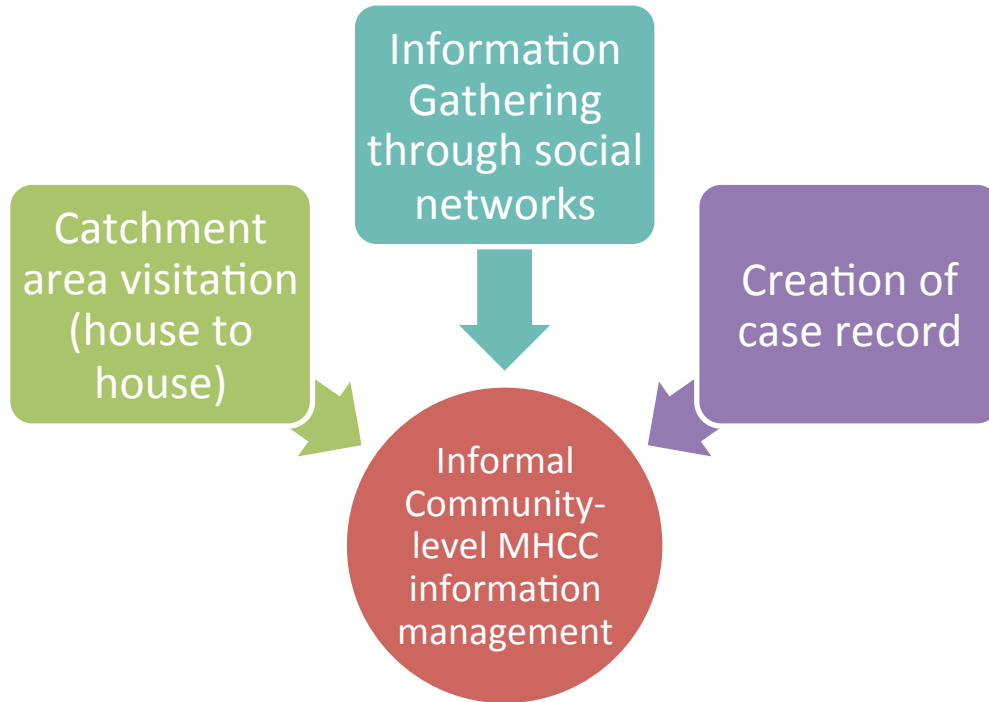


Figure 2-3: Informal MHCC information management activities at the local level

Another practice in the MHCC information system at the local level that needs to be considered is on how local health service providers input data to local planners and policy makers. Using data obtained from the community, C/MHOs report data to the Local Planning and Development Office of the LGU. In some cases, the Local Chief Executive (LCE) requests for specific data on MHCC from the C/MHO (See Figure 2-5). While there is no specific or required format of the report to be given to the LCE, the C/MHO reports the state of MHCC in the LGU through written reports, oral reports, informal meetings, and visits in specific target areas⁷. Other C/MHOs submit a local health report to be integrated in the local development plan of the city or the municipality⁸.

⁷ Based on the interviews with Mayor Michale Gorriceta and Mr. Victor Gumana, former Municipal and Planning Development Coordinator of Pavia, Iloilo.

⁸ Based on the interview with the MPDC of Zarraga, Iloilo.

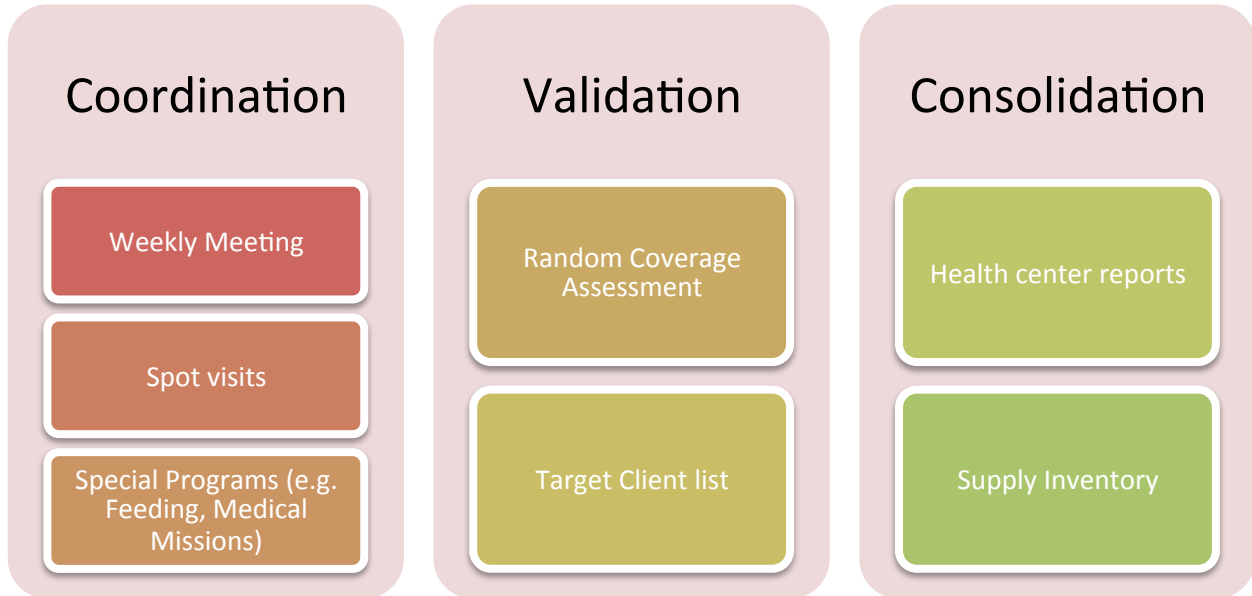


Figure 2-4: Typology or cluster of MHCC information management activities at the local level including inputs to local planning

Description of existing data forms and sets

Data capture forms

Data sets in MHCC service delivery are primarily produced based on official forms that need to be filled out by local service providers such as midwives, nurses, and C/MHOs as mandated by the FHSIS (See Figures 2-5,2-6, and 2-7). Weekly and monthly forms on immunization records of children, pre-natal records, vaccination records, childrens’ weight monitoring record, family planning records, nutrition records, and special cases are filled-out to be submitted to the local health office for consolidation and reporting to the provincial health office (PHO)⁹. The hierarchical system (bottom-up and top-down) of reporting MHCC data characterizes the FHSIS.

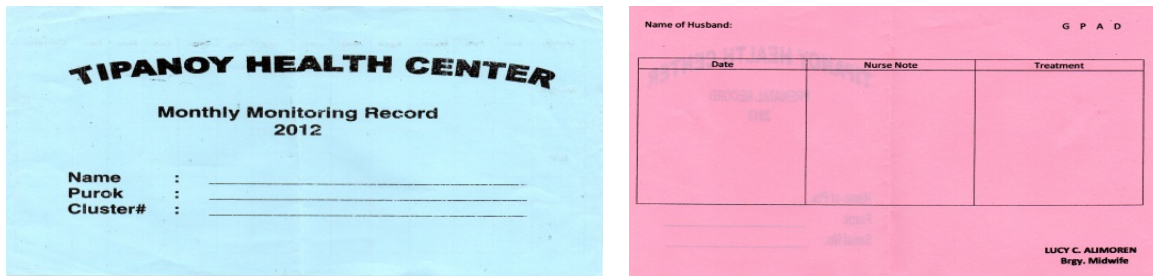


Figure 2-5: Individual Monthly Monitoring Record in a Barangay Health Center

⁹ Forms collected from the Iligan, Bacolod City, and Bago CHO

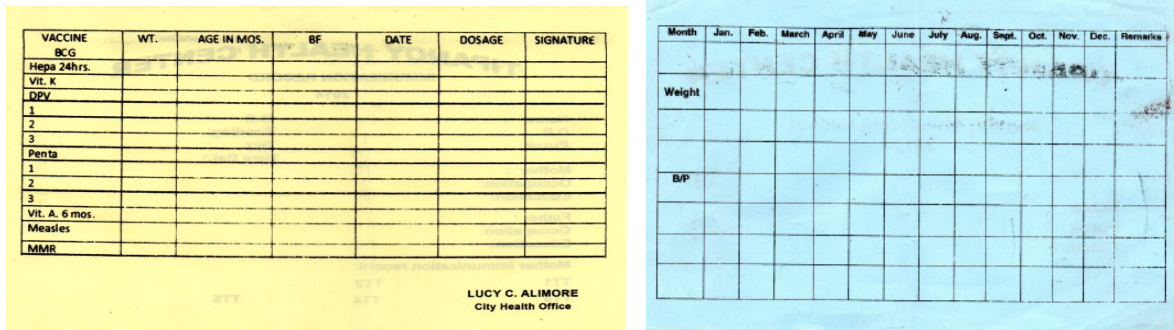


Figure 2-6: Children's Weight Monitoring Record

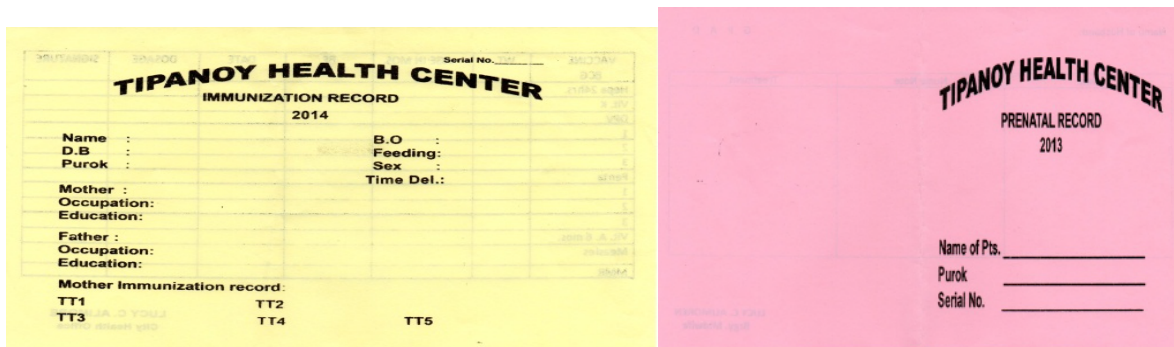


Figure 2-7: Family Health Record

“Field Notes” from community health workers

Raw data on MHCC service delivery is collected from the community by the BHWs. Record keeping is done through the use of notebooks and field notes. Data is collected through informal interviews with family indigents and house visits. The data collected are then submitted to the local health office midwife for encoding in the FHSIS forms¹⁰.

