



Emerging Trends in Supply Chain Management

Outsourcing Public Health Logistics in Developing Countries



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Countries

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Abstract

This paper examines the potential opportunity for public sector health systems to engage third party service providers to support the logistics functions—with an emphasis on distribution, warehousing, and inventory management. It provides stakeholders in supply chain management for public sector health, including the Ministry of Health and Ministry of Finance officials, program managers, and Central Medical Store managers (or associated parastatal organizations charged with health product management) with a resource that describes outsourcing and how it could be used in public health supply chains, when to consider outsourcing, the process of deciding whether outsourcing is a viable option in a particular context, and how to begin the outsourcing process. These points are illustrated by a few country examples of how countries have engaged the private sector in providing the logistics function to support their public sector supply chains.

Cover photo: Men load boxes into a truck in Indonesia.

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Acronyms

3PL	third party logistics provider
4PL	fourth party logistics providers
AHP	analytic hierarchy process
AIDS	acquired immune deficiency syndrome
CHAI	Clinton Health Access Initiative
ARV	antiretroviral
CCTU	closed-circuit television
CMS	Central Medical Store
CPFR	collaborative planning, forecasting, and replenishment
DGFP	Directorate General for Family Planning
DRC	Democratic Republic of the Congo
EDI	electronic data interchange
FEFO	first-to-expire, first-out
FIFO	first-in, first-out
GOB	Government of Bangladesh
HIV	human immunodeficiency virus
IAPHL	International Association of Public Health Logisticians
ICB	international competitive bidding
IHD	UTi Pharma Distribution
ISO	International Organization for Standardization
ITT	invitation to tender
KPI	key performance indicator
LMIS	logistics management information system
LMU	logistics management unit
M&E	monitoring and evaluation
MOF	Ministry of Finance
MOH	Ministry of Health
NGO	nongovernmental organization

NPV	net present value
PHD	Pharmaceutical Healthcare Distributors (Pty) ltd.
RFP	request for proposals
SDC	service delivery contract
SLA	service level agreement
SOP	standard operating procedure
UNDP	United Nations Development Programme
USAID	U.S. Agency for International Development
WHO	World Health Organization
WMS	warehouse management system

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Executive Summary

Supply chain management in public sector health systems has received increasing attention in recent years—as both a priority and a challenge for many countries—as governments find themselves struggling with an increasing number of products, programs, and patients to manage. Due to major increases in funding and donor support for a variety of health programs, supply chain managers may be responsible for a larger number and volume of products, but with limited additional resources to expand their capacity to manage, store, and distribute these products. Often, staff already working in this area receive additional pressure to build up internal capacity to meet the service delivery targets. However, many countries, faced with this type of challenge, recognize that these functions, that were once ancillary to their primary function of service delivery to patients, could tie up a significant portion of their budgets should they scale up appropriately. Furthermore, some countries recognize that these functions could potentially be outsourced to private sector logistics providers. More and more governments and donors are considering options to engage the private sector to contract out functions such as warehousing, distribution, and inventory management. However, the costs and benefits of doing so often are not clear and managers have limited resources to guide them through this process.

This document provides professionals working in supply chain management with a useful resource for engaging outside resources for public health logistics, covering the what, when, and how of outsourcing and its applicability to people working in public health supply chain management. They could include Ministry of Health (MOH) and Ministry of Finance (MOF) stakeholders, program managers, and Central Medical Store managers (or associated managers at parastatal organizations charged with health product management). This document, divided roughly into three sections, focuses on the following three elements of outsourcing.

What: This section describes the basic principles of outsourcing, and provides examples of outsourcing functions from the public sector supply chains in Bangladesh and the Democratic Republic of the Congo. These examples highlight possible successes, such as improved service delivery and increased capacity; they also explain the potential challenges—unpopularity due to loss of government jobs and skill shifting from supply chain management to contract management. The process of outsourcing can be a significant change for an organization; the lessons learned from these examples highlight considerations that should be carefully weighed before any decision is made to outsource.

When: This section covers the decision process, including basic guidelines for doing a cost benefit analysis—comparing outsourcing to maintaining functions in-house and, potentially, increasing the capacity to meet demands. The guide highlights additional considerations that are above and beyond cost—for example, the capacity of local organizations to take on these functions, political feasibility, and contracting and payment options that will affect relationships with private companies.

How: This section covers the specifics of contract management, including common pitfalls and suggested ways to avoid them. It outlines how to convene a project team to manage the process, the selection of a third party logistics provider (3PL), the creation of a service-level agreement with the

selected contractor, and management of the contract, including key performance indicators (KPIs) for the contract.

Overall, it is important to remember that while outsourcing can significantly reduce the number of functions that a government has to provide for its public sector health system, it may not be a perfect solution. Managing a contract is usually challenging, especially for a large job with a complex network, as public health supply chains often are. It may require fewer resources than doing the same job in-house; but will require different types of management, oversight, and funding. Furthermore, it may not be a feasible option if there are restrictions on contracting or funding, or the decision may cause political opposition because of lost jobs.

However, as private sector companies continue to make significant advances with technology and information management, their capacity to excel in supply chain functions often surpasses what is possible within the public sector. Rather than attempt to keep pace with these advances, it may make sense for government systems to benefit from that capacity by outsourcing specific functions to the private sector, when and if that is a viable option. For outsourcing, no one answer is always right, but to increase capacity to meet an increasing number of demands on supply chains for public sector health systems, this guide should help managers and policymakers determine what is possible within a given context.

Introduction

Many supply chain managers in public sector health systems find themselves with an increasing number and volume of products to manage, but with limited resources to expand their capacity to manage, store, and distribute these products. Often, to meet acceptable service levels, there is pressure to either build up internal capacity or contract these services to the private sector. However, the decision to do one or the other is not always clear, and there are limited resources available to guide managers through this process.

This document provides anyone working in supply chain management with a useful resource for engaging outside expertise for public health logistics, covering the what, when, and how of outsourcing and its applicability to people working in public health supply chain management. They could include the MOH and MOF stakeholders, program managers, Central Medical Store managers (or associated parastatal organizations charged with health product management). This document, divided roughly into three sections, focuses on the three elements of outsourcing.

- **What:** The first section of this paper presents the *what* of outsourcing, including background on outsourcing in the private sector. It also includes the functions that public health sector organizations should think about when they consider outsourcing and how this might improve their ability to meet customer needs. This is followed by a sub-section with examples of a few government health systems and nongovernmental organizations (NGOs) in resource-limited countries that have outsourced logistics functions; the document explores how these have affected service delivery. The examples include evidence of past outcomes and provide lessons learned that can be applied to future outsourcing programs.
- **When:** This section includes guidance on how to identify potential opportunities for outsourcing within an organization and how to conduct an analysis that would help an MOH or government body determine if outsourcing would be feasible and advantageous to meet organizational performance objectives.
- **How:** This section provides guidance on the steps that should be included in an implementation plan, after the decision to outsource is made. This includes the selection of a 3PL, the tender process, drafting a contract and monitoring performance, and building and maintaining a relationship with a 3PL to improve the quality of service delivery.

Overview

Outsourcing discrete business functions is a well-established practice in the private sector. During the past several decades, a significant number of companies and organizations have expanded the use of 3PLs for functions that fall outside their core capacities. Typically, organizations outsource parts of their business when the need for functions beyond their main business or mission exceeds their ability or utility (cost, efficiency, mission). Rather than invest additional resources in staff and infrastructure to expand support to these functions, it may be cost effective to outsource to an organization that specializes in these services, often at a lower cost and/or higher level of service. Businesses frequently outsource parts of supply chain management (i.e., procurement, distribution, logistics etc.), as companies seek to shift their responsibility for all management functions to only

those that specifically require their unique and specialized expertise. The once fully vertical model of companies managing all their logistics functions has moved toward reliance on companies whose primary focus is logistics services. For example, a company that manufactures goods may outsource warehousing and shipping to another company that focuses on warehousing and distribution rather than trying to build this capacity.

While much of this shift initially occurred in the private sector of developed countries, where infrastructure and information systems are robust; developing countries have increased interest in adopting this model, where the public sector still provides many services. As markets have opened up and private services have expanded in many countries, organizations are exploring how the same basic principles can be applied to their supply chains. In many resource-limited countries, the private sector has significantly expanded their involvement in improving education, service delivery, and infrastructure; including road and bridge building, communications, and power networks.

For instance, in several countries, hospital management has been outsourced to private companies to improve efficiency and quality of service delivery. The same principle of outsourcing non-core functions can be applied to public health systems. Ministries of health often identify their core competency as health service delivery to their constituencies, yet continue to be involved in logistics for health products, such as warehousing, transportation, quality assurance, etc. These functions could potentially be outsourced to third parties, thus freeing up key resources to focus on the core mission. The result can be increased service levels for the patients and reduced operational costs.

Currently, in many developing countries, MOHs are responsible for all in-country distribution of health products, in addition to forecasting, procuring supplies, and providing service delivery. In many cases, freight forwarders coordinate shipments as far as the central warehouse in a country¹; but, from there, the government is responsible for all aspects of product management and movement. That means that, in these countries, the public sector is responsible for coordinating all movement and management of products from the time they pass through customs, quarantine, and quality assurance testing, to storage at the national level; and then as they are distributed to the provincial, district, and service delivery points. In many places, this is necessary. With minimal infrastructure and limited private market development, the MOH has few options.

