Clinical Trial Outsourcing and Agreements

Module 13 Topic 3

What is Outsourcing?

- Outsourcing is the business practice of hiring a party outside a company to perform services and create goods that traditionally were performed in-house by the company's own employees and staff. Usually done as a cost-cutting measure, it can affect jobs ranging from customer support to manufacturing to the back office

What is Outsourcing?

- Outsourcing was first recognized as a business strategy in 1989 and became an integral part of business economics throughout the 1990s

- The practice of outsourcing is subject to considerable controversy in many countries. Those opposed argue it has caused the loss of domestic jobs, particularly in the manufacturing sector

- Supporters say it creates an incentive for businesses and companies to allocate resources where they are most effective, and that outsourcing helps maintain the nature of free market economies on a global scale

Advantages of Outsourcing

- Outsourcing can help businesses reduce labor costs significantly by outsourcing certain tasks. Businesses can also avoid expenses associated with overhead, equipment and technology

Advantages of Outsourcing

- In addition to cost savings, companies can employ an outsourcing strategy to better focus on core aspects of the business

- Outsourcing non-core activities can improve efficiency and productivity because another entity performs these smaller tasks better than the firm itself

- This strategy may also lead to faster turnaround times, increased competitiveness within an industry and the cutting of overall operational costs

Outsourcing Internationally

- Outsourcing internationally can help companies benefit from the differences in labor and production costs among countries

- Price dispersion in another country may entice a business to relocate some or all of its operations to the cheaper country in order to increase profitability and stay competitive within an industry

- Many large corporations have eliminated their entire in-house customer service call centers, outsourcing that function to third-party outfits located in lower-cost locations

Current Scenario of Outsourcing in Pharma

- With pharma companies moving toward CROs and specialists for their clinical development services, clinical outsourcing penetration increased from 43 percent in 2016 to 45 percent in 2017

- Greater than 34 percent of these engagements were with large CROs and the remaining 16 percent with specialists

Clinical Research Outsourcing

- Clinical research outsourcing includes following services,

Early-phase trials,	Clinical supplies,
Late-stage trials,	Regulatory affairs,
Clinical staffing,	Labs investigations,
Pharmaceutical development services,	Biometrics, and Clinical IT

Driving Factors for Clinical Outsourcing

- High trial complexity accompanied by robust pipelines and stringent regulations for conducting trials are factors driving clinical development services outsourcing spend

- Complexity in terms of increased numbers of trial procedures, access to specialized patient population, along with regulatory challenges in emerging markets and mandated documentation such as REACH legislation, are creating a need for third-party vendors to tackle the problem

Third-party vendors/ Service providers

- CRO- Contract Research organization,
- PRO- Patient recruitment organization,
- SMO- Site management organization,
- Laboratories- Pathology labs/ other specialized investigational Labs

- BPO -Business process outsourcing
- CMO-Contract manufacturing organization,
- CDMO- Contract development and manufacturing organization
- ITES-Information technology-enabled services,