Target client lists (TCLs) serve as a basis for identifying MHCC service indigents. TCLs include family and individual profile of MHCC service clients in the community. Lists are completed, validated, and verified by barangay health workers and volunteers through house-to-house visits (See Figure 2-8 and 2-9). TCLs are completed and consolidated at the barangay health station level and at the municipal health unit level¹¹.

¹⁰ Based on Focused Group Discussions with midwives and nurses in Iloilo. July 2013.

¹¹ Forms collected from the Pavia MHO.



Figure 2-10: Spot-maps in Pavia Iloilo

In some pilot cases, usually funded by the private sector, local health service providers utilize information communications technology in managing local health information systems. For instance, in the Province of Iloilo, the Smart Communications – private telecommunications company- developed the SHINE health information system. SHINE utilizes mobile communications as a way of reporting and monitoring the needs of health clients in the community. The system links information about the clientele’s diagnosis with immediate referral to appropriate service providers through mobile communications. Data about health cases are then recorded electronically. The electronic record system is lodged at the local rural health unit¹⁴. Data sets on diagnosis and referral are produced in the excel sheet form.

¹⁴ Based on the interview with Dr. Bondoc, MHO of the Municipality of Zarraga, Iloilo, Central Philippines. SHINE is a corporate social responsibility project of Smart Communications Philippines.

| EPI | PARAMETER | ANNUAL | MON. | JAN. | FEB. | MARCH | APR. | MAY | JUNE | JULY | AUG. | SEPT. | OCT. | NOV. | DEC. | |
|-------|------------------------------------|--------|--------|------|-------|-------|------|-------|------|------|-------|-------|------|-------|------|----|
| | | TARGET | TARGET | NO | TOTAL | Z | NO | TOTAL | Z | NO | TOTAL | Z | NO | TOTAL | Z | NO |
| | AP CARE | | | | 1 | 7 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 | 35 | |
| | IMMUNIZATION | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | |
| MCH | DELIVERIES | | | | 3 | 5 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
| | PP CARE | | | | 5 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | |
| | BREASTFEEDING | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| UFC | NEW REGISTRANT | | | | 5 | 5 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| MRP | OFT COVERAGE | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| VAD | VAC 4-11 MONTH SUPPLEMENTATION P-P | | | | | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| IPRAI | IBR SOPLININDO | | | | | | | | | | | | | | | |
| IDD | MMVA GIVEN TO RISK OR CURRENT USER | | | | | | | | | | | | | | | |
| FP | NEW ACCEPTOR | | | | | | | | | | | | | | | |
| CDD | OFT USE RATE | | | | | | | | | | | | | | | |
| LCP | NEW CASES | | | | | | | | | | | | | | | |
| RTP | CASE FINDING | | | | | | | | | | | | | | | |
| CARI | SPUTUM (+) | | | | | | | | | | | | | | | |

Figure 2-11: The use of white board to report MHCC performance

Gaps and Challenges (see Figure 2-12)

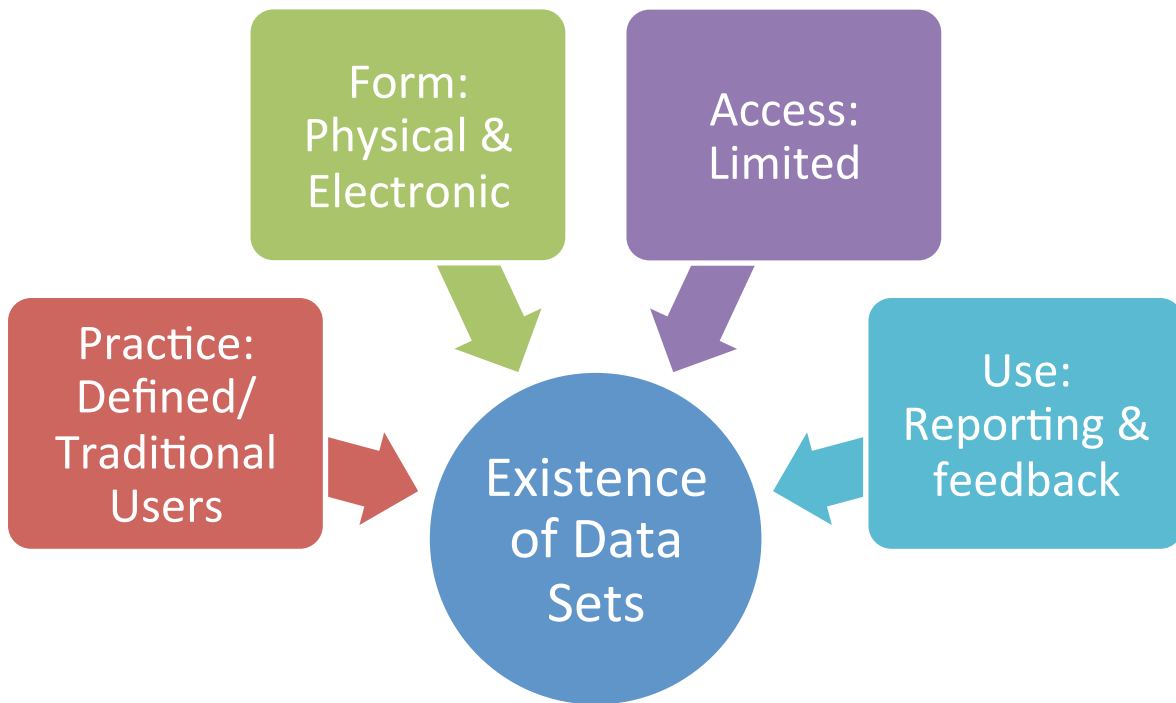


Figure 2-12: Challenges and opportunities for Open Data in Philippine MHCC service delivery

The need for demand-side data

Practices of collecting, producing, disseminating, and sharing data on MHCC services in the Philippines are a microcosm of the overall health information in the country. With data still largely driven by supply side (government) provision, usage of information to improve delivery of MHCC services is still wanting. Data is produced and shared within the gamut of the government system to report performance and

develop policies and programs. While this is important, there is still a gap between the data that can be accessed and the data demands and needs of the citizen clients. Reporting forms remain at the behest of suppliers. Report formats are still in their inaccessible state: absence of timely and machine readable platforms.

Some aspects of MHCC reporting such as the use of spot maps and white boards compensate for the absence of more conspicuous open systems. These practices need to be up-scaled by fostering demand from clientele as to what type of data format and contents should be made accessible. Participation of citizen in data production and sharing is still lacking. The practice of BHWs informal interviews with communities can serve as a way to develop demand for more citizen participation in MHCC data production and sharing.

Access and capacity issues

Capacity issues particularly on health information systems still persist. Gaps include lack of technical capacity in data management, lack of resources in storage, over-burdened staff, and lack of information coordination among stakeholders.

With regard to MHCC data form, contents, and processing the following are seen as fundamental problems: difficulty in data aggregation hence may affect accuracy of targeting; lack of standards in format between in formal-DOH pro-forma and informal data-barangay assessment; question of data accuracy upon capture from the source and absence; lack of physical storage of information which results into integrity and consolidation problems.

Institutional and systemic issues

Difficulty in getting MHCC information can also be attributed to larger socioeconomic factors such as physical distance of health centers, lack of transportation to access health centers, and lack of money to go to a health center. Inequities in health information can result to inequities in health outcomes.

From a systemic point of view, the Philippine health sector information system faces the following problems: lack of IT governance structures, lack of explicit standards and blueprints, lack of coordination among government information network, lack of participation of the community in data use, and weak coordination and information sharing between private and public health service providers. These institutional gaps contribute to ineffectiveness in MHCC service delivery (Marcelo and Canelo, 2010).

Opportunities and Potential for MHCC Open Data

Table 2-2: Open Data Opportunities in MHCCs

| Existing Data Sets | Characteristics of Data Sets (format, source, type) | Open Data Standards | Possible Outcomes |
|--|---|---|---|
| BHW Field notes from informal interviews with community | Physical form; Used by BHWs; gathered through informal interviews; utilized for reporting to the Midwives | Not accessible – accessibility is limited to the BHW user Not machine readable Not legally and practically reusable – reusable as inputs to legal FSHIS forms | Documentation of BHW recording system; conversion of BHW system to machine readable forms |
| Existing Data Sets | Characteristics of Data Sets (format, source, type) | Open Data Standards | Possible Outcomes |
| Forms provided by the FHSIS – a national government system (includes TCL, family list, immunization records, pre/post natal records, etc.) | Physical form and excel file format. Physical form filled out by Midwife and nurse for recording and monitoring purposes; Converted to excel form for storage and data transfer to higher offices such as DOH provincial, regional, and nation. | Not accessible – blank forms are accessible however, filled out forms and excel forms need to be officially requested Not machine readable except when data is converted to excel format (storage stage) Usable to policy suppliers such as | Conversion of forms and stored data to more accessible forms; there are health informatics system but are implemented in the pilot basis. |

| | | | |
|---|--|--|---|
| | | DOH but not to demanders (citizens) | |
| Use of health status spot maps in conspicuous places in the municipal health office | Physical form – use of billboards and maps with pins; reports monthly status of health programs and issues in the locality | <p>Accessibility is limited to physical presence; data updating is not timely (accurate)</p> <p>Not machine readable</p> <p>Usability is limited to physical format; however useful in LGUs with low online connectivity</p> | Use of spot maps can be further studied; use of local innovation and knowledge in MHCC should be documented to identify possible open data sets |

The case of community-level MHCC information management presents opportunities to further advance participation and improve service delivery. The terrain to develop open data systems is at the local level – the frontline of public service delivery.

The use of informal networks of community health workers in gathering service-monitoring and related data can be considered as an innovative practice in information management. The community health workers have strong social capital to fulfil their roles as knowledge workers to effectively implement MHCC programs. In this regard, the inputs of BHWs in the overall process of identifying relevant data sets and the creation of forms are critical. This clearly shows the ability of local health workers to improvise given their limited resources and thus underscores the need to document their experiences and systems. This would also allow local policy makers and information managers to define the data sets that are demanded at the grass-roots level. BHWs can be considered as non-traditional users of data that can be capacitated to optimize information management and foster local open data practices (see Table 2-3).

There is utilization of physical and electronic forms at the local level. While the purpose of utilizing these data capture forms is for monitoring of services as mandated by the national health office, the forms can be a starting point for identifying and analyzing potential data sets for open data practices. There are

also electronic forms provided in few ICT and health pilot projects. The feedback from these projects can also serve as inputs in the data set identification (See Table 2-3). The use of spot mapping and reporting also shows the need to summarize and visualize information. Spot mapping techniques presents information derived from existing data sets in a form that is more understandable and can further aid in decision making. This also highlights spot mapping as a technique aimed at improvising for better decision making given limited tools.