Further, because of growing populations and a rising number of health services and facilities, MOHs in developing countries often invest increasing amounts of scarce resources in supply chain management for the public sector as the number of service delivery points expand, patient access/demand grows, health supplies and suppliers increase, and volumes increase. This growth in the number of products and clients results in expanding needs for warehousing, information management, transportation, and the equipment and staff needed to support those functions. Often this increased demand occurs within an atmosphere of uncertainty as donor commitments and government budgets vary from year to year, seasonal disease patterns and product demands change, and fuel costs and currency values fluctuate, making these *ancillary* responsibility for logistics management a significant part of an MOH's management burden. In many countries, the people charged with logistics management are pharmacists and clinicians; they require additional logistics training to carry out this added task. Furthermore, high levels of staff turnover in many public health

¹ Occasionally, freight forwarders deliver products to levels farther down in a health system, but this is unusual; this is an example of the type of distribution outsourcing that this paper explores.

systems leave positions vacant for significant periods and require frequent investments of time and money in training new staff.

The objective of a public health supply chain is to get the right health commodities, of the right quality, at the right time, in the right quantity, to the right place, and for the right cost. For many reasons, this is a significant challenge for the public health sector in many countries—it is difficult to find the resources required to consistently meet the six rights. These challenges may be the result of increased supply chain demands of other (vertical) programs, lack of routine or accurate data, limited forecasting and procurement capacity, vehicle limitations, budget constraints, lack of staff trained in logistics, outdated information systems, policy shifts, or other factors that governments must face. These challenges can result in weak supply chains that negatively impact systems already struggling with limited resources, including stockouts; they can also result in high morbidity and mortality rates when patients do not receive medicines and health supplies, and the lack of or inferior data that leads to poor decision making and inefficient use of funding. Thus, outsourcing has emerged as a potential way to maximize the resources of governments (MOHs) and improve service delivery while leveraging the expertise of private sector service providers to better meet customer needs.

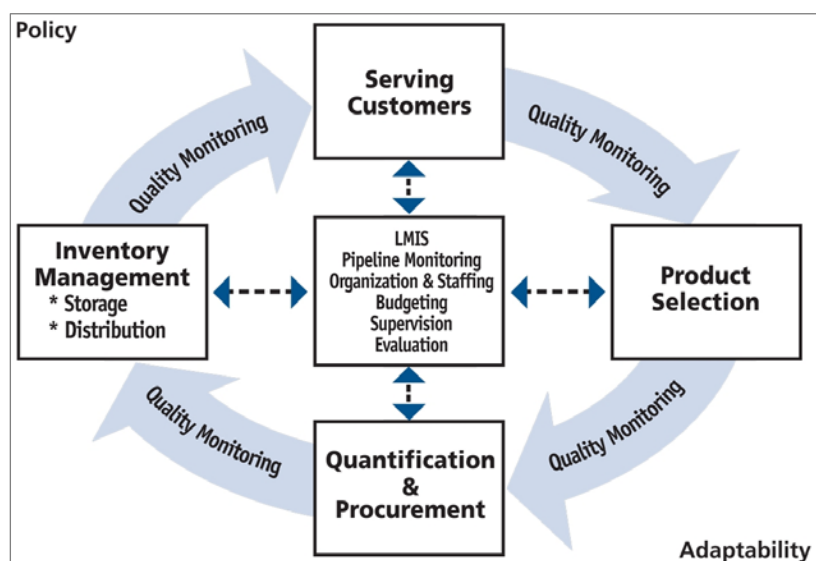
What?

Outsourcing is often defined as “engaging a third party provider to perform services for the host organization that were previously performed in-house.” In this definition, *third party provider* refers to any entity outside the traditional supplier-carrier-consumer relationship. Within any organization, public or private, there may be valid business and strategic reasons to outsource parts of the operation so the business can focus on its core capabilities. This process requires both an objective evaluation of internal performance and capacity, followed by a search for reliable partners that can deliver responsive services. Note that we distinguish outsourcing from contracting out—contracting usually implies that the customer dictates exactly what a contractor is to do and how to do it; outsourcing means the customer dictates the required outcome and the contractor determines how to complete the task based on their expertise.

In public health systems and supply chain management, a number of potential functional areas can be outsourced. There are many examples of public health systems that have contracted out service delivery; where, for example, a private organization or NGO may be contracted to provide health services to clients or to manage hospital administration. Following are a few such examples of this arrangement:

- In Cambodia, to outsource health services to NGOs, the MOH created two mechanisms: (1) a service delivery contract (SDC), where the contractor has complete line responsibility for service delivery in a specific area; and (2) management contract (MC) where the contractor works within the MOH system to strengthen the system. In El Alto, Bolivia, an NGO was given a management contract to improve the hospital management. In Madagascar and Senegal, the governments contracted with NGOs to deliver community-based nutrition interventions for improved health (Loevinsohn 2008).

Figure 1. The Logistics Cycle



While there are a limited number of well-documented examples of governments outsourcing parts of their supply chains; there are still opportunities in this area, and there is increasing interest in exploring this option. Many logistics functions can be outsourced. However, the various functions of the logistics cycle in figure 1 show clearly that some functions are better outsourced than others. MOHs are unlikely to relegate responsibility for functions that

they consider part of their *core competency*—areas that are under their direct mission and that they can perform better than an external party. These functions typically include developing and updating treatment guidelines, developing health policies, resourcing health facilities, creating national essential drug lists, and selecting products. However, ministries may determine that outside expertise is advantageous for some other functions that may not be part of their core competencies: forecasting and procurement, storage, distribution, and logistics management information systems (LMIS).

Supply Chain Functions to Consider Outsourcing

The following supply chain activities may be appropriate for outsourcing in this context, because of the MOHs' lack of specialization in these areas and the frequent availability of these services from third party providers:

Importation: This is the expeditious and controlled movement of goods into a country, always following local regulations; it may include customs clearance. To remain sensitive to necessary storage conditions, third party importation services may also include—

- **Bonded Facilities**—A government certifies these facilities and a bonding agency guarantees them; goods can be securely stored and the related taxes and duties deferred until they are removed.
- **Cold Chain**—This is the guaranteed maintenance and storage of goods, at the appropriate temperature, as they move from the supplier, through customs, to the consignee. This is especially important for vaccines and other temperature-sensitive products.
- **Storage and Distribution**—This is the secure, appropriate, and climate-controlled warehousing for all products. Third party providers may also offer inventory accuracy guarantees; 24-hour assistance, if needed; product insurance; and access for government or program officers to ensure proper goods management. Related services may include—
 - **Inventory management.** The service provider may use an electronic warehouse management system (WMS) that would allow for real-time sharing of inventory status, if the customer uses a compatible system.
 - **Stock rotation.** Proper stock rotation will ensure minimal product expiration and wastage; it may be first-to-expire, first-out (FEFO) for products with limited shelf lives but first-in, first-out (FIFO) for others.
 - **Picking and packing.** This may include preparing orders for delivery to individual facilities, or for a district storage center; the service provider may or may not control it.
 - **Order tracking.** This information shows what quantities of which products have moved from where to where, including the dates of these movements and proof that a facility received the products.

- **Cross-docking.** This is a service for orders that are packed for a facility, but sent to a collection or redistribution point for consolidation and onward delivery. Additional storage is not needed.

Transportation and Delivery—This is the physical delivery service of goods between different levels in the supply chain (movement from central level to regional level or last mile locations, etc.), according to the program/client requirements.

Product Security—A third party provider manages a product for the entire time; they are responsible for the safety and security of the goods. Additional services provided for product security may include bar coding, closed-circuit television (CCTV) for monitoring and security, restricted access, and product tracking.

Information Services—Service providers typically invest in information systems to monitor stock movements, order status, and invoicing, using bar coding and electronic data management systems. With this data, third parties can provide real-time data on stock levels, product usage, and trend analysis to add significant visibility and value to management.

Types of Service Providers

Although any external or third party organization may be able to provide services for a customer, several types of organizations focus specifically on logistics services.

Third Party Logistics Providers—These providers specialize in the logistics functions described above. Commonly called 3PLs, these organizations are popular in the private sector as solution providers to firms interested in outsourcing some or all aspects of their supply chain management functions. They typically invest in physical infrastructure and information services that make their offerings more sophisticated and specialized than what can be provided by other organizations in-house.

Non-Asset-Based 3PLs—These providers offer logistics solutions without ownership of physical resources, such as warehouses or trucks. They operate similarly to freight forwarders by negotiating and contracting warehousing and transportation while offering information services related to product handling.

Fourth Party Logistics Providers (4PLs)—These lead logistics partners act as a supply chain integrator that assembles and manages the resources, capabilities, and technology of its own organization with those of complementary service providers to deliver a comprehensive supply chain solution. These partners function as the primary manager of other 3PL partners for a client. They provide a single interface for the client and are the primary supply chain management provider, even if multiple parties actually perform specific aspects.

Beyond Outsourcing: Supply Chain Collaboration

In addition to outsourcing, supply chain collaboration is another option for working with the private sector or other external partners in supply chain management. Supply chain collaboration is the joint planning, coordinating, and process integration between suppliers, customers, and other partners. This type of agreement can reduce costs, increase return on assets, and improve reliability and responsiveness to market needs.

Supplier-client collaboration can take a variety of forms. Three of the most common are described below, but the best forms of collaboration are tailored to the unique needs and requirements of the supplier-client partnership.

- *Supplier direct delivery:* In this model, the supplier delivers products directly to the distribution point. For example, in some local supermarkets, the supplying company delivers and shelves a variety of products (shampoo, soft drinks, etc.). This transfers the burden of storage and transport to the supplier. It also increases the risk for the distribution point, because they depend on their supplier's well-functioning supply chain to avoid stockouts.

In Mexico, as a public health example, a system analysis concluded that distribution costs in the public health sector were 30 to 50 percent lower when private companies provided the same services. The higher costs were attributed to insufficient logistics infrastructure, limited information systems, and a complex network of distribution. In states where the government managed the distribution, products arrived at a state central warehouse; were moved to local warehouses; and then were eventually moved to the hospitals and health facilities, as needed. In this system, lead times were long, managers had very little visibility into the status of their orders, and warehouses were under-utilized. As a pilot, several states changed the system so the suppliers delivered medicines directly to the hospitals and health centers. The results showed that this shift to supplier direct delivery resulted in an improved response time, a 95 percent order fulfillment rate, and a 36 percent increase in the availability of medicines. (A.T. Kearney 2004).