Key Drivers and Constraints of Outsourcing

Clinical Category	Key Market Driver	Key Market Constraint
Early Phase Clinical Trials	Access to specialized patient populations, patient recruitment, and retention and stringent regulations	Quality issues if the right supplier is not selected
Late Stage Clinical Trials	The total number of procedures has increased by 62% in last 10 years, increasing complexity of studies	Lack of data and trained staff, data falsification
Central Laboratory Services	Stringent regulatory environment and operational challenges in emerging economies, such as China, Russia, etc.	Need to innovate and acquire the latest technological and medical innovations, such as esoteric testing.
Clinical Data Management	Risk-based monitoring, adaptive trials	Quality of data from emerging markets and attrition rate of skillset
Biostatistics	Increased data scrutiny by regulators lead to increase in in-house FTEs and technology cost	Quality of data from emerging markets and attrition rate of skillset
Clinical IT	High trial complexity, development of cost-effective modules, cost reduction, and growing demand for improved therapeutics	Patient data privacy, slow adoption of new technology, reliability of software, and implementation cost is high
Clinical Trial Supplies	Growth in Phase 2 and Phase 3 trials, biologics pipeline, and comparator studies	Changing regulatory environment, high initial implementation costs
Pharmaceutical Development Services	Increased investments at the discovery and early development phases are leading to robust pipelines and creating demand for greater clinical-scale manufacturing capacity	Without public markets, the industry could see a sharp drop in IND filings and in the demand for CDMO services, as it did in 2010
Clinical Staffing	Clinical trials increase drives clinical staffing needs - increase in newly registered trials was seen in the regions of East Asia (+220 percent), Japan (+90 percent), South Asia (+45 percent), Southeast Asia (+45 percent), the Middle East (+35 percent), Africa (+30 percent) and Latin America (+20 percent)	Stringent regulations to conduct trials in certain emerging markets have restricted suppliers to provide resourcing solutions in these markets
Regulatory Affairs	Mandated documentation during the drug approval process and submissions. Changing regulatory environment, such as REACH, etc.	Data security, abuse, and misuse by consumers

Table 1 - Clinical Category Key Driver and Constraint: *Source: Beroe Analysis*
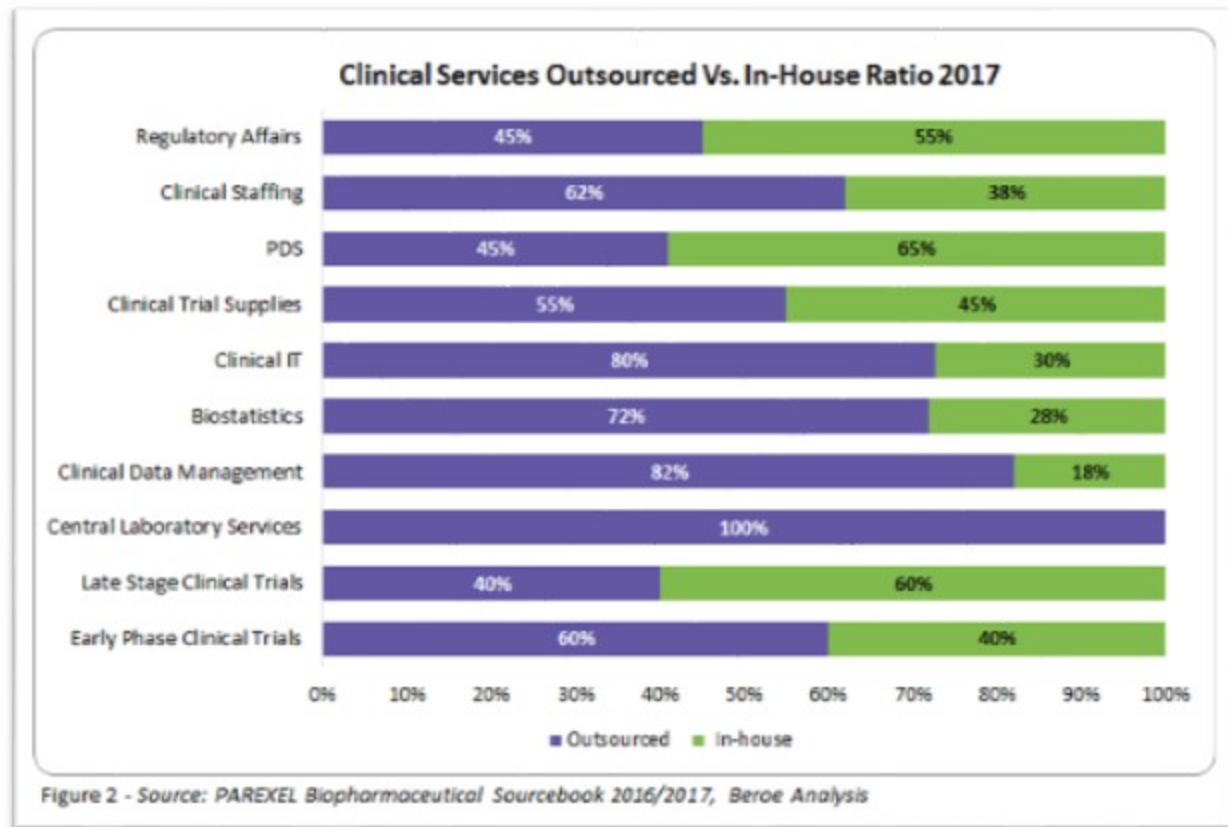
Clinical Services: Outsourced Vs. In-house Trend