Conclusions and Recommendations

Examination of MHCC information management practices at the local-community level pinpoints to potentials of these practices to become a starting point for developing customized open data services. The activities and practices can be classified to three main activities such as monitoring, target and service delivery, and service evaluation. Table 2-3 provides a summary of the different activities in the community level practices of MHCC. These activities occur during the delivery of MHCC services in the barangays.

Table 2-3: Summary of Work Activities for Community Level MHCC Practices

| Work Activities | Description | Sub-activities |
|---|--|---|
| Monitoring | Case monitoring; Data sets are created in the form of log books and the TCLs. MHCC cases are monitored weekly and monthly depending on the type of service | Record management through data capture forms; Check-ups done in the barangay health center and community visits |
| Targeting & Service Delivery | Use of data sets to determine recipients of services | Spot Mapping Group meetings for the dispensation of services |
| Service Evaluation | Evaluation is done by looking at existing data sets and through informal meetings; | Barangay level reporting MHO reporting |

The study found that data sets are used in MHCC delivery at the local level. However, these data sets were mainly used for transactional and record management purposes. Furthermore, these data sets are usually in hard copy format. For MHCC, most of these data sets are in the format of individual patient records, service monitoring, and report generation. In exceptional cases, websites were used to communicate with stakeholders. However, most of these websites are information dissemination sites, while some allow PDFs to be downloaded. Using the OD standards, these existing practices fall short of the definition.

Given the lack of resources and capacity to implement effective and efficient information management programs, some local governments innovate to address information needs in MHCC service delivery, such as use of spot maps to identify targets and monitor services; tapping of barangay health workers as

agents of local health offices in the dissemination of health information; and taking advantage of community offline networks to facilitate information exchange among clients of MHCC services. While these practices are laudable (exception to the rules) or can be considered as innovative practices, the challenge of capacity development and institutionalization remain a daunting task.

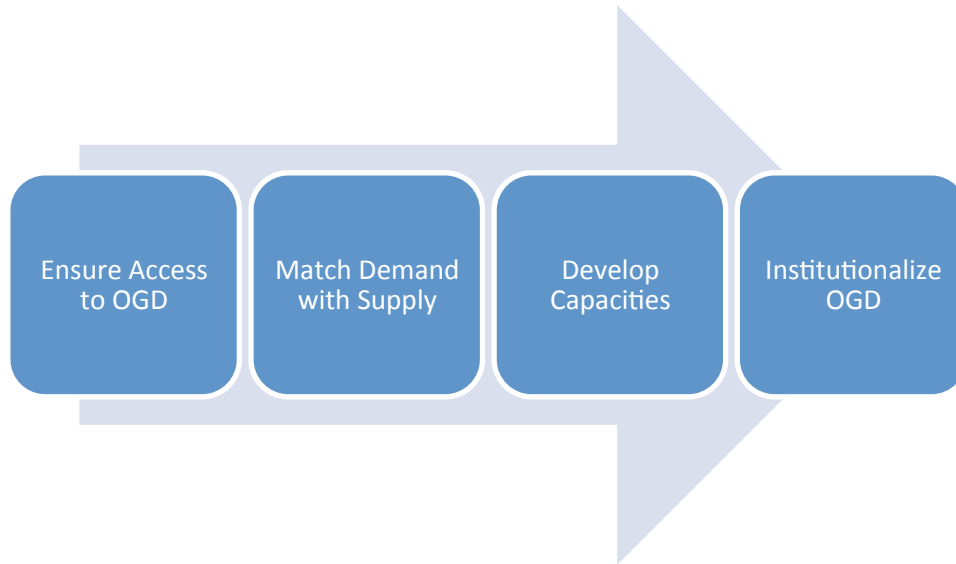


Figure 2-13: Steps in Institutionalization of OGD in Local Government Units

Recognizing these gaps in OD practices, we propose steps on how to operationalize open data in MHCC. These phases can guide LGUs in the implementation of OD program in local MHCC. Since LGUs are considered as the “front liners” for the delivery of MHCC services, immediate feedback and outcomes can be realized. Its autonomous status, LGUs can also enact programs and ordinances to spur innovation for more relevant, effective, and efficient MHCC service delivery. Local governments are critical intermediaries in OD as LGUs play both as service provider and repository of local knowledge and innovation (see Figure 2-13).

Ensuring Open Data Access

The first step is the identification and publication of MHCC-related data sets. As an MHCC service provider, LGUs through their MHOs and BHWs collect significant amounts of data. LGUs in this regard should invest in a data management system that involves provisions to make online access to data sets possible. While internet connectivity remains a problem at the local level, LGUs can be innovative in opening up data access such opening data kiosks in the LGU or posting of data sets in conspicuous areas.

The unilateral publication of initial MHCC data sets should be treated as a sign of commitment from the LGU. LGUs are also required to post pertinent data about LGU transactions as provided by the Full

Disclosure Policy Program of the Department of the Interior and Local Government (DILG). The release of MHCC data sets should be done on the basis of perceived value in terms of its transactional ability and relevance to users. Transactional ability refers to the potential of data sets to enhance performance of its users. In this regard, citizen participation is critical in the process of identifying data sets that are relevant to them.

Box 2-2: Highlights of the Ensuring Open Data Access Phase

- i. Ensure an enhanced Web presence that can support access to MHCC OD sets
- ii. Identification and publication of initial MHCC data sets and uncover the value of such data sets in terms of transactional ability
- iii. Review of open government and governance reform programs such as the Full Disclosure Policy, Seal of Good housekeeping, and Grassroots Participatory Budgeting

Matching Demand and Supply

Constituency building is a critical phase in fostering OD in MHCC policies. Stakeholders, especially local patients and citizens should participate in processes that will develop OD systems. Participation of citizens will help decision makers identify relevant data sets, the importance of open data systems, and the user benefits of OD. Feedback and participatory mechanisms provide the citizens to seek ownership of MHCC data.

Box 2-3: Highlights of the Matching Demand and Supply Phase

- i. Constituency building for LGUs: Identify stakeholders and partners that can benefit and use open MHCC data sets;
- ii. Develop an engagement mechanism that can uncover demand and needs for OGD;

Developing Capacities

One glaring result of this study is that local governments lack the capacity and resources to start up OD systems in health service delivery. Capacity on data management, national-local coordination, data visualization, and mapping techniques should be developed among local planners and decision makers.

Soft skills on advocacy and mobilization are also needed in order to sustain reform efforts on OD in MHCC. These skills include identification of local champions, identification of sponsors, engagement in public-private partnership, and strategic planning.

Box 2-4: Highlights of the Developing Capacities Phase

- i. Develop organizational capacities to support MHCC OD program
- ii. Develop human capacity for data management, data visualization and mapping techniques
- iii. Develop sponsors, local champions, and technical agents

Institutionalize

Innovation of data use particularly in local health sector service delivery is rather an exemption than a norm in the parlance of Philippine local governance. The first step to institutionalize and widen the audience of reform efforts is to document and analyse OD initiatives. Documentation of best practices at the local level can facilitate mutual learning among stakeholders about OD principles and practices. The role of knowledge producers such as universities, local governments, civil society organizations is critical in crafting knowledge products to showcase applications of OD.

Knowledge products can guide enactment of local ordinances, policies, and programs to sustain OD practices in MHCC. This will allow for an informed policy development concerning OD and its application in the health sector.

Working with partners from outside the government is a critical ingredient for sustainability. OD practices can be better publicized if LGUs can forge partnerships with local communities, civil society organizations, and national government agencies. With the current national reform efforts on good governance, LGUs should be incentivized to link OD practices in health with national governance reform programs.

Box 2-5: Highlights of the Institutionalize Phase

- i. Documentation of best practices and production of knowledge products
- ii. Enact local ordinances based on knowledge produced from analysis of OD best practices
- iii. Formalize partnerships with stakeholders

Implications for IT management in LGUs

Open data requires innovativeness and local knowledge. With this in mind, LGU IT management must look beyond “default” IT management practices and understand OD in a governance reform perspective. To highlight this point, the table below describes the implication of MHCC OD on IT management of LGUs.

Table 2-4: OD and implications to IT Management

| Phases of OD adoption | IT Management | Implications |
|---------------------------------|---|--|
| Ensuring OD Access | <p>Applications Development: ensure that MHCC data sets are available online and ease of use;</p> <p>Data/Content Management: Ensure that OD standards are followed</p> <p>Infrastructure: Provisions for additional storage for MHCC OD sets must be set;</p> | A decision must be made by the LGU and Public health units on what data sets can be made available; |
| Match demand with supply | <p>Applications and Content Development: Update MHCC data sets; Electronic data capture forms in place;</p> | Initial datasets must be validated by stakeholders and partners; Additional data sets can be identified |
| Develop Capacities | <p>Human Capacity: Implement a capacity building program that can support and sustain local MHCC OD initiatives;</p> | Identify sponsors in the LGUs that can promote the MHCC programs; Identify community champions for MHCC OD and data management; |
| Institutionalize | <p>Policy Development: Ensure sustainability of MHCC OD initiatives through the enactment of local ordinances and MIS policies for LGUs</p> | |

Application development

There is a need to capitalize on ICT reach by developing relevant application. Telemedicine application and services must support MDG attainment and dissemination of information to citizens and public health service providers. Applications can include monitoring and tracking systems for mothers and children; MHCC referral application services; diagnostic services; and connecting applications between patients and service providers.

Data-content Management

Improvements in data-content management at the local level are necessary in order to jumpstart an OD program for local MHCC. There is a need to invest in the following program areas: MHCC knowledge translation, documentation of local MHCC OD practices, development of repository of data sets, and the promotion of OD standards at all levels of the MHO.

Infrastructure Development

Enhancement of information system is required in order to implement OD systems. Both national and local level providers should improve information systems focused on developments in coordination between tiers of local governments. In particular, development is needed in the following areas: harmonization and integration of data sources, adoption of data protocols, investment in health services statistics systems at the local level, expansion of information system to cover private health care providers, and investment in IT systems that utilize crowd-sourcing and social networking

Human Capacity

Capacity development for personnel should focus on their role as information or knowledge producers. In this regard the following areas should be improved in consonance with MHCC service delivery: data gathering and analysis skills, knowledge translation, know-how in research, ability to use geographic information, skills and knowledge in local database management and publications, and skills documentation.

Policy Development

OD efforts should be linked up with the current stream of national good governance reform programs. These programs aim to foster transparency and accountability. With local government units linked up with the Full Disclosure Policy and the Seal of Good Housekeeping programs of the national government, LGUs should be incentivized to adopt policies that will promote OD practices particular in health programs.