- *Collaborative planning, forecasting, and replenishment (CPFR):* This can be used to streamline communication through the supply chain, from the manufacturer to the end user. Information shared between suppliers and the procurer allows for continuous updating of inventory and projected needs. This, in turn, makes the end-to-end supply chain more efficient, facilitates better supply planning, and decreases expenditures on excess inventory by creating a leaner supply chain. It improves transport by promoting more efficient routing schedules, which are based on known demand.

CPFR has been used for public health in the past, at least partially, in coordinating donor-funded procurements. For example, the Clinton Health Access Initiative aggregated demand forecasts for pediatric antiretrovirals needed across many developing countries for treatment of HIV and AIDS in children; this helped suppliers understand the total demand for specific products. Prior to this, suppliers had to create their own forecasts for product development and manufacturing, with limited visibility into country-level demand estimates, particularly for new products. This type of information sharing enables the manufacturer to plan better, such as ensuring the availability of necessary raw materials and increasing their ability to meet customer needs on time. This information sharing needs to be routine and continuous to ensure that ongoing supply levels are appropriate, given the estimated demand.

- *Vendor managed inventory*—In this model, the manufacturer or distributor for the client must maintain the product inventory levels. The inventory can be held either at a distributor/supplier interim distribution center or, for replenishment, at the supplier's central warehouse or manufacturing facility. This system requires the supplier to have visibility of the supply chain to the distribution point. For the manufacturer or supplier to know when and how much stock to replenish, they must have accurate and real-time knowledge of inventory status at the distribution points.

In the private sector, this is often done through the Internet or electronic data interchange (EDI). Computer-to-computer transfer of data minimizes data entry and calculation errors in the LMIS; this improves order accuracy. The responsibility to ensure stock availability shifts to the supplier. This direct link to the point of service further enables the supplier to provide quality, efficient service to both the distributor and the end user.

For example, in South Africa several distributors are warehousing and distributing antiretrovirals (ARVs) for suppliers. Three large distributors, IHD (now UTi Pharma Distribution), PHD, and CiplaMedpro have contracts with a variety of ARV suppliers—the suppliers maintain ownership of the medicines, but the distributors store, manage, and sell them. At the time the products are moved to the point of sale (health facilities, smaller distributors, etc.), ownership is transferred from the supplier to the buyer. The distributor is, therefore, a retailer that stores the product and shares the expected demand with the supplier to help better manage inventory in exchange for a predetermined commission or profit.

Specific Examples of Outsourcing Logistics in Public Sector Health Systems

Following are some examples of how these types of outsourcing partnerships have been implemented by governments in health systems in developing countries. These examples of partnerships in health logistics in low-income countries include information on the background, decision criteria, risks and concerns of participants, and outcomes. The examples provide lessons learned that MOHs, policymakers, and supply chain implementers can use in similar contexts.

Example 1: Gradually handing over control in Bangladesh

Background

Prior to 1994, the Government of Bangladesh (GOB) MOH Directorate General for Family Planning (DGFP) used a government-owned and -operated fleet of vehicles for distributing family planning commodities. However, because of consistently late deliveries, labor shortages, lost products, and high costs, the DGFP decided to outsource some of the transportation of family planning commodities.

Decision Criteria

To help the GOB make this decision, it contracted a consultant to assess the logistics system to determine if there were opportunities for increased cost savings and/or greater efficiencies by outsourcing some or all of the family planning commodities logistics. This third party consultancy performed a cost-benefit analysis and analyzed efficiency of the system. Specifically, the consultant compared asset utilization rates, cost schedules, human resource capacity, and service levels of the private sector and the DGFP. The assessor found significant opportunities for cost savings and some potential service benefits (according to the consultant, the cost savings alone justified the change). Most of the potential savings were by eliminating or reducing government employees' pensions and other benefits (due to the high labor costs) and the high operational costs caused by the under-utilization of human and physical capital (e.g., idle drivers and vehicles, and shipping at less than a full truckload).

The DGFP decided to proceed with a limited outsourcing plan; the DGFP outsourced 20 percent of the distribution of family planning commodities from the central warehouse to the regional warehouses, to the district reserve stores, and, finally, to the sub-district (thana) stores.² By outsourcing 20 percent of the transportation to an outside organization, the government was able to easily compare the performance of the private sector transportation to the public sector transportation. From this comparison, it was obvious that by using the private carrier, costs were lower and efficiencies (as determined by on-time deliveries) were greater. This success motivated the DGFP to expand the private sector involvement and commit to outsourcing up to 80 percent of the transportation requirements of the DGFP. To proceed, the DGFP held a competitive bid for a two year contract that the GOB fully funded (not donors).

Risks and Concerns

The government was hesitant to make the outsourcing decision because of several concerns. First, the GOB was using a significant amount of capital (trucks) for transportation and they employed a large number of drivers. What would happen to this capital and, more important, what would happen to the drivers if the government outsourced this function? Second, what would political consequences be for the redundancies? And, finally, the GOB wanted to retain control over the family planning program—outsourcing was seen as a threat to this control. Because these were serious concerns, they had to be addressed during any discussion or decision to outsource.

This led the government to take a moderate approach in adapting an outsourcing strategy. Not only did the DGFP begin the project by outsourcing only 20 percent of the transportation requirement, but it also decided not to dismiss any employees. Instead, the DGFP would not hire new employees or replace worn-out capital. As employees left, and as vehicles were retired, they were replaced by the private carrier. To maintain some control over transportation, the government decided to cap private sector participation at 80 percent of the total capacity requirement. This ensured the GOB a minimum of 20 percent of the total capacity³ (DELIVER 2007), which allowed them to maintain some control, and flexibility for emergency shipments and backup to resolve any problems with the private carrier.

Outcomes

The cost and service-level benefits for outsourcing transportation have already been mentioned. These benefits occurred when the private sector took a more competitive and professional approach to transportation logistics management. For service-level improvements, the evidence is largely anecdotal. In the past, there were frequent labor problems (striking government workers); corruption (government employees used the trucks to visit relatives, which delayed departures and changed routes); drivers' lack of accountability (drivers would claim mechanical problems to spend time with family members); and poor use of capital (shipping less than a truck load). Compared to outsourcing to the private sector, cost savings are measurable. Now, there is a financial incentive to hold employees accountable, use capital efficiently, and use modern route planning software.

² From the sub-district stores to the clinics, transportation is more efficient. Each month the *last mile* suppliers (health clinic workers) meet at the sub-district stores to attend meetings and receive paychecks. At this time, each attendee is resupplied with family planning commodities. The quantities are small enough that they can be transported using local transportation, motorcycle, or bicycle. At the time the project was implemented, there was one central warehouse, three regional warehouses, 18 district reserve stores, and 467 sub-districts stores in Bangladesh.

³ As of September 2006, the private sector capacity had only reached 50 percent of the transportation requirement.

According to the third party consultancy, these improvements could save the DGFP approximately 25 percent in annual operating costs for the routes outsourced to the private sector (Pearson 1997).

However, outsourcing did not mean that the DGFP could ignore transportation; it has not eliminated the government's role, it has simply changed it. Now, rather than using government resources to provide transportation, the government plans, oversees, and evaluates the service provider. Furthermore, the exacting standards of the private carrier have led to more rigorous standards for the DGFP, particularly in resource planning, warehousing, forecasting, and payroll practices. The DGFP also had to learn to manage a contract, particularly writing the contract; and manage the bidding process, perform supplier evaluations, and monitor supplier performance.

Finally, the private sector service providers have also had concerns. They were cautious about working with the government because of their delayed payments and perceived level of corruption. To maintain the trust of its private partners and to maintain these relationships, the GOB had to include payment terms in the contracts and follow through every time.

Lessons Learned

Outsourcing is not a perfect solution that will end all logistics concerns. It can lead to significant cost savings and service-level improvements, but it requires constant involvement and special skills from the outsourcing party, particularly in contract management. The DGFP had to develop, manage, and evaluate their outsourcing contract and meet the standards of the contract.

Outsourcing programs are often unpopular because of the perceived loss of government control over parts of the public programs and concerns about layoffs. These political risks should be carefully considered and mitigated in outsourcing programs to ensure adequate management participation and organizational buy-in. The DGFP overcame these concerns by proceeding cautiously and avoiding politically unpopular layoffs.

Finally, the profit incentives of the private sector encourage greater use of technology and cost saving practices in health commodity delivery. These improvements placed pressure on the DGFP to follow supply chain best practices, but they also increased service levels.

Example 2: Using a 4PL in the Democratic Republic of the Congo

Background

In 2005, the United Nations Development Programme (UNDP) became part of an innovative public-private partnership in the Democratic Republic of the Congo (DRC) (Global Health Council 2009). The DRC's general lack of infrastructure and government resources has created significant challenges in administering a much-needed grant from the Global Fund to Fight AIDS, Tuberculosis and Malaria. Because the government lacked the internal capacity to manage a large public health project, UNDP stepped in to fill this role; they are accountable for the U.S.\$200 million grant.

Under this grant, UNDP is responsible for the entire supply chain—from procurement to final distribution. It has fully capable procurement units with years of experience in procuring drugs and health commodities; however, when the grant was issued, it lacked local capacity and expertise in distribution, particularly in last-mile distribution. This challenge was complicated by the lack of infrastructure in the DRC—they have only 250 miles of paved roads in a country approximately the size of Western Europe.