- With more drivers than constraints, sponsors have increased the outsourcing of clinical development services to suppliers, tackling challenges along the way

- On average, around 64 percent of clinical development services are outsourced, with only 38 to 40 percent carried out in-house

Clinical Services: Outsourced Vs. In-house Trend

Figure 2 - Source: PAREXEL Biopharmaceutical Sourcebook 2016/2017, Beroe Analysis
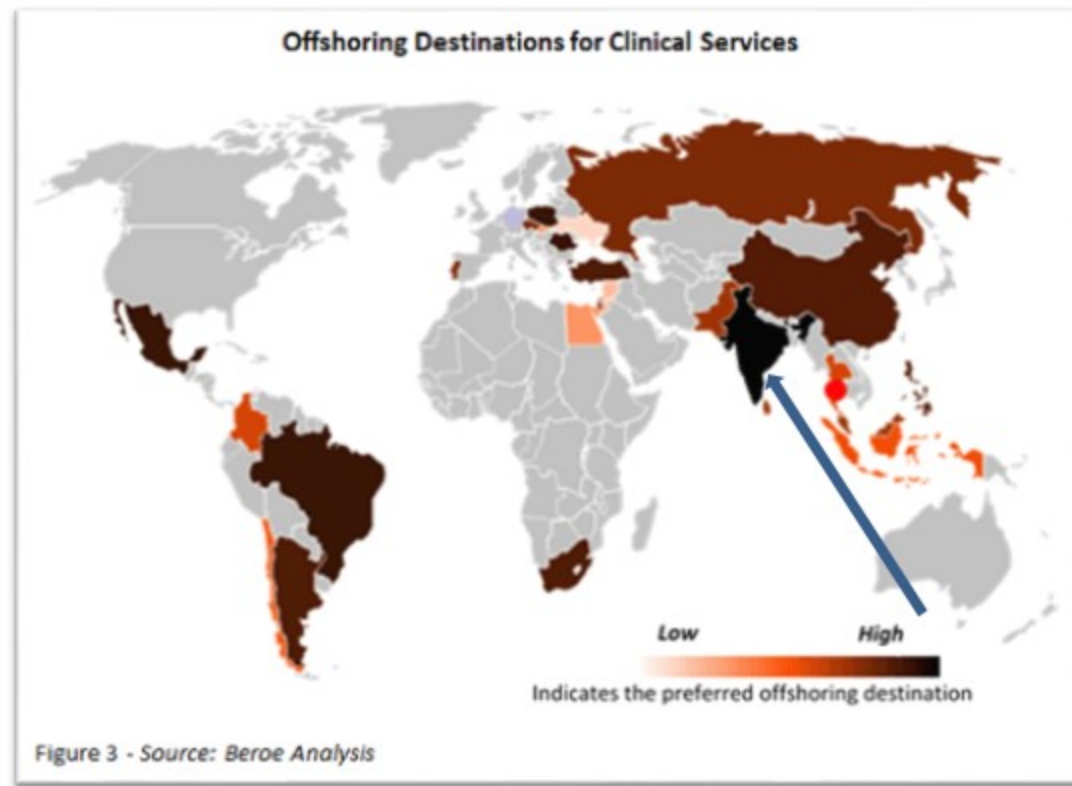
Clinical Services: Outsourced Vs. In-house Trend