Future Directions

The next step in this engagement on the potentials of OD in the Philippines is to produce knowledge products that will highlight and analyse MHCC OD practices in the country. Case studies of local governments can pinpoint to the need to understand significant factors such as incentives of adopting OD, motivations of stakeholders in engagement in MHCC and OD, and the collective action mechanisms that allow for OD practices to be implemented at the local level. Gaining insights from these factors shall provide insights on the technical and institutional requirements for adopting a OD policies and programs at the local level. Despite the disincentives and risks of “opening up government data” it will be interesting to explain why local governments invest in OD while others do not. Future case studies can also help to validate our research findings and explore potentials of OD in other relevant areas of local governance such as disaster risk reduction, social services, peace building, and local economic development.

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Chapter 3

Opportunities for Open Data in Building Capacities for Micro, Small, and Medium Enterprises (MSMEs)

Initiatives for MSMEs in the local levels are aligned with the national programs as mentioned in the MSME Development Plan of 2011-2016. Both the national Department of Trade and Industry and the MSME Development Council have their regional, provincial, and municipal counterparts who oversee and ensure that relevant MSME programs are implemented at the local level. The implementation of these programs on improving the business environment, access to finance, access to markets, and productivity and efficiency are done by the local government units (LGUs), even up to the *barangay* level—the smallest unit of government in the Philippines. Respectively, some projects for each of the targets carried out by the LGUs include streamlining the issuance of mayor’s permit in various cities and municipalities and installing internal monitoring systems; release of loans to MSMEs and microfinance clients; creation of product research and development programs; and assistance in technology transfer and trainings.

LGUs are tasked with creating ordinances relevant to the needs of the MSMEs in their areas and localized implementation of national legislations, such as the RA 9178: the Barangay Micro Business Enterprises (BMBEs) Act of 2002. In line with the development of these enterprises, the department of trade and industry (DTI) has also implemented the Rural Micro-Enterprise Promotion Program (RuMEPP) in 2011, which aims to alleviate poverty in the rural areas through economic development and employment for poor households. As of May 2011, the program has served 38,726 micro enterprises (Philippine Information Agency, 2011). Efforts by LGUs in implementing localized policies and programs like these become more effective with the help of private organizations, including cooperatives and local business associations. These private institutions offer greater access to financial, knowledge, marketing, and supply chain resources, which increases the potential of MSME growth.

Foreseeing the benefits of an enhanced relationship between MSME boundary partners in the public and private sectors, this chapter explores venues for open data integration in supporting the MSMEs in local communities to become more competitive and productive in their respective industries. In order to achieve this, we looked at prevailing literature on MSME capacity building and relevant strategies to increase their competitiveness and productivity. Existing practices in local communities are examined, particularly the use of available data sets and information on MSME performance. Furthermore, we analyzed these practices and identified gaps and challenges in accessing information about MSMEs.

Based on these identified gaps, corresponding recommendations on open data implementation and the use of appropriate new technologies are presented, as well as future directions on the open data opportunities in the MSME sector.

Overview of Prevailing Literature

Having researched on the overview of open data, its characteristics, and standards governing its implementation, we perceive numerous opportunities for the application of open data in the MSME sector. However, current literature on open data provides general prospects that different sectors of society can take advantage of. Accordingly, we opted to examine studies on MSME competitiveness and productivity where open data techniques can be applied. Additionally, we looked at how new technologies can be taken advantage of by MSMEs to develop and sustain their entrepreneurial capacities. This literature review will later on be the basis in presenting recommendations for open data strategies in local communities.

Improving MSME Competitiveness and Productivity

Increasing business productivity leads to enhanced competitiveness, as the business is able to utilize its resources and equitably distribute it to support its core functions and operations. Both competitiveness and productivity are concerns of enterprises regardless of their size. Accordingly, factors that affect these characteristics of MSMEs have been identified in different studies, which later on become the basis for developing capacity building programs.

The performance and growth of MSMEs are said to be influenced by both internal and external factors (Chan, Man, & Lau, 2000). M. Konchai (2012) suggests that entrepreneurial competencies of small and medium enterprises should be developed. Among the key competencies crucial to the success of the business are (). These competencies can be further categorized into intellectual, attitudinal, behavioral, technical, and managerial aspects (Konchai, 2012), which can be improved by organizing appropriate training programs. Additionally, availability of tangible and intangible resources, such as financial resources, equipment, patents, research capabilities, and brand power, can be used as a measure of competitiveness (Utami & Lantu, 2013).

SME Clustering and Networks

While some SMEs operate on their own, others are linked to other SMEs or larger firms and coordinate their activity in order to synergize their capacities and resources in product development or service delivery. Nevertheless, researchers seem to acknowledge that these linkages between various business institutions are important factors to the competitiveness of the business (Pitelis, 2007). These clustering strategies may involve institutional networking, private-public partnerships, and national networking. In a UNIDO study in 1999, the ultimate goal of these partnerships is for participating companies to

specialize and cooperate to enable each actor to dedicate itself and resources to core functions. Moreover, the study suggests that combining private and public investments leads to excellent services in finance networking development (Ceglie & Dini, 1999).

ICT Adoption

The use of new technologies, particularly IT, has been proven to have positive effects to a certain extent when utilized by any individual, organization, or network. Generally, ICT adoption in business boosts the competitive advantage of the enterprise in their respective industry when used in their operations. These technologies allow companies to gain access to necessary information any place, any time (Ghobakhloo et al., 2011). In Lester and Tran's (2008) study, they said that the Internet and mobile technologies can also help increase marketing capacities by helping SMEs overcome their size disadvantage and get a wider market reach. Through the use of ICTs, firms are also provided with means for better process management, resulting to lower costs and optimal use of resources for business operations (Castel & Gorriz, 2012).

Nonetheless, despite these advantages of new technologies, some SMEs are hesitant in adopting these strategies because of the infrastructure and IT literacy requirements that the use of such systems entails (Pool et al., 2006). Several other organizational factors that inhibit technology adoptions include inadequacies in the following attributes: managerial skills, system integration, and financial resources (Gilaninia et al., 2011).

Open Innovation

Another trend in the entrepreneurial field is not anymore focused on competition per se, but being able to gain competitive advantage by sharing innovation knowledge and practices with different companies. Open innovation has been defined as "the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and to expand the markets for external use of innovation, respectively." (Chesbrough et al., 2006). This strategy is seen as beneficial and relevant in SMEs than just large and multi-national enterprises, who have adequate resources and whose research and development processes are already mature. As a matter of fact, open innovation in SMEs is becoming more prevalent as mechanisms for external networking, customer involvement, and technology use are also being explored (Vrandea, de Jongh, Vanhaverbeke, & Rochemont, 2009).

Sector Analysis

Existing literature underscores the high potential MSMEs in contributing to economic growth resulting in a renewed interest in ensuring their competitiveness and productivity. This potential is also recognized by both the government and the private sector, thus they create means to enhance the capabilities of MSMEs. Accordingly, as MSMEs vary in different regions and countries, roles and participation of boundary partners in their activities are also variable. The research team was able to gather information

on the interactions and dependencies involved in the MSME sector in the Philippines, deducing it from the existing practices of the targeted municipalities.

Existing Practices in Developing MSME Productivity and Competitiveness

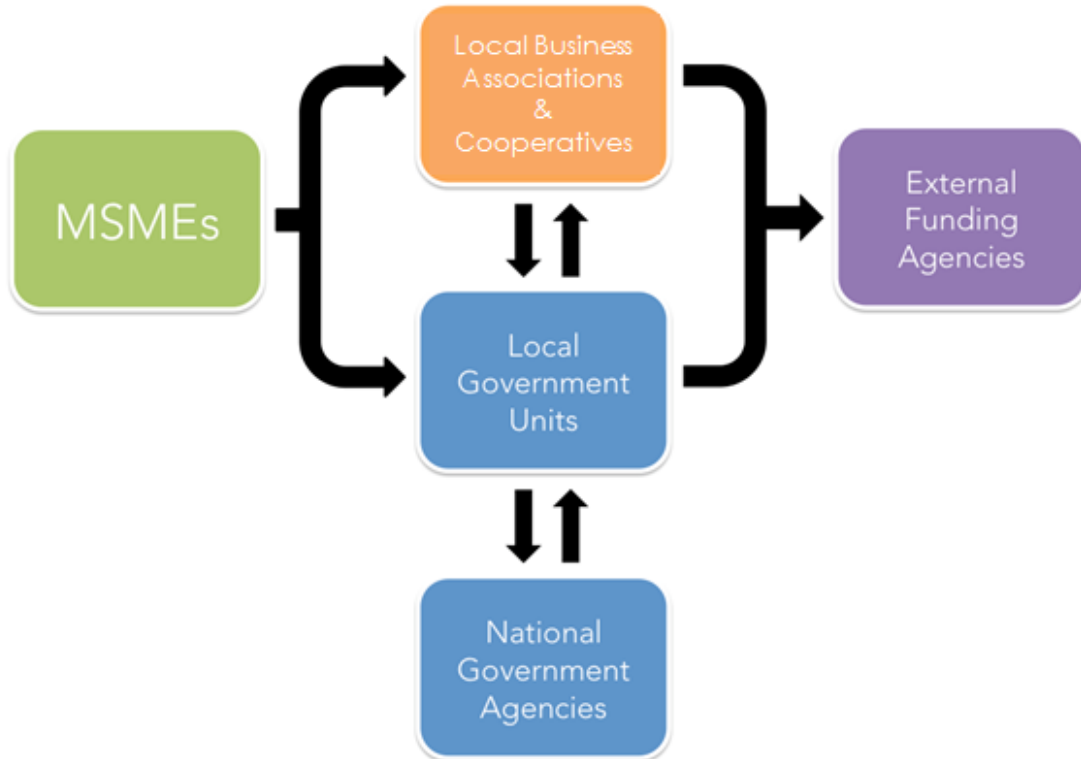


Figure 3-1: MSME Stakeholder Interaction

The MSME ecosystem in the country, particularly in the rural areas, is comprised of the following key stakeholders: national government agencies, local government units, private organizations, and other external funding agencies (see Figure 3-1). These dependencies may diverge according to the purpose of interaction. This study puts emphasis on the role of local business associations and cooperatives in the MSME arena. In general, the activities of these private organizations include, but not limited to the following: [1] coordination with the Regional Department of Trade and industry regarding activities and capacity building opportunities; [2] coordination with LGUs regarding their city or municipal development plans; [3] participation in policy formulation meetings and civil society consultation sessions.