Due to human resource capacity constraints and an inability to develop the short-term capacity, UNDP was not able to use the public sector to distribute its commodities but, instead, turned to the private sector. UNDP contacted the World Response Consultancy to engineer a public-private partnership strategy. World Response drafted an initial request for proposal (RFP) that included the primary distribution tasks that UNDP would need the private sector to fulfill—quality assurance, customs clearance, storage, and comprehensive national distribution. UNDP and World Response decided that, despite the procurement capabilities of UNDP, it would be beneficial to outsource this function, as well. This would create one cohesive supply chain that was implemented from start to finish by the private sector service provider. After completing a competitive bidding process, Missionpharma was awarded the contract.

Decision Criteria

As previously mentioned, UNDP lacked the expertise to implement a distribution network under the difficult conditions in the DRC. To quickly attain a high level of supply chain service, UNDP needed the knowledge of an organization with on-the-ground experience. This would allow UNDP to fulfill its Global Fund mandate and use its resources efficiently and effectively. Developing internal capacity would have been too time consuming and would have initially affected service at the lower levels as UNDP learned to manage the distribution.

Risks and Concerns

One of the greatest challenges in this partnership has been reinforcing accountability of the participating organizations. UNDP mitigated this challenge in its contract, which stipulates that payment for procured products will not be made until UNDP receives verification that the products have reached their final destination. This ensures UNDP that its objectives are met, but it requires a high level of trust from Missionpharma.

The incentive arrangement also places Missionpharma at significant financial risk when products are damaged or lost, and poses administrative management challenges due to the length of the supply chain. To overcome this, Missionpharma pre-packs cartons in its overseas warehouses for shipment directly to the service delivery points throughout the DRC (Global Health Council 2009). Missionpharma also established a bonded warehouse to protect products against leakage during the customs clearance process. The warehouse, with a track and trace barcode system, has allowed Missionpharma to maintain control and visibility of products throughout the supply chain, eliminating leakage and protecting its investment.

Outcomes

The primary outcome has been that UNDP has successfully distributed health commodities throughout the DRC, a country with very limited infrastructure and long lead times.

Furthermore, they reached this level in a relatively short period of time. By contracting with only one service provider and reducing the amount of time and effort necessary to coordinate a supply chain among multiple partners, UNDP has been able to implement a complete, functioning supply chain in less than two months. This has guaranteed that the target population has access to needed health commodities quickly, saving lives.

Finally, the incentive structure of the public-private partnership has contributed to the implementation of a best practices supply chain that is more common among big businesses. Strict accountability and financial incentives provide Missionpharma the impetus to employ real-time

package tracking technology, a bonded warehouse, and a chartered dedicated aircraft. Undoubtedly, these practices have improved service levels and overall superior supply chain performance.

Lessons Learned

Public-private partnerships can do more than fill the gaps in public sector capacity; they can encourage supply chain innovations and greater supply chain performance. These benefits are realized through contracts and incentives that mirror private sector competitiveness, risk, and accountability. This risk encouraged supply chain best practices and innovation in the DRC context and has also improved service levels throughout the length of the supply chain.

Key Lessons from These Examples

From these examples, we have learned that the application of outsourcing and use of 3PL services by public institutions and public health organizations, in particular, can improve service delivery, but it is not always an easily implemented solution. There are many reasons why MOHs and associated parastatal organizations responsible for warehousing and distribution of health products would consider outsourcing some of their supply chain functions to private contractors. One reason is that as health services expand, as they have in many countries, the number of products that need to be managed and the number of distribution points have increased. Without major investments in infrastructure and equipment, it is extremely difficult to achieve this expansion. Because of donor support, many resource-limited settings have had a rapid increase in the number and volume of products they must manage, but they have received little additional support for inventory management and distribution for staff, equipment, or management skills. Further, warehousing and transportation needs often vary, meaning that the investment required to increase infrastructure to accommodate the largest inventory may not be worthwhile, if that need is only once a year, or is infrequent enough that it would be more efficient to outsource the need for additional capacity. In some cases, the cost of adapting a system for maximum variability—buying additional trucks or building additional warehouse space—could be avoided by outsourcing that function for a specified function or period of time.

In addition to the common issues just mentioned, four ideas from the examples can be applied to other situations:

MOH recognition of capacity constraints. The main reason the governments or agencies decided to outsource specific functions was because the MOH recognized that they could not carry out the identified activity, whether it was human capacity, or infrastructure capacity, or both. This limitation prompted the MOH to determine how they could obtain that capacity elsewhere instead of investing the time and capital necessary to build the capacity internally.

Defining the private sector: The private sector partners in the outsourcing relationships mentioned in this research fall outside the traditional definition of *private sector*. These partners range from domestic for-profit organizations to international private cooperating agencies, such as Missionpharma, that have organizational goals beyond earning a profit. These are *not for profit* organizations as defined by the for profit private sector. Defining these partners is particularly important to the country context. Opportunities to outsource depend on the level of development, infrastructure, and private sector sophistication. Often, very low-income countries do not have options for private sector partnership. As countries' markets develop, however, so do their private sectors; and the options for outsourcing with private sector companies increase.

Concerns of control and payment: The most common concerns mentioned by the outsourcing participants were control and payment. Control was particularly important to the public sector partner, but the private sector also mentioned it. This concern should be addressed before an outsourcing decision is made. In the examples mentioned earlier, the Government of Bangladesh was concerned about the control of its health supply chain; this was one reason it chose to proceed cautiously and to outsource only a small percentage of its transportation capacity. This type of risk assessment and caution contributes to successful outsourcing campaigns by encouraging participant support and political buy-in.

In the examples researched, the private sector participant was, at least initially, concerned about the ability of the public sector to guarantee timely and accurate payment. This type of concern leads to higher costs and lower service levels because the private sector partner is hesitant to make significant investments in the project if there are concerns about recovering costs. This risk can be mitigated through contract management, but it can only be eliminated by developing a true partnership and trust.

Contract management: For an outsourcing program to succeed, there must be excellent contract management. The outsourcing organization needs to know how to write, enforce, and monitor a contract. This includes clauses for payment terms, performance expectations, assessment, and contract renewal. Different types of contracts are appropriate for different contexts, but it is essential that both parties enter the contract with accurate expectations of performance, a clear understanding of how that performance will be measured, and what the consequences will be for under-performance.






When?

The decision to outsource is not one that should be made without an exhaustive evaluation of resources and intended outcomes. Usually, some catalyst or issue drives the exploration process of alternative solutions, whether it is a resource limitation or a challenge in maintaining performance that an outside partner may be better positioned to address.

For example, as the needs of public sector health systems expand and the scope of products managed by a MOH increases, outsourcing may be an opportunity to expand without making additional investment in infrastructure and staff. This could either be a short-term strategy for managing change, or a longer-term strategy if a government decides that these capacities are not part of their core competencies and are not areas that they want to grow internally.

Additionally, shifting certain functions may result in economies of scale, as a 3PL can leverage the resources and needs of other clients to more efficiently meet the needs of all. Thus, when a 3PL consolidates smaller infrequent shipments, they may be able to provide larger, more frequent shipments at a lower average cost than the clients could provide individually. This might ultimately lead to lower costs for the MOH and service improvements for the ultimate customers. Using 3PLs leverages the private sector’s flexibility and may help overcome absorptive capacity constraints imposed on government institutions. Some common challenges, and how a 3PL may be able to address these, are displayed in figure 2.

Figure 2. Uses and Advantages of 3PLs

PUBLIC SECTOR CHALLENGE	3PL ADVANTAGE
Lack of in-house skills or high turnover 	Specialized skills; can shift responsibility for some functions while focusing on others
Limited Resources 	Allows for expansion of services without additional investment of resources in infrastructure and staff
Limited Volume 	3PLs can leverage resources and needs of many clients by consolidating several small tasks to achieve economies of scale
Variable Demand 	If needs for logistics functions are highly variable can use 3PLs for surge capacity or shift that risk to them by outsourcing completely
Service Delivery 	Profit motive of the 3PL may yield improvement in service delivery

The following two-phase process will enable a public institution, such as a MOH, to decide if they should pursue outsourcing as a way to improve service.

Deliberation—Strategic and Operational Considerations

At this initial stage, the organization recognizes that there are issues with service levels or capacity, but they may need to conduct further analysis to pinpoint operational bottlenecks. This should involve a group of internal stakeholders who understand the existing system and its performance and are able to analyze options for improvement. Ideally, the team is consistently involved in the process from beginning to end. During this deliberation process, the stakeholder team will determine which of the organization's functions and activities could be outsourced to a third party. The stakeholder team may find that none of the analyzed functions fall into this category, but the deliberation process will still help determine the best approach for moving forward with system improvements. The steps in this process may take the following form:

1. **Identification of core competency**—Out of all parts of an organization's process, define what is and what is not within the core operational expertise of the organization. The *core competency* of a business is its main purpose and its key to survival; it is how a private sector organization makes a profit and survives in a competitive environment. Surprisingly, it is common for an organization to misunderstand, or to not recognize, its core competency; because it often changes with time, technology, management, or customer demands. Before an organization makes an outsourcing decision, it should be confident that it understands its core competencies.

The core competency is what sets an organization apart from its competition; it is what the organization does that its competitors do not, or what it does better than its competitors. Many successful businesses have multiple core competencies but, for simplicity, observers often focus on only one. The following are examples of frequently recognized core competencies.

- Dell: manufacturing consistently high-quality, customizable computers
- Apple: design and innovation
- Walmart: low costs because of its supply chain excellence

Each organization has a core competency that sets it apart from the competition and enables it to earn high profits, often at an above average rate of return.⁴ Without this core competency, the organization would not survive, or would not be as successful (i.e., profitable).

Using this process, an MOH should consider outsourcing activities that are outside its areas of operational expertise, or areas in which the MOH does not want to build expertise. This move toward specialization of services would, for example, allow a Central Medical Store (CMS) that has staff with expertise in procurement and management of pharmaceutical supplies, but limited experience with transportation scheduling or fleet management, to outsource the physical distribution of products. This would increase the CMS' capacity to focus on their areas of strength while shifting responsibility for other aspects of supply chain management to the private sector, rather than trying to build internal capacity.