- Over 60 percent of sponsors have increased outsourcing their in-house activities through strategic partnerships and functional outsourcing

- Clinical data management, biostatistics, Phase 1 through 4 trials, clinical trial supplies, and central labs are categories in which the **strategic partnership model** is highly adopted,

- Whereas the **functional service provider** (FSP) model is preferred for regulatory services, staffing, and clinical IT

- Most sponsors used both models, with one having higher adoption rate over the other

Emerging Destination Trends

Offshoring Destinations for Clinical Services

Low   High

Indicates the preferred offshoring destination

Figure 3 - Source: Beroe Analysis

Emerging Destination Trends

- New locations are emerging as offshoring destinations due to the adoption of risk-based monitoring and adaptive trials and an increase in global clinical trials

- Offshoring clinical services is seen as a more efficient, cost-effective, and faster way to conduct trials

- Figure illustrates the preferred offshoring destinations globally. Currently, China, India, Eastern Europe (Russia), and Latin America are the most cost-effective in terms of clinical trial services

Emerging Destination Trends

- There is some controversy over offshoring trials to emerging markets

- Some sponsors believe that through offshoring, the study teams would encounter less competition for trials, and that investigators would be more willing to find new treatments for their patients, resulting in more resources to focus on patient recruitment and retention

- On the other hand, broader interpretations of clinical trial regulations, fewer GCP/ICH trained sites, less experienced staff, low data quality, and a lack of trained clinical monitors act as constraints to offshoring

Various emerging offshoring destinations by category

Clinical Category	Emerging Markets
Early Phase Clinical Trials	South Korea, Australia, Netherlands
Late Stage Clinical Trials	India, Russia, China
Central Laboratory Services	China, Russia, and Southeast Asia
Clinical Data Management	The Philippines, Poland, Romania
Biostatistics	The Philippines, Poland, Romania
Clinical IT	Asia Pacific Regions
Clinical Trial Supplies	China, South Korea, Russia, India, Brazil
Pharmaceutical Development Services	India, China
Clinical Staffing	South Korea, India, South Africa, China
Regulatory Affairs	India, China, Mexico, Brazil

Table 2 - Clinical Category Emerging Offshoring Destinations; Source: Beroe Analysis

Growth and future of clinical outsourcing

- Clinical categories related to technology, patient services, and regulatory affairs will see an increase in outsourcing from 2018 forward

- High growth will be seen among technology-driven services such as clinical data management, biostatistics, and clinical IT, with an average CAGR of 12 to 14 percent until 2020

- An integrated eClinical approach with unification of systems (EDC, ePRO, RTSM, etc.), with all data integrated in a hub arrangement, is the future of better patient-centric trials

Growth and future of clinical outsourcing

- Cloud-based delivery modes will increase in the future, due to the ease of integration and maintenance through SaaS compared with web-hosted or licensing models

- The regulatory affairs category is seeing the highest growth, at 15 to 16 percent until 2020

- As regulatory services consist of largely tedious document-oriented processes with a high cost, expertise is needed to ensure timely approvals, which drives the outsourcing of regulatory affairs

Growth and future of clinical outsourcing (contd)

- Regulatory writing and publishing hold the largest share among the segments of regulatory affairs

- It is estimated to retain that position in the next five years, whereas regulatory consulting and legal representation is expected to grow at a double-digit rate..