One of the interactions with the stakeholders may involve the local business associations or the municipality's cooperatives communicating with the MSMEs. These private organizations conduct their own research and create programs that would be most beneficial to the MSMEs in their areas. Most of these programs are geared towards capacity building—business literacy, product/service development, and marketing (see Box 3-1). Moreover, other programs also provide MSMEs access to financial resources and enabling the MSMEs to formalize and sustain their business. Funding for programs and projects are usually sourced from membership fees. Additionally, other means for funding are expended, such as sponsorship from other private companies and partnership with external funding agencies, whenever an opportunity for it arises.

**Box 3-1: Chamber of Commerce and Industry Foundation of Iligan Inc.
& Iloilo Business Club**

Why JOIN the Chamber?

Find out why now is the best time to..

JOIN

Chamber of Commerce And Industry Foundation of Iligan, Inc.

225 likes · 43 were here

Chamber of Commerce and Industry Foundation of Iligan Inc. leads the local business sector in trying to achieve its goal in making Iligan competitive in the global market. It considers tourism as the main income-generating facility of the municipality, as it puts efforts in initiating programs for facilities development and capacity-building for improving service delivery. At the same time, it aims to promote a harmonious relationship with the city government and advocate the formulation and implementation of government policies to enhance business and create domestic and international investment opportunities.



Established in October 1990, Iloilo Business Club, Inc. (IBC) is a non-stock, non-profit organization composed of over eighty (80) Senior Executives representing the leading corporations and organizations in the Province and City of Iloilo and the Philippines. IBC's main thrusts are to promote the City and the Province of Iloilo as a tourist destination, create investment opportunities to boost the local economy, and to develop good working relationship with the government and the private Stakeholders.

<http://www.iloilobusinessclub.org/index.html>

The local business association and cooperatives also serve as middlemen between MSMEs and the LGUs when it comes to advocating and lobbying relevant legislations and ordinances (see Box 3-2). On one hand, the cooperatives conduct meetings with their member enterprises with the agenda of policy formulation, where they identify legislative proposals to be reviewed by the city council. On the other hand, the cooperative can draft a legislative proposal for the evaluation of their members, before it is submitted to the legislators. The nature of policy recommendation by private organizations is on the institutionalization of MSME programs, particularly capacity building and financial support, to ensure that entrepreneurs have access to the resources for business sustainability. Additionally, they advocate the creation of business registries in order for the private sector to gain access to pertinent information about MSMEs.

Box 3-2: CCIFII Intensifies Policy Advocacy on Tourism and Good Governance

The Chamber of Commerce and Industry Foundation of Iligan Inc. created two (2) committees to take up on its policy advocacy initiatives on Tourism and Good Governance. The Tourism Committee headed by Girlie Macapagal looks into the different issues that impact on the tourism

development of the city. The first issue discussed by the committee is to push for the creation of a local tourism board which until now was not created. The committee also conducted a round table discussion last September 11, 2013 with the major stakeholders of the transport sector on how to improve the services of the taxis in the city as well as the regular of *habal-habal* in the city proper. Present during the discussion was Councilor Abragan, presidents of the different transport groups, the LFTRB head Mr. Vidal Aranaydo and Mr. Michael Macarambaon head of law Enforcement of the LTO.

The Committee on Good Governance headed by Mr. Arturo San Luis conducted a series of discussions on how the private sector can participate in monitoring the funds utilization of the Local Government Unit. Members of the Committee attended a Seminar on Budget and Funds Monitoring conducted by the Parish Pastoral Council last August 2013.

<http://iliganchamber.org/2013/11/ccifii-intensifies-policy-advocacy-on-tourism-and-good-governance/>

The local government units are primarily responsible for implementing programs coming from national government agencies via their respective regional, provincial, and municipal offices (see Box 3-3). The LGU offices have the authority to prioritize and customize programs to be made available to their governed areas. Customizing such MSME programs require access to information for specifying the program design and determining the need for resources and logistics. LGUs, as councilors in their respective committees undergo the legislative process, also create ordinances, which are relevant to their governed areas. These ordinances are aligned with the current strategic thrusts of the national government, which becomes one of the basis for evaluating petitions and policy recommendations from the private sector and the public in general. Moreover, the LGUs can also forward policy recommendations at the city level to the provincial or regional level, so other localities may replicate and benefit from it.

Box 3-3: One Town, One Product (OTOP-Philippines) Initiative Implemented in Iligan

One of the pioneering programs implemented in the Philippines for MSME growth is the One Town, One Product (OTOP-Philippines), created by the national government to promote entrepreneurship and create jobs. Local chief executives are responsible for implementing the program, by lead in identifying, developing, and promoting a specific product or service in their city or municipality, which has a potential for growth. OTOP-Philippines supports micro, small, and medium enterprises (MSMEs) to manufacture, offer, and market distinctive products or services through the use of

indigenous raw materials and local skills and talents. (Department of Trade and Industry – ABOUT DTI – One Town, One Product (OTOP –Philippines), 2014)



Piaya de Iligan is one of the products successfully developed under the OTOP program through business counseling, skills training, and product design and development. It was born on October 18, 2012 at Tibanga, Iligan City for livelihood opportunities. The Department of Trade in Industry in Iligan (DTI-Iligan), with the help of the city government, guided the proponents in making their business more profitable and improve their production process and product packaging.

Both LGUs and NGOs usually find the resources and funds that they need to implement the MSME programs on their own. If opportunity permits, they collaborate and share efforts in providing services for the MSME sector (see Box 3-4). Consequently, this collaboration requires sharing of information on the plans and existing projects that the LGUs and NGOs have. In general, LGUs have the capacity to institutionalize such programs, while majority of the NGOs have access to resources to be able to implement the programs. Furthermore, NGOs are able to establish more direct communication with the MSMEs, which is needed by the LGUs in order to disseminate and collect relevant and urgent information about MSME performance.

External funding agencies can also be tapped as valuable resources by LGUs and NGOs to get financial support for longer-term, annual programs. These agencies, who are mostly advocates of economic growth in developing countries, do their part in researching on high-impact and sustainable programs that they can sponsor.

Box 3-4: Public-Private Partnership in the Iligan MSME Sector

The Iligan Business Month started when the *Sangguniang Panlungsod* passed Resolution No. 11-715 designating October as Iligan Business Month. Authored by Councilor Frederick W. Siao, the business month encourages all the local stakeholders and business groups to participate in the celebration to promote the city. Also known as “*Asenso Iliganon*,” the Business Month will give a

boost and spur business in the city as well as promote Iligan City as the new investment destination in Mindanao. Furthermore, Councilor Siao of the Committee and Industry said that the project is a means to institutionalize the holding of business conferences/conventions, regularize trade exhibits, and strengthen the opportunity of the small players to showcase their products.

Several activities are lined up for the celebration like the launching of One Barangay One Product (OBOP) Program, the first Sari-Sari Store Owner's Summit, Trade Shows, Iligan Business Awards and Best Business Plan Competition. Other activities include the conduct of the following seminars: Intellectual Property Rights, Accounting for Non-Accountants, Business Forum, Small Business Matters and Trade Fair, Business Networking Event for Young Entrepreneurs, Great City Wide Sale, Iligan Business Night, the Mindanao Bloggers' Summit, and the Business Processing Outsourcing-Information Technology (BPO-IT) Solutions Exhibits.

Among the groups which expressed their support to *Asenso Iliganon* were the following: Chamber of Commerce and Industry Foundation of Iligan, Iligan Bay Chamber of Industries, Iligan Hotels and Resorts, Restaurants Association, and Department of Trade and Industry. Department of Science and Technology, and Department of Education, Philippine Information Agency, MSU-Iligan Institute of Technology including the College of Business Administration and Accountancy. City Agriculture Office, Iligan Investment Promotions Center, City Information Office, and Drugstore Association of the Philippines-Iligan Chapter.

iliganinfocus.weebly.com/1/post/2011/10/october-declared-as-iligan-business-month.html

Use of Existing Data Sets & Information

There are various stakeholders operating in local communities who utilize MSME data and information for different purposes. Aside for local government offices, these stakeholders also include business assistance centers, chambers of commerce, DTI regional and provincial offices, economic zones, foreign trade service corps (FTSC), government financing institutions, and trade associations.

Box 3-5: MSME Information from the DTI Regional Offices

3/F, DTI Building, cor. J.M. Basa-Aduana Streets
Iloilo City, Philippines 5000
Tel. Nos: (4333)335-0942/335-1980; Fax No.: 335-0083
E-mail: r06@dti.gov.ph

DTI-VI WESTERN VISAYAS

[GOOD GOVERNANCE CONDITIONS](#) [WESTERN VISAYAS PROFILE](#) [ABOUT US](#) [PROGRAMS AND PROJECTS](#) [BEST PRACTICES](#)
[SECTORAL FOCUS/PROVINCE](#) [CALENDAR](#) [EVENTS PER PROVINCE](#) [INFORMATIVE GALLERY](#) [LINKS](#) [NEWS](#) [CONTACT US](#)
[INVITATION TO BID](#)

PROGRAMS AND PROJECTS

- NERBAC
- OTOP
- PCPS
- SSF
- BAGWIS (CERTIFIED ESTABLISHMENT) PROGRAM
- Business Resource and Industry Center for SME
- SME Roving Academy

NERBAC

NERBAC Vision: A vital convergence force and prime mover for creating a competitive environment for business and investment

MEMBERS AREA
Sign In or Register

RECENT BLOG ENTRIES

- Guimaras town intensifies BPLS
- Announcement of Vacancy
- Capiz PMSMED Council invited to
- DTI's Business Assistance Centers

UPCOMING EVENTS

- Alkian Product Exposition 2014**
Monday, Sep 29 at 8:00 AM - Sunday, Oct 5 8:00 PM
- Alkian Product Expo Goes to Manila**
Monday, Oct 13 at 8:00 AM - Tuesday, Nov 11 5:00 PM

Figure 3-2: DTI-VI Western Visayas Programs and Projects Page
<http://dti6westernvisayas.webs.com/programsandprojects.htm>

ILOILO

| DATE | EVENT | VENUE |
|-------------------------------|-------------------|---|
| April 9 - 15 | Fairs for a Cause | Iloilo |
| May 15-16 | Diskwento Caravan | Iloilo Provincial Capitol Ground, Iloilo City |
| June 2 - 8 & July 28 - Aug. 3 | Iloilo MSMEs Expo | Iloilo city |

Negros Occidental

| DATE | EVENT | VENUE |
|-----------|-------------------|---------------------------------|
| May 30-31 | Diskwento Caravan | Bacolod City, Negros Occidental |

Figure 3-3: DTI-VI Western Visayas Calendar of Events Page
<http://dti6westernvisayas.webs.com/eventsperprovince.htm>

NEGROS OCCIDENTAL

Priority Sector: GIFTWARE & HOLIDAY DECOR

32 major players with 1,500 skilled production workers and 3,000 subcontractors comprise the sector product lines include laminated products, tabletops, gift and accessories, handmade paper, desk accessories and clocks.