⁴ An above normal rate of return is a rate greater than the organization's cost of capital, or an economic profit (as opposed to accounting profit).

2. **Operational process review**—Identify functional areas within the organization’s operations that are not performing well. This requires the ability to measure performance and compare it to some benchmark or standard. Comparable measurement of performance must have performance-based indicators, also known as metrics. The USAID | DELIVER PROJECT has published a list of suggested metrics for logistics systems (Aronovich et al. 2010); it is available on the project’s website.

Using metrics like these, public health logistics performance can be measured against international standards, including the World Health Organization (WHO) (WHO Expert Committee 2006), or private sector standards, such as International Organization for Standardization (ISO). The operational process review can also occur through customer feedback or assessments conducted by outside consultants. A skills assessment of staff should be done to understand the knowledge base and the capacity currently available.

After the core competency and the process review are complete, the areas to be outsourced should be clear.

3. **Feasibility analysis**—Determine which outsourcing options are politically and operationally feasible. Having identified certain processes as potential candidates for outsourcing, the stakeholder team will need to assess the political feasibility of outsourcing government operations to a private third party. After the team has determined that there are no political barriers to outsourcing, they should find out if there are any operational barriers, such as the availability of 3PLs that could carry out the tasks the MOH wants to outsource. This should include a frank discussion and cooperation between MOH and MOF stakeholders about how to secure funding and whether to use the MOH’s capital, loans, or donor funding. It is essential that they discuss if and when the initiative could become self-sufficient.

Cost-Benefit Analysis—Financial Considerations

After a not-for-profit organization determines that outsourcing a particular function would make operational sense, it must assess the potential financial implications of doing so. A cost-benefit analysis enables the organization to compare the costs and benefits of providing the services in-house to the costs and benefits of outsourcing the same services or functions.

When conducting a cost-benefit analysis, the following points are important to keep in mind:

- The cost comparison should include additional measurements beyond the direct costs of vehicles, fuel, warehouse space, and staff; these costs need to be compared to the cost that would be paid for the 3PL to assume these functions.
- For product availability, depending on the circumstances, and especially in the public sector, it may be worthwhile to pay higher operating costs while improving performance. If the overall cost of operations goes up by 10 percent, but the service levels improve by 30 percent, the MOH will need to decide if its service priorities allow this cost increase.
- Also, it is important to consider the longer-term benefits if future maintenance or upgrade costs are averted. Such trade-offs should be carefully analyzed in any comparison of the value of outsourcing versus maintaining functions in-house.
- Further, use of a 3PL may provide greater flexibility for adjusting to changes in demand or number of supplies managed. This increased flexibility may not generate a measureable, monetary benefit, but it can improve performance, regardless.

Therefore, an organization must gather detailed information on costs and processes necessary to quantify many of these elements. This requires information about the entire system, the location of cost information, and, finally, access to the information.

The following section lists each of the components of a cost-benefit analysis to determine the financial implication of logistics outsourcing. Each component includes examples of cost figures that should be accounted for in the analysis. To obtain these figures, the stakeholder group can use accounting costs, costs allocated based on relative amount of activity, and validated assumptions or estimates. For example, if an essential medicines program uses 60 percent of a warehouse and they want to know the warehousing costs, they could consider the entire amount spent on warehousing—space, utilities, depreciation, maintenance, and labor—and determine 60 percent of that to represent the amount consumed by the essential medicines program.

A. Existing operation

Determine the current costs associated with the function under consideration for outsourcing (see table 1).

Table 1. Category and Examples of Costs

Category of Costs	Examples of Costs to Include
Employee and administrative	<ul style="list-style-type: none"> • Salaries • Pensions • Health care • Training • Other benefits.
Equipment	<ul style="list-style-type: none"> • Operations (fuel, insurance) • Maintenance • Replacement.
Buildings	<ul style="list-style-type: none"> • Operations costs (electricity, communications, facilities) • Maintenance • Security (guards and systems).
Cost of inventory*	<ul style="list-style-type: none"> • Purchase value of expired stock • Purchase value of excess stock • Purchase value of unusable or obsolete stock.
*if considering outsourcing inventory management	

These types of cost data can be collected using the project’s supply chain costing tool (USAID | DELIVER PROJECT Forthcoming), an Excel-based template for capturing and analyzing supply chain costs by tier (level), function, and facility. Another useful tool for determining what to measure when estimating costs of current transportation systems is *Guidelines for Assessing Costs in a Logistics System: An Example of Transport Cost Analysis* (Abdallah 2004), which is available on the project’s website.

While the information on operating costs of the current system are critical inputs, it is important to acknowledge that if the current system is underperforming, and the objective of outsourcing is to

improve service delivery, the cost of what it would take to meet a higher level of performance must also be part of the evaluation. Therefore, it is necessary to cost, or at least develop a reasonable estimate, of the costs that would be incurred to improve the current system (see table 2).

B. Upgrade costs

Table 2. Category and Examples of Costs to Upgrade

Category of Costs	Examples of Costs to Include
Benchmarking operation	<ul style="list-style-type: none"> • Consultancy cost.
Improving personnel skills	<ul style="list-style-type: none"> • Training costs <ul style="list-style-type: none"> ○ trainer's time ○ cost of lost staff time while in training. • Recruitment costs <ul style="list-style-type: none"> ○ job specification development ○ advertising ○ interviewing.
Improving infrastructure	<ul style="list-style-type: none"> • Buildings <ul style="list-style-type: none"> ○ warehouses ○ garages ○ offices. • Equipment <ul style="list-style-type: none"> ○ computers ○ materials handling equipment ○ racking ○ vehicles and spare parts ○ vehicle repair equipment. • Systems <ul style="list-style-type: none"> ○ financial ○ logistical ○ vehicle tracking. • Personnel turnover <ul style="list-style-type: none"> ○ losing/gaining people and associated training.

The sum of the actual costs (A), plus estimated upgrade costs (B), can then be compared to documented and estimated costs of outsourcing, outlined in the section C (see table 3). This information may be difficult to estimate, but it is important to be as realistic as possible. It may be possible to obtain input estimates from a private sector company working in another sector with similar equipment, infrastructure, and systems costs. They may not be able to share their actual costs but they may be able to gauge whether a set of estimates is reasonable, in a given context.

C. Outsourced operation

- Cost of tendering

The process of requesting cost estimates from potential outsourcing partners and evaluating their ability to perform the task will require administrative time. The contract manager should participate in this process.

- Cost of contract management

This will include paying people to monitor the contract, which can be very time consuming. They may need to monitor the quality of work during visits, including travel costs, or by phone or email. Expect to closely monitor organizations with less experience.

- Third party costs for services required

The third party cost estimate will probably be the largest percentage of costs incurred when outsourcing. Verify that their estimates are realistic to prevent disputes if they do not follow through on their proposal.

- Cost of providing some infrastructure

Depending on the outsourcing contract, both buildings and vehicles may need to be provided to the third party.

- Contingency for poor performance

What is the back-up plan if the service provider does not perform well? Keeping a contingency plan may cost money, but it is essential to ensure high levels of service.

- Retrenchment costs (if current operation is scaled back)

Outsourcing may be politically unpopular as it may require downsizing the part of the system that is currently performing that function. Laying off workers may lead to low morale among those who remain, fearful that their jobs are also at risk. Depending on local and organizational labor laws, redundancy pay may be required to compensate employees who have been downsized. Although this is not desired, the risk of sabotage from disgruntled employees may need to be factored into scale-back costs, as well.

Any organizational change will lead to a drop in productivity levels during the transition period, which will vary in length, depending on the size of the change. In a cost-benefit analysis, the loss of productivity may also need to be considered.

- Cost of capital

Because the life of a project normally spans a specific length of time, it is important to evaluate the costs over the entire relevant project period and to account for any risk. This time frame and risk add an additional component to the equation: the cost of capital. The cost of capital is equal to the next best use of the organization's resources (the opportunity cost or risk of the investment). As a general rule, the cost of capital is equal to the return that an investment could have earned elsewhere (by investing in another project or by investing in the financial markets), or the rate of the return that the organization has earned on similar projects. Essentially, the cost of capital is a measurement of risk; the higher the risk, the greater the cost of capital.

Table 3. Cost Comparison Sample Worksheet

Current costs (A)		
Cost to upgrade (B)	Cost to outsource (C)	Potential savings/increased cost from outsourcing
Total = A + B	Total = C	Difference = C – (A+B)

The cost-benefit analysis can take many forms, but in a private sector environment where profit guides the decisionmaking process, it is often distilled to a mathematical equation such as *net present value* (NPV); if the equation is positive, the organization pursues the opportunity; if it is negative, the organization abandons the project. In its simplest form, an analyst identifies each and every relevant cost of a decision, including non-monetary costs, which are given a value based on an economic estimation. These costs are then added together and compared against the expected benefits (cost savings, profit, increased quality, etc.). This analysis should yield the information necessary to make a decision about whether outsourcing would either decrease costs or be a reasonable expansion of costs, given what it would take to match capacity with internal resources.

D. Non-quantifiable benefits for a public organization that decides to outsource

Not all the benefits are monetary or quantifiable and they may require a different type of estimation. For example, it is often difficult to put a dollar value on increased quality because the provider may be unsure about how consumers will receive it. There are many such benefits to outsourcing that do not fit the cost-benefit equation, but they should still be considered when making an outsourcing decision. These include the following examples:

1. Using public money in an effective manner → Public perception that government is getting value for money
2. Improving the services to the public → Seen to be socially focused
3. High performance leading to positive customer feedback → Improved team morale
4. Osmosis of skill sets from private to public sector → Work force increases skills

Based on the country priorities and reasons for outsourcing, these non-quantifiable benefits (D) will have to factor into the calculations with A, B, and C in table 3; but how they vary will be on a case-by-case basis.