Growth and future of clinical outsourcing

Estimated Market Spending Vs. Outsourced Spend 2017 (in USD Billion)

Category	CAGR	Estimated Market Size	Estimated Outsourced Spend
Late Stage Clinical Trials	2 – 3%	14.8	5.92
Early Phase Clinical Trials	4 – 5%	13.1	7.86
PDS	5 – 6%	8.5	3.83
Clinical Staffing	5 – 6%	5.1	3.16
Clinical Data Management	12 – 14%	4.1	3.36
Clinical IT	12 – 13%	4.06	3.25
Central Laboratory Services	7 – 8%	3.2	3.20
Regulatory Affairs	15 – 16%	2.63	1.18
Biostatistics	13 – 14%	2.03	1.46
Clinical Trial Supplies	7 – 8%	1.8	0.99

■ Estimated Market Size - 2017 (in USD Billion)   ■ Estimated Ousourced Spend - 2017 (in USD Billion)
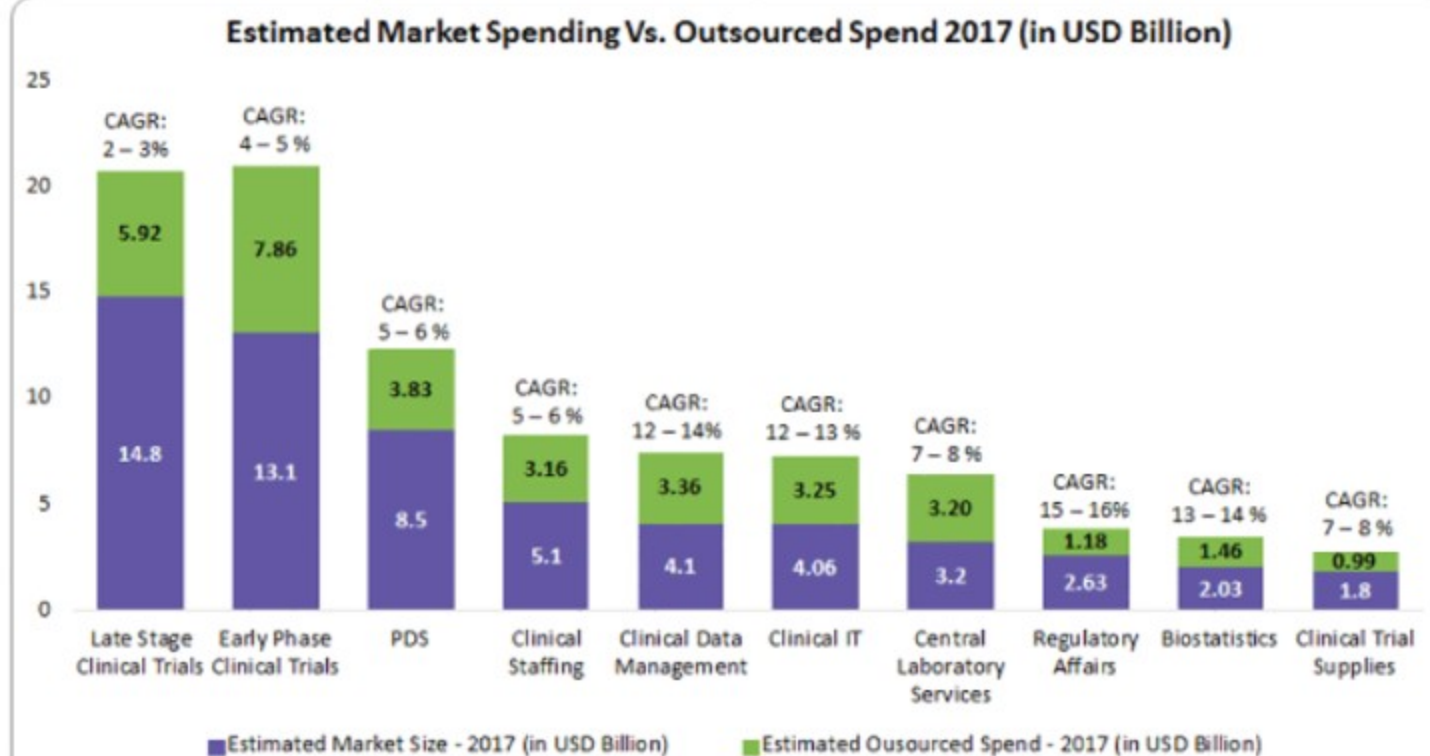
Figure 1 - Source: PAREXEL Biopharmaceutical Sourcebook 2016/2017, Beroe Analysis
Note: CAGR Growth Rate until 2020.