Priority Sector: FOOD PROCESSING

34 major players comprised the sector product lines:

- flour-based products such as piaya, barquillos, and other assorted pastries, noodles, native delicacies and a variety of cakes and pies
- resource-based products such as pickled products, muscovado sugar, banana chips, nata de coco, kaong, mango jam, chili sauces, fruit juices, red tiger prawn, crab meat, canned bangus, dried fish, squid flakes/rings, and tuyo in olive oil (herring); and tocino, chorizo, dried tapa, and other meat products.

Figure 3-4: DTI-VI Western Visayas Priority Sector Page

<http://dti6westernvisayas.webs.com/sectoralfocusprovince.htm>

Regional and provincial offices of the Department of Trade and Industry (DTI) maintain their own websites, which contain information about the SMEs in their area. These information include region-wide and city-specific programs, which are aligned with the national ones, calendar of events, and priority sectors or industries. Information about priority sectors include actual products that they manufacture or develop, competitors, products being exported, business partners, and other pertinent statistics. Contact information about the MSME stakeholders in the region are also provided, as well as

Information about MSMEs, on one hand, is used in the design of various capacity-building programs, on one hand. Sources of MSME statistics include national, regional, and provincial government web portals, which disseminates demographic and descriptive data about existine MSMEs (see Box 3-5). It can also be collected from the cooperative's member database, as members subscribe to their existing programs. Such information is about their member profiles and demographics in the municipality, including their line of business, type of product or service that they provide, their income-generating capacity, their geographical location, and other contact information. On the other hand, local business associations use their member profiles to determine their current capacity and availability of resources to implement or facilitate a project for MSMEs in their locality. They also rely on statistics from both national and local government offices to be able to target specific aspects of MSME development, including growth trends, job matching and proficiency, and employment rates. An example would be the Cities and Municipalities Competitiveness Index, which provides rankings by index and summarized reports of the survey results by city or municipality (see Box 3-6).

Box 3-6: Cities & Municipalities Competitiveness Index

| Cities | | Municipalities | | | | | |
|---------------------|-------------------|-------------------|----------------------|------------------------|---------------------------|---------------------|--|
| LGU | Regions | Province | Competitiveness RANK | Economic Dynamism RANK | Government Efficient RANK | Infrastructure RANK | |
| Search... | | | | | | | |
| Cagayan De Oro City | Northern Mindanao | Misamis Oriental | 1 | 3 | 7 | 3 | |
| Iloilo City | Western Visayas | Iloilo | 2 | 1 | 8 | 10 | |
| San Fernando City P | Central Luzon | Pampanga | 3 | 22 | 13 | 2 | |
| Butuan | CARAGA | Agusan Del Norte | 4 | 34 | 5 | 18 | |
| Bacolod | Western Visayas | Negros Occidental | 5 | 2 | 14 | 45 | |
| Koronadal | SOCOSKSARGEN | South Cotabato | 6 | 47 | 2 | 35 | |

The Cities and Municipalities Competitiveness Index is an annual ranking of Philippines cities and municipalities and their overall competitiveness based on three (3) factors: economic dynamism (stability of expansion and job employment), government efficiency (quality and reliability of government services), and infrastructure (availability of physical resources for sustainability). It was developed by the National Competitiveness Council and the Regional Competitiveness Committees, with the aid of the United States Agency for International Development (Cities and Municipalities Competitiveness Index, 2014).

Regardless of the member data being collected and the purpose for collecting them, some private organizations keep electronic versions of these data, through Microsoft Excel spreadsheets, while others still utilized printed forms, which are manually filed.

Additionally, information is also collected in the form of assessment or feedback on the existing MSME projects, as their members and participants of seminars and workshops evaluate the said events regarding their effectiveness in addressing their current needs. Some private organizations also conduct customized needs assessment surveys in order to gauge MSME performance in their locality, as well as determine other specific needs of the business.



2013 ANNUAL INVESTMENT PLAN
Iloilo City

Budget Year : CY 2013
General Fund : CY 2013 P 1,436,469,613.00
IRA Fund : PHP 563,625,733.00
20% IRA Devt. Fund : PHP 112,725,147.00

A. (General Public Services (1000 AIP Reference Code)

| AIP Reference Code -1 | PROGRAM/PROJECT/ACTIVITY | LOCATION | | IMPLEMEN- TING OFFICE DEPT. (3) | SCHEDULE OF IMPLEMENTATION | | EXPECTED OUTPUTS -6 | PROJECT COST (Php) Capital Outlay (10) |
|-----------------------|---|----------------------|--------------|---------------------------------|----------------------------|---------------------|--|--|
| | | Barangay/ Agency | District | | Starting Date (5) | Completion Date (5) | | |
| | | | | | | | | |
| 1000 - 1 | Planning and Development Coordination | | | | | | | |
| 1000 - 1-1 | Urban and Regional Planning and Development Coordination through the Metro Iloilo-Guimaras Economic Development Council | City Wide | All District | CPDO | January 2013 | December 2013 | Urban and regional planning and growth management activities and other MIGEDC Urban Services | Php 200,000.00 |
| 1000 - 2 | Repair and Maintenance of Government Facilities | | | | | | | |
| 1000 - 2-1 | Const./Rehabilitation/Improvement/ extension of Multi-Purpose Hall public buildings structures | UP, Alumni Hall | City Proper | | January 2013 | December 2013 | Public Bldgs./Structures improved for better utilization | 500,000.00 |
| | | Brgy. Pala-Pala I | City Proper | | " " | " " | " " | 250,000.00 |
| | | SK (Teen Center) | City Proper | | " " | " " | " " | 1,000,000.00 |
| | | Brgy. Benedicto | Jaro | | " " | " " | " " | 2,000,000.00 |
| | | Brgy. Taytay Zone II | Jaro | | " " | " " | " " | 1,000,000.00 |
| | | Brgy. M.V. Hechanova | Jaro | | " " | " " | " " | 100,000.00 |
| | | Brgy. Ma. Cristina | Jaro | | " " | " " | " " | 600,000.00 |

Figure 3-5: Iloilo 2013 Annual Investment Plan

http://www.iloilocity.gov.ph/downloads/annual_investment_plan.pdf

Other than the MSME statistics and reports coming from the national and local government offices, cooperatives and local business associations request for city and municipality development plans (see Figure 3-5). Accordingly, these private organizations align their programs to the development agenda of the local government.

Gaps and Challenges

The research team further examined the local MSME sector based on the current interactions between the stakeholders, the existing programs and practices, as well as the use and availability of information to the boundary partners. The team particularly looked at the challenges and corresponding issues encountered by the local business associations and cooperatives as they perform their duties in the MSME field. These associations and cooperatives have a good working relationship with the MSMEs as they are able to benefit from the events organized by the private sector. Such events are usually for capacity building, which is perceived by enterprise groups as a basic and essential need for most enterprises to become competitive and more productive. Furthermore, cooperatives ensure that MSMEs are aware of the policies and local ordinances that provide other development opportunities for MSMEs, including financial support through loans or microfinancing.

Table 3-1: MSME Practices and Limitations

| Work Activities | Existing Practices & Information Sources | Problems & Limitations |
|------------------------------------|---|--|
| Capacity Building | <ul style="list-style-type: none"> • Trends from Manila • Benchmarking on municipalities cited for best practices • Seminars and talks | <ul style="list-style-type: none"> • Training programs may tend to be generic and not catered to specific MSME needs |
| Targeting Demand of Members | <ul style="list-style-type: none"> • Casual-informal approach • Needs assessment surveys | <ul style="list-style-type: none"> • Inability to target other needs of all members |
| Determining the Market | <ul style="list-style-type: none"> • Market research • National and local surveys & statistics | <ul style="list-style-type: none"> • Inability to determine market • Inability to determine market demand • Difficulty in integrating market demand and service |

Table 3-1 presents certain issues in the creation of programs for MSME competitiveness and productivity, due to the difficulty in accessing information related to it. Such challenges are considered using the perspective of LGUs, NGOs, and cooperatives as the target users of MSME data and information. It is evident that local business associations and cooperatives put great effort in enhancing the capabilities of local MSMEs. However, there is insufficient mechanism for these private organizations to perform market research and address the needs of the MSMEs' target market. Aside from capacity building, local business associations intend to help MSMEs find suppliers and markets that match the products or services being offered by the MSMEs. Unfortunately, market research becomes tedious for as information is not readily available.

The private organizations generally benchmark on trends from Manila and consultation/partnership with the local academe in providing seminars and workshops for capacity building. For cooperatives, they utilize an informal approach through casual conversations and meetings, which limits them in terms of targeting the specific needs of their members. As the private sector also aims to support MSME growth, it is necessary for them to help businesses determine the market or a niche to ensure product or service patronage. However, with the limited information that they have about their members and other businesses which have yet to be formalized, difficulties are encountered in identifying the market, determining the market demand, and integrating market demand and service.

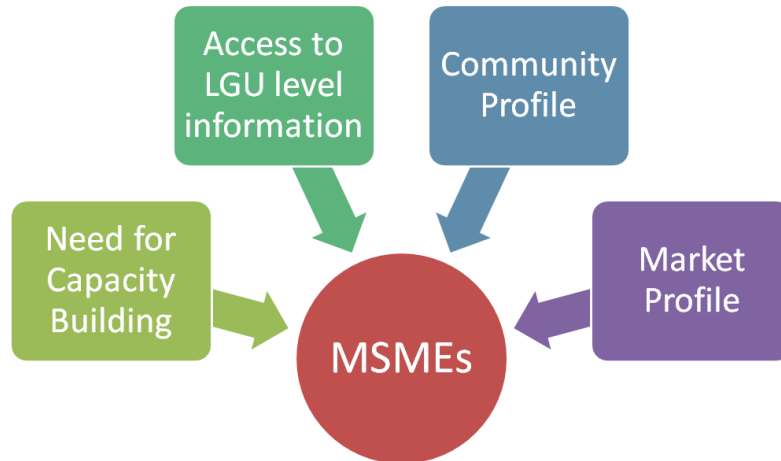


Figure 3-6: MSME Information Needs

While LGUs can obtain micro-level information about MSMEs up to the *barangay* level, data and information at the national level are insufficient for effective utilization by local government officials. As information held by national government agencies are too broad, it makes it challenging for both NGOs and LGUs to develop programs that are specific to the needs of MSMEs and other target beneficiaries in their localities. LGUs would need more granular information in order to ensure a more effective project implementation. However, not enough statistical data is provided that will allow LGUs to identify specific areas for improvement, based on their rankings per index factor.