What are some reasons to consider outsourcing?

- Reduce costs.
- Focus on core expertise.
- Maximize use of shared resources and infrastructure
- Improve service levels.
- Increase flexibility to deal with ever-changing business conditions.
- Improve access to products, services, and emerging technologies.
- Assign operational issues to an outside expert.
- Use the expertise of other organizations.
- Compensate for lack of expertise or capacity internally.
- Improve credibility and image by associating with superior providers.
- Improve operating performance, quality, timeliness, and productivity.

Case Example: Country X Considers Potential Distribution Outsourcing

An MOH in a sub-Saharan African country decided to improve its services by increasing the availability of medical products at public health facilities; they decided that outsourcing might be a possible route to that improvement.

Following the steps outlined above, the MOH first formed a permanent stakeholder group that was to decide whether or not to outsource some of its operations. The stakeholder group laid out all its activities related to the support of health services. They determined that developing treatment guidelines, selecting products, and ensuring quality were within its core competencies, but physical transportation to service delivery points was not. Conducting an operational process review, the group also found that its transport operations suffered from low performance; vehicles were frequently unavailable for delivery because of maintenance and scheduling problems.

While stakeholders agreed that laying off the current transport personnel was politically undesirable, they decided they could condense current operations to improve performance and, simultaneously, take advantage of locally available transport firms to serve unmet need. Additionally, the stakeholder group found that the use of a 3PL for transport could enable the MOH to deal with variable demand more efficiently—3PLs would have better short-term capacity to handle seasonal or emergency distribution of products. From this analysis, the MOH decided that outsourcing transport operations was both politically and operationally desirable.

Using only internal resources, the stakeholder group then conducted a cost-benefit analysis to determine the financial implications of outsourcing compared to performance improvement. Using the *Supply Chain Costing Tool: User Manual* (USAID | DELIVER PROJECT Forthcoming), they found that current transport costs to service delivery points (A) cost the MOH \$55,000 per year. The estimated cost to improve service internally (B) was \$100,000 in the first year for new equipment and training, and \$40,000 per year after the first year to increase capacity and manage the process. The MOH then asked local transport services for bid estimates for regular transport. Specifically, the MOH looked for companies that owned their own vehicles, employed safety and security measures, charged per cubic meter or kilogram, and were able to respond to short-term and long-term transport requests from the MOH. The lowest cost response that met these needs had an annual cost of \$50,000–\$55,000, depending on the MOH's final requirements. Table 4 shows the final cost-benefit comparison.

Table 4. Final Cost-Benefit Comparison

Keep In-House	Outsource	Comparison
Total current cost (A) \$55,000/year	Total current cost (A) (would not be eliminated, but condensed, which reduces the total current costs, and includes contract management) \$40,000	Total difference
Cost to upgrade (B) \$100,000 first year only \$40,000/year	Cost to outsource (C) \$50,000 to \$55,000/year	
Total \$155,000 first year only	\$90,000 to \$95,000/year	\$65,000 to \$60,000 savings
\$95,000/year after	\$90,000 to \$95,000/year	0 to \$5,000 savings/year

By conducting the cost-benefit analysis, the stakeholder group agreed to contract transport services from the 3PL identified during the bid process. While they realized that other than then first year saving, the lifetime costs of outsourcing were almost the same as internal improvement, the group agreed that the non-quantifiable benefits (D), which is the ability to see improvements sooner and the ability to efficiently handle short-term changes, made outsourcing the more desirable option.

This process will identify a function or activity that makes strategic and financial sense to outsource and has the support of internal stakeholders.

Summary of Outsourcing Decision Process

The organization recognizes the need for improvement or expansion in operations. The organization forms a group of internal stakeholders to investigate the potential for outsourcing to a third party as a way to achieve this. The stakeholder group conducts the following two phases:

Deliberation—does outsourcing a particular function make strategic and operational sense?

- Identify core competency—Of all the organization’s processes, which are the core competencies? Core competencies should probably not be outsourced.
- Process review—Of all the organization’s process, which are under-performing? Those that are not core competencies and are under-performing are good candidates for outsourcing.
- Feasibility analysis—Are all involved stakeholders supportive of possible outsourcing? Are potential third parties available that can perform the work?

Cost-benefit analysis—Does outsourcing make financial sense?

For the outsource-able function, collect and compare:

- current cost of performing function internally
- cost of improving or expanding performance internally
- cost of outsourcing.

Other Potential Analysis Frameworks

In addition to the cost-benefit analysis, several other analysis frameworks can be used to inform business decisionmaking. Two decision analysis frameworks, that include nonmonetary costs and benefits, may be particularly appropriate for decisionmaking. The first, the PrOACT model, is best defined by the letters in the name—problem, objective, alternatives, consequences, and tradeoffs. Working through this model for decisionmaking involves using five steps to help rationalize difficult decisions: (1) defining the problem, (2) considering an exhaustive list of objectives, (3) identifying alternatives, (4) understanding the consequences (of each alternative), and (5) addressing and evaluating tradeoffs.

The second framework is the analytic hierarchy process (AHP), a structured technique for working through complex decisions. Instead of providing an analysis that leads to a *correct* decision, the AHP helps decisionmakers find the solution that best meets their needs, given an understanding of their defined problem. In the AHP process, the first step is to deconstruct the decision problem into a hierarchy of more easily understood sub-problems, each of which can be analyzed independently. The elements of the hierarchy can relate to any aspect of the decision problem—tangible or intangible, carefully measured or roughly estimated, well- or poorly-understood—any information or criteria that relates to the decision.

After the hierarchy of criteria is developed, the next step is for the decisionmakers to systematically evaluate its various elements by comparing them in pairs. When making comparisons, the decisionmakers can use actual data about the elements, or they can judge the elements' relative significance or importance to the decision. One benefit of the AHP is that human judgment, not just the underlying information, can be used for the evaluations. For this reason, the AHP model is often cited as appropriate to making public sector capital budgeting decisions.

Additional resources can provide other information about these frameworks. A select few are listed below, but an Internet search will yield many results (Bhushan 2004 and Saaty 1980). If internal capacity is not available to do this kind of analysis, an outside consultant can guide an objective analysis of the situation.

Key considerations when deciding to outsource

- Is the function non-essential to the organization? Does it add value?
- What are the processes where the need for change is greatest?
- Are there work processes in which change is already taking place?
- Which work processes have a high chance of success/ease of implementation?
- Which work process, if improved, will transform the organization?
- Which work processes are separable and can be decoupled to improve performance?

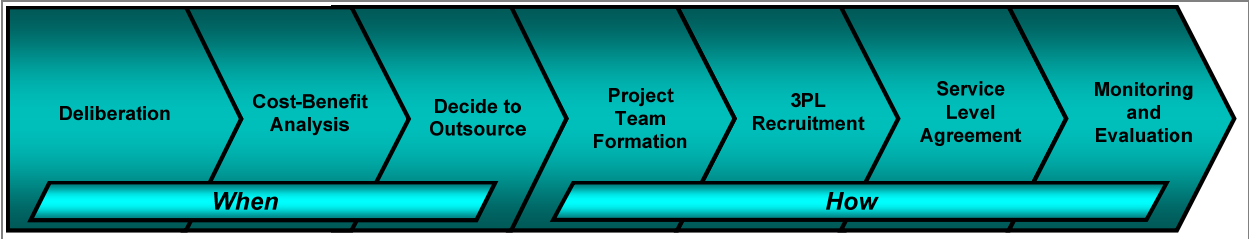
How?—Implementation Roadmap

To ensure a smooth transition to outsourcing, if that decision is made during the decisionmaking process, all the stakeholders need to plan and agree on an implementation process.

Each project will be unique, but the high-level aspects will be very similar. Appendix B provides a sample implementation plan. This plan, which is based on actual experience, shows the analysis and selection phases taking up to ten months; however, it could take more or less time. Outsourcing is not a quick fix; this process requires careful planning and strong leadership. Government and MOH personnel must be patient with this activity. The spreadsheet in appendix B highlights the key elements of the transition process to outsourcing.

Beginning with the initial decision to outsource or not (described in the previous chapter), the following stages show how to develop a project plan to guide the outsourcing process (see figure 3).

Figure 3. Process for Outsourcing Decisionmaking



Stage 1. Project Team and Activity Formation

First, form a cross-functional team of stakeholders and key decisionmakers (many were probably involved in the decision to outsource). Ideally, the leader should be either the Minister of Health or the Permanent Secretary, and departmental heads should be part of the team, including the manager of the CMS and other key stakeholders. The team *must* commit to meeting regularly, based on the size of the undertaking, to ensure key activities are met and problems are averted.

Second, set objectives that are in line with the MOH’s own mission to ensure that the right service(s) are outsourced with the right objectives—they should be part of the deliberation process. Also, determine the desired outcome from outsourcing. To be meaningful, the impact of outsourcing must be measured and evaluated; key parameters for performance should be established at the outset, including—

- improved order fill rate

- reduced stockouts
- increased customer satisfaction
- reduced warehouse space required
- reduced product expiries.

Be sure to address issues related to financing and payment of contracting expenses. Government operations may face restrictions from the ministries of finance on their options for budgeting or paying 3PLs, which may hinder relations with potential contractors. Therefore, someone familiar with financing and contracting options should be part of this project team. Address and identify an on-going funding stream and payment terms that will be attractive to private sector companies; discuss them openly during negotiations with potential 3PLs.

Stage 2. 3PL Recruitment

To recruit a 3PL, it will be necessary to thoroughly understand all country procedures and regulations regarding contracting with vendors. Laws may dictate how the recruitment and contracting process must be conducted, and it will be important to ensure that these procedures are followed.