Growth and future of clinical outsourcing

- Mature categories such as early-phase and late-stage trials will see slow growth, with sponsors focusing more on patient recruitment, engagement, and retention going forward

- This in turn enables growth of the patient recruitment market, which has an estimated market size of $4.8 billion as of 2017, and is expected to grow at a 15 to 16 percent CAGR until 2020

- Delays in patient recruitment vary by therapeutic area, with oncology showing 40 percent delay and having 60 percent nonperforming sites

- These delays have forced the sponsors to invest more on patient recruitment activities

Service Level Agreements (SLA) in Outsourcing Contracts

- Outsourcing business functionality sounds like an easy way to cut costs: "Just get someone cheaper to do it." But hiring an application service provider doesn't abdicate your responsibilities to your own customers. How will you guarantee that the vendor provides an appropriate level of support?

- A carefully crafted service level agreement helps to protect both sides of the bargaining table

Contents of the SLA

- A well-defined SLA records the expectations for both sides of the relationship and provides targets for accurately measuring performance against those objectives

- The SLA lays down the boundaries of the project in a number of areas:

  - Standard(s) by which service is measured

  - Functions that the application service provider (ASP) commits to providing to the customer,

  - Volume of work that will be accepted and delivered,

  - Accepted criteria for responsiveness,

  - Quality of deliverables,

  - What should happen if something goes wrong,

Contents of the SLA

- The SLA can end up as a very complicated document because it's meant to cover two sides, both of which are deeply interested in protecting themselves

- In many cases, convoluted language in the SLA makes it complex to measure compliance

- Loopholes occur due to obscure clauses related to availability, performance, and timing—all of which may be difficult to understand and measure

- Therefore, preparing an SLA requires careful analysis and perhaps consultation with legal counsel

Categories of SLA Metrics

- The simplest way to approach the many possible metrics of an SLA is to group them into categories, decide which ones in a given category work best for the particular engagement, and then construct the desired metrics

- The key factors can be managed through 15 major categories

Categories of SLA Metrics

SLA document	Volume of work
SLA methodology/process	Standards compliance and quality
Process implementation	Customer satisfaction
SLA measurements	Sensitivity
Resources	Effectiveness
Penalties	SLA implementation
Innovation	Outsourcing agreement
System downtime and availability	

Categories of SLA Metrics

- **SLA Document**
  - The SLA document is the legal binding covenant between the outsourcing company and its client. This document must describe the exact services and service levels with precise and straightforward detail about all the services and agreements.

Categories of SLA Metrics

- **SLA Methodology/Process**
  - The process document must describe what method/process and procedure the outsourcing company will use to support the SLA document
  - Usually these processes and methodologies are left to the outsourcing company to identify, ensuring that such processes and methodologies can support the SLA agreement
  - However, it's recommended that the client and the outsourcing company work together during the SLA contract negotiation to eliminate any misunderstanding about the process and method of support as well as management and reporting methods

Categories of SLA Metrics

- **Process Implementation**
  - The SLA methodology/process represents the high-level solution for the problem and the best technology to be used to implement the system. The team who are involved throughout the SLA agreement, contract, and cost negotiation must also be involved throughout the process implementation, to make sure that the SLA is not broken by either party

Categories of SLA Metrics

- **SLA Measurements**
  - Some type of measurement must be used to ensure that the SLA requirements are met. For example, in help desk outsourcing, data must be collected either manually or automatically for management reporting. Automatic data collection is recommended for comprehensive and less labor-intensive SLA reporting.