Aside from the difficulty experienced by the LGUs in extracting specific information from national surveys, inability to access information on MSMEs may lead to duplication of efforts by cooperatives and LGUs alike.

Opportunities for Open Data in MSMEs

There is a need to establish a strong partnership between the national government agencies, local government units, non-government organizations, and entrepreneurs in order to realize a business environment that is conducive to the sustainable development of MSMEs. Consequently, an open and participatory government is seen as a catalyst for MSME growth—providing a more streamlined access to and sharing of information that will allow the government and its partner institutions to identify the needs of the local business sector. Such ability will eventually lead to the design of appropriate programs and legislations, which will improve the income-generating capacity of Philippine entrepreneurs.

Table 3-2: Open Data Opportunities in MSMEs

| Existing Data Sets | Characteristics of Data Sets (format, source, type) | Open Data Standards | Possible Outcomes |
|-----------------------|--|---|--|
| Member profiles | <ul style="list-style-type: none"> • Excel • MSMEs | <ul style="list-style-type: none"> • Not accessible online • Machine readable • Reusable | <ul style="list-style-type: none"> • Easier to target members for specific programs • Sponsors and external funding agencies will be able to • Follow-through on the effect of the programs on the participants can be made |
| Community profile | <ul style="list-style-type: none"> • PDF/Print-outs • LGUs | <ul style="list-style-type: none"> • Not accessible online • Not machine readable • Not reusable | <ul style="list-style-type: none"> • Capabilities and resources of communities can be assessed for business opportunities |
| Market profile | <ul style="list-style-type: none"> • PDF/Print-outs • LGUs | <ul style="list-style-type: none"> • Not accessible online • Not machine readable • Not reusable | <ul style="list-style-type: none"> • Immediate identification of market characteristics and demands • Matching of MSME capabilities with market needs and expectations |
| Programs and Projects | <ul style="list-style-type: none"> • Webpage(HTML) • LGUs, local business associations, cooperatives | <ul style="list-style-type: none"> • Accessible online • Not machine readable • Not reusable | <ul style="list-style-type: none"> • Synchronization and alignment of programs by private organizations with that of the LGUs • Follow-through on the effect of the programs on the beneficiaries can be made |

| Existing Data Sets | Characteristics of Data Sets (format, source, type) | Open Data Standards | Possible Outcomes |
|---|---|---|--|
| Needs assessment surveys | <ul style="list-style-type: none"> Printed forms and tabulated in Excel Local business associations, cooperatives | <ul style="list-style-type: none"> Not accessible online Not all are machine readable Not reusable | <ul style="list-style-type: none"> Results are actually used by all stakeholders in the design of programs and projects |
| Data and information gathered from informal meetings with MSMEs or member organizations | <ul style="list-style-type: none"> Verbal communication Undocumented | <ul style="list-style-type: none"> Not accessible online Not machine readable Not reusable | <ul style="list-style-type: none"> Similar needs of other MSMEs can be documented and addressed |
| City or Municipal Development Plans | <ul style="list-style-type: none"> PDF/Print-outs City government | <ul style="list-style-type: none"> Accessible online Not machine readable Not reusable | <ul style="list-style-type: none"> Synchronization and alignment of programs by private organizations with that of the LGUs |
| Local ordinances and policies | <ul style="list-style-type: none"> PDF/Print-outs | <ul style="list-style-type: none"> Accessible online Not machine readable Not reusable | <ul style="list-style-type: none"> Policy proposals can be easily formulated Participation in policy formulation can be expanded |

Table 3-2 provides a summary of existing data sets in MSMEs, their current state, and the opportunities that can be taken advantage of once these data are transformed to adhere to the standards of open data. Boundary partners who can benefit the most out of open data in the MSME sector are the cooperatives and local business associations in cities and municipalities. However, majority of the data and information on MSMEs are not yet characterized as open data. Sharing of government data, specifically at the local levels, will generally allow more effective targeting of MSME needs. Efforts from both the public and private sectors can be synchronized and resources maximized if city and municipality development plans are made available in more reusable format. Through open data, standardized formats for needs assessment surveys can be developed and the regular conduct of such surveys can be institutionalized.

Recommendations

Sharing of information between the private organizations, LGUs, and the MSMEs themselves should be strengthened in order for cooperatives and local business associations to easily identify the needs of their members, particularly to enhance their competitiveness and productivity.

Table 3-3: Summary of cooperative-level MSME practices

| Work Activities | Description | Data Use |
|------------------------------------|---|---|
| Capacity Building | Capacity building activities are organized based on perceived trends and needs of the members | Previous trainings are reviewed as well as current trends and best practices in the MSME sector |
| Targeting Demand of Members | Member MSMEs are asked regarding their preferences | Capture the requests of members through informal channels |
| Determining the Market | Cooperatives determine current market needs and determine basis for expansion | Review of government plans and national programs |

For the cooperative level practices, Table 3-3 shows the various activities of MSMEs. There are existing practices in information sharing and management, however these are less formal in nature and can be enhanced by employing open data strategies.

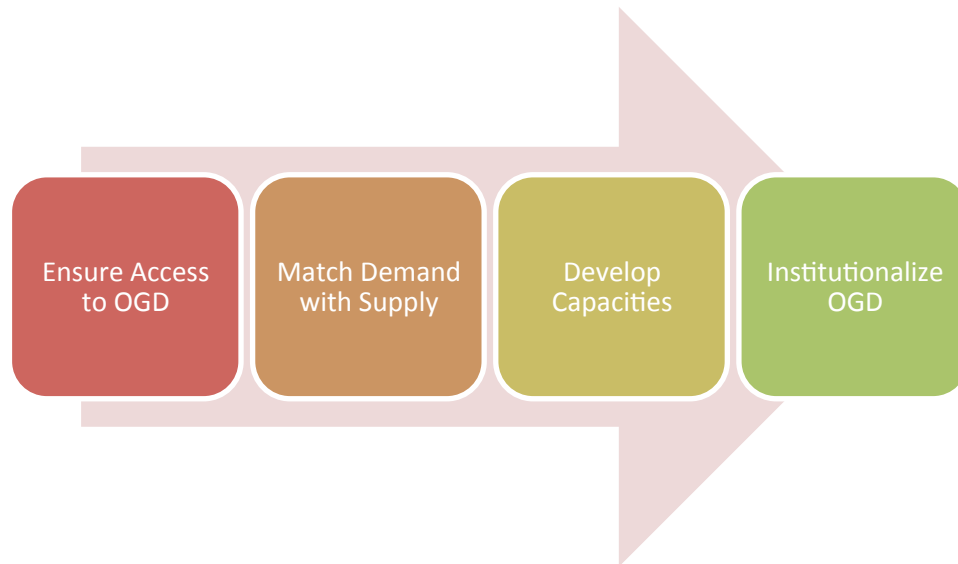


Figure 3-7: Proposed OD Implementation roadmap for local government units (LGUs)

Recognizing these gaps in OD practices, we propose steps on how to operationalize open data in both the MHCC and MSME sectors (see Figure 3-7). These phases can guide LGUs in the implementation of an

OD program. We also propose that LGUs spearhead the OD initiatives in their respective areas. We believe that LGUs are strong venues for localize OGD programs. Since LGUs are considered as the “front liners” for the delivery of public services, immediate feedback and outcomes can be realized. Its autonomous status, LGUs can also enact programs and ordinances to spur innovation and growth of its constituents. The following section will provide an MSME sector-specific recommendation on the activities that will be involved in the OD implementation roadmap.

Ensuring Open Data Access

We propose that this phase be considered as the initial phase for implementing OD in LGUs. This phase calls for the identification and publication of data sets. The LGUs must be able to identify what data sets are available and where they can be sourced from, even at their raw form. Local government offices in charge of MSME development should be able to mobilize human resources and other relevant groups to identify and collect pertinent MSME statistics and granular information on the sector’s current performance. Provisions must be made to make online access to data sets possible, especially to the cooperatives and local business associations. A web portal for the dissemination of data sets can be made to ensure data integrity through a central repository. At this point, it is important for LGUs to recognize the benefits of OGD and how it complements both MSME growth and existing open government initiatives. This requires a review of their current good governance programs. Possible incentives and support mechanisms of the national government should also be identified to motivate local officials in implementing OGD.

The unilateral publication of initial data sets should be treated as a sign of commitment from the LGU. The release of these data sets should be done on the basis of perceived value in terms of its potential to elicit participation and its transactional ability. Transactional ability refers to the potential of data sets to enhance performance of its users. In particular, we refer to the transactional needs of local cooperatives and the existing processes that they have with their member MSMEs. Furthermore, there is a need to revisit existing IS policies and capabilities to ensure that OD can be supported. These policies may include those in e-commerce and capabilities referring to availability of necessary hardware, software, and access to networks by these business organizations.

Box 3-7: Highlights of the Ensuring Open Data Access Phase

- i. Ensure an enhanced Web presence that can support access to OD sets
- ii. Identification and publication of initial data sets and uncover the value of such data sets
- iii. Review of open government and governance reform programs

Matching demand and supply

We regard this phase as the constituency building phase of OD. The initial release of data sets should be followed by an engagement mechanism that will uncover needs and demands of stakeholders, aside from those who are already using the data sets. Access to this information can also be made to supply chain stakeholders, who can be possible resources and partners for the MSMEs. Through this process, additional data sets can also be identified for publication, such as barangay- or municipal-level MSME statistics, including growth rates and competitiveness rankings. Data on MSME needs according to type of industry and MSME training needs on entrepreneurial competencies can also be provided.

Moreover, this phase underscores the importance of validation in determining the value of open data sets based on actual demands from the cooperatives and local business associations. Such engagement mechanisms or activities should be initiated by the LGU. Through consultation and feedback possible revisions to the OD program can be pursued. Focus group discussions with these private business institutions can be organized in order to ensure that data sets identified actually match their needs to be able to develop the necessary capacity-building programs and access to resources for MSMEs.

Lastly, this phase can also be used to benchmark existing OD effort with best practices. Since OD in its true form is not yet fully realized in the government, these best practices may include information management and sharing activities that have worked well for the MSME sector in other provinces or municipalities in the country. Expectations on the roles and responsibilities of the LGUs and the local associations should be clearly established and agreed upon in terms of the OD program.