In general, the first step is to develop a list of potential candidates by determining what local or international companies may be able to provide the services that will be outsourced. This will depend on the skill base and capacity in a given country or setting. Many large international logistics organizations have partners/agents in many countries, so trade directories may be useful. Alternative sources may come from recommendations and, if needed, a press release asking for expressions of interest from 3PLs. The output should be a list of possible companies, including contact names and telephone numbers.

Next, contact the list of candidates to explore their interest in acting as a 3PL. Most of the time, for formal requests, a telephone conversation is sufficient to screen companies and reduce the list to a manageable size. The screening process should determine if candidates have the required experience, whether they have or could develop resources in the right locations, whether they would be interested in tendering for the work, and, if so, the contact address for the invitations to tender. This step should eliminate businesses that do not have the capacity or are not interested in this type of business. The final list of companies can be contacted with an invitation to tender (ITT).

RFPs or ITTs are typically done through an international bid process. However, some countries have a legal framework within which they perform tenders. The ITT to potential contractors should include—

- introduction and scope of work
- description of agency or organization
- explanation of the origins of the ITT and strategic goals
- business requirements for work to be done
- logistics standards
- performance measures

- outline of contractual terms
- operator information
- outline of acceptable fee structure
- definition of needed format for quotations
- date of final response for the ITT.

The ITT should also include any information that will assist the contractor with estimates for fees and quotations. Give the potential contractors the opportunity to ask questions and give all bidders access to the responses. They can be coordinated in several ways—by offering a short visit to the current operations, aggregating all questions and answers and circulating to all bidders, or providing a supplementary data pack with additional information, based on questions or requests.

After the bids are submitted, analyze and evaluate them. To help in the selection, compare and rank criteria—operational fit, costs/prices quoted, technical expertise, information management capabilities, and management structure. Consider visiting the prospective providers' facilities; this is critical to see if potential contractors have the management capacity and physical resources to meet the objectives of the operations to be outsourced. Also, review the qualifications of all members of the potential 3PL team who will be working on the outsourcing project. To further evaluate how well they perform, talk to previous and existing clients and visit operations they currently service or manage. This will show their management style and how well the team is able to manage operations and/or solve problems.

After evaluating and ranking bidders, if multiple candidates remain, create a short list of preferred candidates. To select the best option, gather more information on the financial status of the company, meet and interview key staff, review the benefits they offer, and the pricing structure.

The final step in selecting a 3PL is the preparation and signature of a formal contract and designation of roles and responsibilities within the terms of the contract.

Why organizations are reluctant to outsource (Patel 2005)

- Cost.
- Lack of management support.
- Cultural differences.
- Confidentiality.
- Concerns about level of service.
- Perceived loss of control.
- Loss of internal expertise.
- Personnel issues.

Major reasons why outsourcing fails (Barthélemy 2003)

- Poor management of the outsourced relationship.
- Making the wrong choices about what to outsource.
- Choosing the wrong vendor.
- Drafting an inappropriate or unrealistic contract.
- Overlooking potential personnel issues.

Stage 3. Service-level Agreement

During contract negotiations, it is important to have a service level agreement (SLA) that is performance-oriented, yet realistic within the context. It would be discouraging for all parties if a clause was included in a distribution contract mandating that all orders be delivered within 24 hours if it takes 36 hours to reach some of the health facilities. Also, while electronic reports may be preferable, allowances may need to be made in areas where communications are challenging. The agreement must be fair and equitable, with allowances for conflict resolution, so that each party can perform well, but allow for resolving problems.

Contracting companies should also have standard operating procedures (SOPs) that clearly define the operational activities to be performed between the customer and the 3PL, and also state how they will be performed. These should be outlined in the contract or as an addendum. The SOP is, however, a *live* document. To ensure that all parties understand the details of the agreement, it should be updated whenever a change occurs in the process.

Next, develop and agree on KPIs, which are linked to the overall objective of outsourcing, as discussed in stage 1. Additional measures could be added, depending on the service to outsource, including—

- delivery times
- condition of vehicles
- agreed-upon reporting protocols
- order processing rates
- accuracy of orders being processed.

KPIs should be measurable, time limited, and realistically attainable. They are the contractor's insurance to ensure that their outsourcing partner performs as expected. The SLA should state clearly what the implications are for not performing according to the KPIs. This process ensures

accountability for both partners. As mentioned earlier, the USAID | DELIVER PROJECT has published a list of suggested metrics for logistics systems (Aronovich et al. 2010), which is available on the project's website.

Many resources are available on contracts. Recommended reading includes *Contracting for Health Care Service Delivery: A Manual for Policy Makers* (JSI 2004). While this guide provides guidance on contracting health service delivery, rather than logistics functions, the contracting sections are useful for both. Appendix A includes excerpts on the suggested contract template and format. Another good resource for the contracting process is *How to Select Suppliers of Third-Party Logistics Services* (Slater 1998) and *The Handbook of Logistics Contracts* (Jané and de Ochoa 2006). Additional resources are listed in the references section.

Transitioning from in-house to outsourcing may be challenging. After an organization decides to outsource some of its operation, the old way and new way will co-exist for awhile. As part of this, it is critical to have a change management strategy for the operations of both organizations. It is important to ensure that all staff understand the reasons for outsourcing and how it will affect them. Organizational change can lower employee morale and performance as people are unsure how their job will change, or whether it will be eliminated. Good communication about changes can help mitigate this anxiety. The best route is to include *all* workers at the beginning of the process so at-risk parts of the operation can be highlighted and a contingency plan established.

It will be important to allay fears by confirming the continuation of employees, if that is the case, or to alert them to any potential changes in their responsibilities. Conversely, if jobs are going to be eliminated, a business continuity plan should be developed in case of service interruption during the transition. For instance, if transportation is going to be outsourced, drivers may lose their jobs. To reduce the incidence of theft, damage, or poor service, the 3PL may bring in drivers to drive government vehicles before the SLA is in place.

One of the biggest changes for the program managers is in their role of contract management. Managing a 3PL relationship may require additional training or capacity building to ensure that staff that once directly managed a warehouse or scheduled transport are now equipped to manage a 3PL relationship and to ensure that operations are running smoothly and customers' needs are being met. It will be a shift toward oversight that includes checking, approving, and processing invoices; information management; and making sure that service levels are met (quality monitoring).

The key areas to focus on are—

- reports based on agreed KPIs
- regular meetings with 3PL to highlight issues or praise good service
- financial oversight
- conflict management
- relationship building.

This job is critical to the success of any outsourcing agreement and, therefore, the contract manager *must* be a senior government official with project management experience, with support and authority; who, ideally, reports directly to the minister or permanent secretary.

- Financial
 - Formalize terms of payment and ensure that these are acceptable and reasonable for both parties.
 - Establish strong links with the outsourcing partner to develop trust so that they can give favorable payment terms or even discounts for additional work.

Stage 4. Monitoring and Evaluation

Life after the Contract

Using the KPIs and objectives of outsourcing, it will be important to assess outsourced functions and contractors to determine if the anticipated benefits were achieved. Depending on the length of the contract, it will be important to conduct a periodic reassessment to ensure that both parties are following their contract. It is especially important to assess the quality of service of an outsourcing partner when the contract is due for rebid or expansion.

These steps, with strong senior management buy-in and vigilant project management, will foster a strong partnership, ensure that objectives are met, and improve the likelihood that both parties will consider the experience mutually beneficial. Further information is available from many sources (Inbound Logistics 2010.)

Conclusion

Experience from both the private and public sector's work with 3PLs and suppliers have generated some useful lessons that are broadly applicable to organizations considering outsourcing some of their logistics functions or working closer with suppliers to improve inventory management.

- **The policy environment can affect the government's flexibility to collaborate with service providers and suppliers.**

Policies governing financial mechanisms available to MOH procurement units may inhibit contracting options and opportunities for supplier collaboration between the government and private companies. A service provider or supplier is less likely to make special efforts to accommodate a client's needs if it will only result in a short-term or one-time contract with no guarantee of future business. Framework contracts or framework international competitive bidding (ICB) contracts may be a favorable contract arrangement for purchaser and supplier, resulting in preferential pricing over a longer-term contract agreement. However, the existing MOF and donor policies might also limit the potential use of these and other types of contracts. Efforts should be made to work with policymakers to ensure that the environment is conducive to healthy competition, yet flexible enough to take advantage of relationships that improve service levels and reduce costs.

- **After the decision is made to outsource an activity, the client must develop a thoughtful management plan to implement the proposed changes.**

Managing the transition process is a big part of a successful outsourcing initiative. The client needs to invest a significant amount of time and willingness to integrate the 3PL, as the *arm* of existing services, to ensure that service delivery is seamless for the customer. The 3PL will represent your organization; therefore, they must be able to operate as part of your organization and have the resources and relationships to do this well. This will not happen without a significant amount of communication, training, and resource planning involving both the client and the 3PL from the outset of the relationship.

One way to mitigate issues that arise during a transition is to have a change management plan and a strong project management team to manage the process and ensure that key stakeholders from all involved partners and organizations understand the process and can help oversee the progress and ensure that the transition occurs smoothly.

- **Selection of a reputable and respected 3PL with adequate capacity for the task is essential to success.**

Part of the initial evaluation of the use of 3PL providers needs to include careful 'due diligence' of any prospective partner. A major concern is the financial and operational health of the prospective service provider—how confident are you that the company will not go out of business or become bankrupt during your service contract? Do they have significant capital available to invest in and support their existing infrastructure and expand as needed? Some risk is expected in any business you work with and the business may cease functioning for a variety of reasons—from risky investments made by their management, to natural disasters, to mismanagement. After you have

decided to outsource particular services, your role in selecting a 3PL is making sure that the company is reliable and the risk is mitigated as much as possible.