Categories of SLA Metrics

- **Resources**
  - The SLA should consider using external or internal resources dynamically to meet changing business conditions. The object is to use a seamless mix of services, costs, and service providers to market the solution at a competitive rate

- **Penalties**
  - Loss of business cannot be measured in dollars and cents. However, it's extremely important to determine and prioritize business functionalities from worst case to best case, measuring those functionalities in dollars and cents. The SLA also must specify penalties that would get the outsourcer's attention

Categories of SLA Metrics

- **Innovation**
  - Innovation brings services to market faster. Since much technology improves rapidly over time, service level terms and conditions should be updated periodically to match industry standards

- **System Downtime and Availability**
  - In outsourcing, guaranteeing 100% availability of services costs significantly more than guaranteeing 99% or 98%, and not every company or every application needs 100% reliability. The SLA should request service availability to meet specific business needs. To avoid confusion, create a set of definitions for performance-related terms. Indicate how service levels will be tracked, how frequently they will be reported, and how often performance will be reviewed

Categories of SLA Metrics

- **Volume of Work**
  - The volume of work sometimes is difficult to define. For example, projects that are billed on a time-and-material basis may discuss volume in terms of number of resources, while a fixed-price project usually specifies number of deliverables. This metric is an important part of the SLA, specifying the exact level of effort to be provided by the service provider within the scope of the project

Categories of SLA Metrics

- **Standards Compliance and Quality**

  – Whether your project must comply with Six Sigma, CMMI, existing coding structures, or other industry standards, quality metrics are one of the most important SLA categories, covering the conformance of a variety of documents, work products, and deliverables to those standards.

Categories of SLA Metrics

- **Standards Compliance and Quality (contd)**

  – Quality problems arise when the ASP fails to meet these deliverables based on the predefined metrics in the SLA document; it's important to include acceptance criteria for each deliverable to gauge whether quality is acceptable. The best solution is using credible third-party vendors to audit compliance and quality assurance

Categories of SLA Metrics

- **Customer Satisfaction**

  – Periodic surveys should be conducted by both internal and external resources to make sure that service provided by the outsourcing company is satisfactory to your customers. Survey results should be checked against the SLA to ensure that the ASP meets the targets satisfactorily

Categories of SLA Metrics

- **Sensitivity**

    – Sensitivity metrics measure the amount of time required for an outsource company to handle a request. From the client's point of view, this metric helps to determine the quality of services provided by the ASP. These metrics gauge not only satisfying end customers, but launching new products and services quickly in the market. Another measure of sensitivity is the amount of backlog.

Categories of SLA Metrics

- **Effectiveness**

    – Effectiveness metrics focus on lowering costs, improving profit, and adjusting business transactions. This category helps to measure the quality of a process and its efficiency. You also need to measure rework rates for specific deliverables and processes

Categories of SLA Metrics

- **SLA Implementation**

  - A legal instrument should be created to bind both parties to the final service level agreement. While the final SLA is based on the evaluator's SLA document, it's likely that sections will be added, removed, or adjusted as dictated by negotiations

Categories of SLA Metrics

- **Outsourcing Agreement**

  – Outsourcing agreements generally can be terminated for cause upon a material breach, such as insufficient service level. Without clear language in the SLA, the parties might argue about whether a service level failure is sufficiently severe to constitute a material breach. The SLA can provide increased certainty by defining particular events that, without argument, allow termination for cause. You can set minimum service levels that allow termination

Factors of Effective SLA

- Effective SLAs are extremely important to ensure effective outsourcing engagements.

- The metrics used to measure and manage performance to SLA commitments are the heart of a successful agreement and are a critical factor in long-term success.

Factors of Effective SLA

- Lack of experience in the use and implementation of performance metrics can cause problems for many organizations as they attempt to formulate their SLA strategies and select and set the metrics needed to support those strategies.

- Fortunately, while reaching for perfection is difficult and costly, most companies can achieve their objectives through a carefully chosen set of collected metrics.

References

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