Box 3-8: Highlights of the Matching Demand and Supply Phase

- i. Constituency building for LGUs: Identify stakeholders and partners that can benefit and use open data sets;
- ii. Develop an engagement mechanism that can uncover demand and needs for OGD:

Developing Capacities

The results of our study point to the existence of data sets in MSMEs. However, the challenge lies in how to fully utilize these data sets, and even further expand data access, to support decision making and encourage participation from various stakeholders. Data sets can be further analyzed in order to uncover information and MSME knowledge that can be used for decision making by both private organizations and LGUs. Training needs of intended users of the data sets should also be identified in order to ensure that the OD targets are achieved. MSME resource providers Initial boundary partners involved in the first two phases of the roadmap may be tapped in order to mobilize other possible intermediaries.

At this juncture, we see the need to develop a capacity building program that will touch on the following competencies: a) data management; and b) visualization and mapping techniques. Data management in MSMEs will involve identifying standards and institutions responsible for data collection, processing, and dissemination. Periods for collecting and releasing data should also be determined. Local cooperatives and business associations can still facilitate one-on-one consultations with their members, but through OD, they should be able to easily record it through the proposed portal. In developing these competencies, it might be realized that other intermediaries, especially in processing the data collected, may be needed aside from existing MSME stakeholders in order to make the OD program work.

Visualization and mapping can be used as strategies to make information presented more understandable by its intended users. For example, necessary graphs and charts may be used to present specific statistical information about the MSMEs. Mapping can be used for information that is location-based to make it easier for corresponding LGU levels to identify MSME areas that need to be prioritized. Additionally, users should be provided with the option to filter the information that they want to see: by industry type or by location, for example.

For LGUs, steps must be taken to ensure that OGD supports its decision making process. The engagement mechanisms for OGD should result to better public programs in MSMEs. LGUs can also initiate developing measures for collaboration with private organizations in coming up with capacity-building programs for the MSMEs. For civil society and people's organizations, the program should result to an enhanced capacity to use OGD and enable quality engagement with the LGU. Lastly, developing capacities should also ensure the creation of sponsors, local champions, and technical agents that can support OGD initiatives. Initially, local cooperatives and business chambers can take the assume the role of sponsors. Local champions can come from the MSMEs themselves and from the LGUs, who has the ability to pinpoint benefits and effects of planned programs for MSMEs based on the data sets released. Lastly, technical agents can come from the industry with the capacity to develop necessary tools to enable OD in the MSME sector.

As ICTs and other new technologies pose numerous advantages for the MSME sector, capacity building efforts should not only be geared towards open data implementation, but ICT adoption in general. Benefits of OGD initiatives will not be realized if necessary IT infrastructure and competencies are neglected.

Box 3-9: Highlights of the Developing Capacities Phase

- i. Develop organizational capacities to support OD program
- ii. Develop human capacity for data management, data visualization and mapping techniques

Institutionalize

This last phase envisions the creation of institutionalization techniques that aims to ensure the sustainability of OGD initiatives. We therefore recommend that OGD program should be linked to the existing open government or good governance program of LGUs. Ideally, these programs should be backed by local ordinances to guarantee the long-term commitment of the LGUs. Such ordinances should provide directives for the timely release of MSME information and the creation of relevant capacity-building programs. Moreover, these ordinances should also promote strong linkages between LGUs and the private sector for synergizing efforts and resources to improve the MSME sector. On the technical side, OGD programs must be aligned with the existing MIS plan or ISSP of the LGUs. This would guarantee that mid-level management of LGUs are involved in the OGD initiative. The participation of the mid-level management of LGUs is essential to ensuring the continuity of the OGD program beyond the political terms of elected officials. Partners from the private sector should be continuously engaged in ensuring the proposed OD system can be fully supported by the MIS plan of the LGU.

Box 3-10: Highlights of the Institutionalize Phase

Ensure the alignment of OGD initiatives with existing open government and good governance plans and programs of the LGUs

We also suggest that the OGD program be adopted by the local communities and CSOs, especially in the area of policy-making. Local communities and CSOs can help advocate MSMEs in marketing their products. In partnership with the LGU, these organizations should formalize their engagement with the LGU regarding OGD. This can be in the form of MOUs and MOAs formalizing the roles and responsibilities of the various stakeholders in good governance and OGD. The concept of SME clustering and open innovation can be considered in coming up with the respective roles of boundary partners in the sector.

Implications for IT management in LGUs

As mentioned in the previous discussion, implementing OGD will have implications in the current IT management practices of LGUs. LGUs must look beyond static websites and use online technologies as a platform for engagement and participation. This is true especially for open government data. To do this, we propose of the 5 components for implementing ICT for development initiatives. (Harris, 2004) Table 3-4 provides a snapshot of how the 5 components were mapped with the OGD implementation phases.

Table 3-4: Matching ICT4D components with the OGD Implementation Phases

| Phases of OD adoption | IT Management | Implications |
|---------------------------------|---|---|
| Ensuring OD Access | <p>Applications Development: Ensure that data sets are available online and easy to use;</p> <p>Data/Content Management: Ensure that OD standards are followed; identify standerzied process for information management</p> | <p>A decision must be made by the LGU and MSME units on what data sets can be made available;</p> <p>Review existng MSME data sets and match with OD standards; Format data sets accordingly;</p> |
| Phases of OD adoption | IT Management | Implications |
| Ensuring OD Access | Infrastructure: Assess e-readiness of MSMEs (technology resources); Provisions for additional storage for OD sets must be set; Data centers should be identified | Government’s MIS or ISSP plans should be revisited and revised accordingly |
| Match demand with supply | Applications and Content Development: Update MSME data sets; electronic data capture forms in place; | Initial MSME datasets must be validated by LGUs, MSMEs, and local cooperatives and business associations; Additional data sets can be identified; |
| Develop Capacities | Human Capacity: Assess e-readiness of MSMEs (competence); Implement a capacity building program that can support and sustain local OD initiatives in the MSME sector; | <p>Identify sponsors in the LGUs and private MSME stakeholders that can promote the programs;</p> <p>Identify community champions (private and public) for MSME OD and data management;</p> |
| Institutionalize | Policy Development: Ensure sustainability of OD initiatives through the enactment of local ordinances and MIS policies for LGUs | Dialogues among LGUs, local business associations, MSMEs, and the academe must be facilitated to ensure appropriateness of legislations |

Application Development

This component provides a front-end interface with the OGD practices. Occurring primarily in the ensuring access and matching phases, this component includes the creation of an enhanced website

that can accommodate OGD features. Moreover, this component calls for the possible redesign of existing websites and use existing APIs. For the website redesign, portal capabilities can be considered in the application design to enhance user experience. Existing websites on MSMEs should be consolidated into a single hub to ensure data integrity. The inclusion of features that allows feedback and engagement (e.g. online fora, email, etc) will also enhance the quality of MSME data being collected. The integration of mobile applications is also a strong possibility given the pervasiveness of mobile phones, which can alternatively be used for e-commerce purposes. Lastly, the OGD application should consider the inclusion of visualization and mapping features using published MSME data sets, which are customized according to the needs of both private and public boundary partners, as well as the MSMEs themselves.

Data-Content Management

The goal of this component is to ensure the publication of relevant MSME data sets. If the objective for using open data is to improve MSME competitiveness and productivity, data capture instruments must be developed in order to collect the necessary information that will allow stakeholders to assess and evaluate current MSME competence. Related to the matching demand and supply phase, this component calls for the creation of engagement mechanisms to ensure that the published MSME data sets are relevant and that such data sets are consistent with OD standards. Machine-readability and reusability of the data is of primary concern as current MSME data sets are either on webpages, PDFs, or in printed format. Furthermore, this component must contain data management and application design practices that promote transparency and joint design between the identified MSME stakeholders. Lastly, this component should include the periodic review of published MSME data sets.

Infrastructure Development

The next component is concerned with determining the IT infrastructure requirements of the OGD implementation. Existing infrastructures in the MSME sector should be identified—or e-readiness should be assessed—and mechanisms for necessary ICT infrastructure improvement should be determined. This component consists of ascertaining the hardware requirements (e.g. computers, laptops, etc.) storage capacity, physical infrastructure and access modes for the LGU, local business associations, and the MSMEs. Security and backup arrangements are also part of this component, wherein MSME data centers and contingency measures should be identified.

Human Capacity

The human capacity component is closely related to skills enhancement mentioned in the developing capacities phase of the OGD implementation approach. Human capacity will not only be focused on the ICT literacy, but also on the data management skills required depending on the role assigned to the

MSME boundary partner. It highlights the updating of skills for MIS personnel of the LGU. There might be a need to tap external IT resources for support and maintenance of MSME open data systems. Practices and communication protocols must be in place to ensure that the IT organization can support open government and the use of OGD in the MSME sector.

Policy Development

Lastly, this ICT4D component aims to ensure the implementation and sustainability of OGD initiatives to support MSME development. This component includes the creation of standards in terms of MSME data set format and MSME data management practices. Additionally, policies for incentivizing participation in OGD efforts can be put in place in order to ensure that corresponding OGD activities and standards are followed. This component also encourages the implementing organizations to address issues of recurring cost and present the benefits of the OGD effort.

Future Directions

The examination of existing practices in developing MSME competitiveness and productivity vis-à-vis open data and ICT integration opportunities can lead to the enhancement of these process and the creation of standards to enable the boost in MSME growth. As recommendations have only been identified, there is a need to continue engagement with the MSME boundary partners in the national government, the LGUs, and local communities to ensure that local OGD program proposals will be evaluated, and eventually be created and implemented.

There is also a need to develop local policies and ordinances, aligned with the national open government strategies, to ensure participation in these programs of the government. Current capacities of MSMEs should be further assessed and evaluated in terms of the factors that affect enterprise competitiveness to be able to better target priority areas for improvement. Information that will be collected from these assessments can serve as a basis for succeeding phases in the open data roadmap, not just to aid local business association in creating capacity-building programs, but to have a more detailed assessment of the state of MSMEs in a locality.

From this, we see ourselves as playing an active part in future endeavors, especially in the area of capacity building for open data.

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Research Directions

We believe that the results of our study point to opportunities that can lead to further improvements in data-information management and decision making. As such, we see the need to continue the engagement with the national government, the LGUs, and local communities to ensure that local OGD programs will be created and implemented. We see the need to develop national policies that can align OGD initiatives with the existing good housekeeping and participation programs of the government. For LGUs, we suggest the creation of local ordinances that can support and sustain OGD initiatives. In addition, the creation capacity building programs for data management is also needed coupled together with a leadership program that will develop champions and sponsors for OGD in LGUs. From this, we see ourselves as playing an active part in future endeavors.

As for our future research activities, we see the need to further validate the results of our study. Additional validation and review activities will be done to further clarify the results of the study. For this we see the need to form research partnerships with local academic institutions and civil society organizations (CSOs). We also see the to connect the concept of OGD with other local concerns such as the community level disaster risk management and peace-building.

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