An established company should provide proof of their level of management and experience in an area. The 3PLs should provide references from existing clients that show a clear record of consistent, on-time services; clean financial and legal documents; and good driving records for anyone involved with transporting products.

- **A strong contract and contract management plan must be in place to ensure the successful transition to outsourcing and to define roles and responsibilities.**

A contract is a useful tool for both parties in defining what the roles and responsibilities are and the expectations of both client and service provider. If well written, the contract should explain who does what, who is held accountable, and how both parties can determine if what has been done was done well.

The contract is what the MOH can use to ensure that the supplier/manufacturer does what is expected. It states performance measures, and, if those measures are monitored, the contract manager can hold the supplier to the expectation stated in the contract.

The process of managing a contract requires a different core competency than doing the work. Rather than planning delivery routes, allocating resources, and coordinating transaction paperwork, a program manager in the MOH or logistics management unit (LMU) monitors performance by collecting information on these performance measures. They may facilitate communications between the contracted supplier and the warehouses or service delivery points with whom they will be collaborating.

Furthermore, either as a government entity or through the 3PL, a business continuity plan should spell out the consequences if some level of the system fails. While not necessarily the responsibility of the 3PL, it is important to know if they have a contingency plan should something disrupt their ability to provide service (i.e., if they are providing distribution services and all of their drivers go on strike).

- **Clear performance measures are the foundation for a successful partnership.**

The ability to define the desired quality and service levels during the 3PL selection process and in the contract will make the entire process easier. It is important to clearly define the scope and parameters of responsibilities and required logistics services. Even before meeting with potential partners, it would be a good idea to outline performance metrics, including KPIs and desired contractual terms. Expectations and business objectives should be clearly defined and documented. Eventually, after the needs and desired functions of the 3PL are identified, an ITT will need to be developed to start soliciting bids from potential 3PLs. The performance indicators will then go into the contract to ensure that the client is able to determine if the 3PL is or is not providing quality service.

A variety of resources suggest appropriate performance measures for supply chains. The USAID | DELIVER PROJECT lists them in *A Guide to Key Performance Indicators for Public Health Managers* (Aronovich et al. 2010) and *How to Select Suppliers of Third-Party Logistics Services* (Slater 1998). The publications are good examples of the contents of an ITT.

- **Communications must be open and frequent and both parties must be committed to the success of the relationship.**

In the private sector in the United States and Europe, communication is cited as one of the most difficult barriers to effective business partnerships and supply chain collaboration. Governments may not be accustomed to managing a contract or providing feedback on performance to a vendor as a way to improve the quality of service. Conversely, 3PLs may not understand the constraints that governments must work with in their operations. Open and on-going communication about needs and expectations can provide opportunities to address these issues and improve the overall system quality.

Outsourcing is an important option to consider for public sector health systems struggling with maintaining high service delivery standards in the middle of growing supply chain demands. Third party service providers can potentially provide a way for governments (MOHs) to maximize limited resources for product management and distribution by harnessing the expertise and resources of the private sector, including advanced information technology, economies of scale, service specialization, and profit incentives generally not available to the public sector supply chain managers.

However, it is important to remember that while outsourcing can significantly reduce the number of functions that a government has to provide for its public sector health system, it is not a perfect solution. Managing a contract is usually challenging, especially for a key function with a complex network—outsourced public health supply chain functions often are. It may require fewer resources than doing the same job in-house, but it will require different types of management, oversight, and funding. Furthermore, it may not be a feasible option if restrictions on contracting, funding, or the decision faces political opposition because of lost jobs. However, if these obstacles do not exist or can be overcome, government systems may benefit from the enhanced capacity and specialization of 3PLs by outsourcing specific functions to the private sector.

The decision to outsource must be made after careful consideration of the potential benefits and risks and with a clear understanding of the expected results from an outsourcing contract; this will help ensure that the process will have a favorable outcome. There is no right answer, but using this guide should help managers and policymakers determine what might be possible and feasible within a given context and to increase the capacity to work with an increasing number of demands on supply chains for public sector health systems.

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Interview Sources for Outsourcing Examples

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Appendix A

Typical Contract Format

1. *Front page:* Title of a contract, contracting parties, date when contract becomes effective.
2. *Background:* Purpose and objectives of the contract and parties involved.
3. *Authorized persons and signatures:* The contract is signed by a legal representative from each party and it is dated.
4. *Contract period:* Time period covered by the contract and the arrangements for contract renewal.
5. *Terms of reference and service specification:* The general scope of work under the contract, including service delivery objectives, definitions of services (what), volume of services (how many), target populations (to whom), and geographic locations (where).
6. *Performance of specification:* Definition of performance, performance targets, methods of performance measurements, and links to payment.
7. *Payment methods:* Specification of how, how much, and when the providers are paid.
8. *Monitoring and Evaluation (M&E):* Data collection and recordkeeping requirements, forms, and schedules/periodicity with specification as to use of possible third party evaluators.
9. *Variations to the agreement:* The procedure for making variations, normally in writing and mutually agreed.
10. *Best endeavors:* Both parties have a duty to resolve matters without arbitration, if possible.
11. *Arbitration:* Who the arbitrator will be and how he/she will be appointed.
12. *Statutory regulations:* Statement that both parties must be acquainted with and act in accordance with all relevant legislation and national policy.
13. *Other items:* Conflict of interest, confidentiality, patent, etc.

Appendix B

Sample Implementation Plan

If activity is complete, mark status with green infill
OUTSOURCING MOH SUPPLY CHAIN OPERATIONS IMPLEMENTATION PLAN

Key

	Planned
	Completed
	Outstanding

							Month																						
		Persons Responsible for Delivery	Start Date	End Date	Status	Comments/Issues	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
1	Form a Cross Functional Team																												
1.1	Identify key stakeholders	MOH	Month 0	Month 1																									
1.2	Define roles and identify strong project leader	MOH	Month 0	Month 1																									
1.3	Prepare a mandate for operations	MOH	Month 0	Month 1																									
1.4	Plan regular team meetings	MOH	Month 0	Month 1																									
1.5	Develop a reporting process to inform all stakeholders of progress	MOH	Month 0	Month 1																									
1.6	Team commits to project and makes it priority	MOH	Month 0	Month 1																									
1.7	Develop clear deliverables and dates for actions	MOH	Month 0	Month 1																									
2	Set Objectives																												
2.1	Team defines clear objectives	MOH	Month 1	Month 1																									
2.2	Success criteria defined to ensure right result is received	MOH	Month 1	Month 1																									

						Month																						
		Persons Responsible for Delivery	Start Date	End Date	Status	Comments/Issues	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
2.3	Ensure that each team member has ownership of specific tasks to achieve objectives	MOH	Month 1	Month 1	■		■																					
2.4	Team determines desired outcome from outsourcing based on the objectives	MOH	Month 1	Month 1	■		■																					
3	Complete Internal Assessment and Pareto Analysis				■	■					■	■																■
3.1	Complete cost benefit analysis	MOH/external consultant	Month 1	Month 3	■				■																			
3.2	Complete skills analysis	MOH/external consultant	Month 1	Month 3	■				■																			
3.3	Complete a service gap analysis	MOH/external consultant	Month 1	Month 3	■				■																			
4	Supplier Selection				■	■					■	■																■
4.1	Develop a list of potential candidates	MOH	Month 3	Month 3	■				■																			
4.2	Explore interest among the candidates	MOH	Month 4	Month 4	■					■																		
4.3	If no original candidates interested look for other companies including outside the country	MOH	Month 4	Month 4	■					■																		
4.4	Develop full specifications for the services required	MOH	Month 4	Month 4	■					■																		
4.5	Develop an assessment matrix to facilitate easy selection; incorporate cost/service level/capacity/technical expertise/financial stability/geographical coverage	MOH	Month 4	Month 4	■					■																		
4.6	Instigate the tender process	MOH	Month 4	Month 4	■					■																		
4.7	Visit companies that have tendered for the business	MOH	Month 4	Month 6	■						■	■																
4.8	Review their professional qualifications	MOH	Month 6	Month 6	■							■	■															
4.9	Solicit feedback from existing or previous customers of the potential supplier	MOH	month 7	Month 7	■								■															
4.10	Choose the best supplier to meet organization's objectives and that scores highest on assessment matrix	MOH	Month 8	Month 8	■									■														
5	Service Level Agreement				■	■					■	■																■
5.1	Negotiate the final agreement with supplier	MOH/Supplier	Month 9	Month 9	■										■													
5.2	Agree on the KPIs that will govern the agreement	MOH/Supplier	Month 9	Month 9	■										■													
5.3	Appoint a contract manager to monitor performance	MOH	Month 9	Month 9	■										■													

						Month																						
	Persons Responsible for Delivery	Start Date	End Date	Status	Comments/Issues	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
5.4	Ensure a plan is in place to make transition is as seamless as possible	MOH	Month 6	month 10																								
6	Service Level Agreement Management																											
6.1	Hold regular meetings with supplier to review performance	MOH/Supplier	Month 11	Month 22																								
6.2	Senior management from both sides meet when needed to resolve issues	MOH/Supplier	Month 11	Month 22																								
6.3	Where possible, have cross-organizational meetings, including customers, to ensure that objectives have been met	MOH/Supplier / Customer	Month 11	Month 22																								
7	Life after the SLA																											
7.1	Schedule regular internal reviews to ensure performance is to the agreed levels and objectives have been met	MOH	Month 11	Month 22																								
7.2	If being met, continue/extend the contract	MOH	Month 11	Month 22																								
7.3	If not being met, try to resolve with supplier or restart process	MOH	month 22	Month 22																								

* This example is only illustrative; actual steps and timeline will vary by situation

* This example is only illustrative; actual steps and timeline will vary by situation.

For more information, please visit deliver.jsi.com.

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