

# Net Impact Saudi Arabia:

From Connectivity to Productivity

## Saudi Arabia Public Sector



### High Impact

Cisco Systems' *Net Impact Research Series* has measured the productivity gains that organisations experience as a result of implementing **Internet applications, networking technologies, business process re-engineering and organisational behaviours by measuring 12 operating metrics that are drivers for four broad productivity outcomes:**

- Efficiency
- Services volume
- Financial improvements
- Citizen satisfaction

Overall, organisations implementing the best practices identified for each of these four operating outcomes experienced, on average, productivity improvements three to seven times greater than their peers who did not apply all the identified best practices.

In the case of Saudi Arabia, main findings of the study included the following:

- Saudi Arabia's focus on organisational efficiency, services volume and cost savings is consistent with best practices for increasing productivity. However, organisations in Saudi Arabia cite fewer "triggers" leading to technology adoption than their counterparts in the EMEA study. This may indicate that there was not a clear business case for these technology investments, and now these organisations may need to "retrofit" their networks and processes to fit their business needs.
- Connected public sector organisations in Saudi Arabia are advanced in many aspects of networking and technology. Connected Saudi Arabian organisations have implemented several of the best practices identified in the EMEA study as associated with improvements in the delivery of citizen services.
- These organisations are focusing on accelerating the speed at which their organisations operate and on expanding citizen-services capacity using existing resources.
- Process re-engineering is a significant predictor of improving productivity. Many connected Saudi Arabian organisations undertake process re-engineering with the adoption of new technology; however, about a third of the organisations do not re-engineer at all, potentially limiting their productivity gains.

Productivity is a deeply-rooted and frequently discussed concept by both corporate and political leaders. In recent years productivity has become a leading economic statistic, and it figures prominently in decisions about interest rates, wages and fiscal policy. As a result, productivity numbers are used at the macro- and microeconomic levels for GDP estimates and as an input to many government programmes.

Public sector organisations across Europe, the Middle East and Africa (EMEA) are focusing more on productivity as they work to improve the quality, scope and cost of citizen services. These improvements come from small, incremental innovations in specific business functions. But which innovations? Which are the key areas of investment and best practices for public sector organisations?

To answer these questions, Cisco Systems® sponsored *Net Impact: EMEA Public Sector*, a study of the productivity impact of information communication technology (ICT), focusing primarily on European organisations. In 2005, Cisco and Momentum Research Group (MRG) extended this research to include six additional countries, as shown in Table 1.

This article provides an overview of *Net Impact: Public Sector – Saudi Arabia (Net Impact Saudi Arabia)*, a recently conducted study based on the same framework as the European study conducted in 2004. The data are from local, regional

and national government offices, as well as public healthcare providers. To qualify for participation in the study, an organisation had to be considered a "connected organisation," defined as having one or more active enterprise business applications distributed throughout its network.

Table 1. Expansion of *Net Impact Study*

Net Impact: EMEA Public Sector	
2004	2005
Germany	Hungary
UK	Russia
France	South Africa
Italy	Portugal
Spain	Saudi Arabia
Holland	Egypt
Sweden	
Poland	

More than 1,800 ICT and business decision makers participated in *Net Impact: EMEA Public Sector 2004 and 2005*, including 72 individuals from 38 different Saudi Arabian public sector organisations.

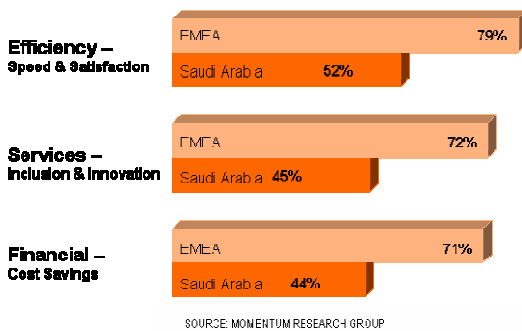
*Net Impact EMEA: Public Sector* found that organisations investing in (and aligning) their process re-engineering efforts, Internet business applications and network infrastructure achieve significantly greater productivity enhancements in their public sector projects than those organisations who don't.

### Setting Productivity Goals

*Net Impact Saudi Arabia* sought to understand what induces connected Saudi Arabian public sector organisations to make investments in networking, applications and business processes, and what productivity improvements, if any, resulted from those investments.

Respondents in Saudi Arabia are slightly more advanced than the EMEA average with regard to many aspects of networking and technology sophistication. Additionally, Saudi Arabian connected organisations have adopted many of the best practices identified in the EMEA study as associated with citizen-service delivery. These organisations are focused on improving the customer experience and moving online as many information and transactional processes as possible. There is still room for improvement, however, regarding aligning their business processes with technology investments.

Figure 1. Top Productivity Goals



Among both the EMEA public sector organisations surveyed in 2004 and the Saudi Arabian organisations surveyed in 2005, **efficiency** is the primary objective of public sector technology programmes (Figure 1). Specifically, accelerating the **speed of the organisation and improving citizen satisfaction** were the most common goals, cited 79% of the time in the EMEA study. Fifty-two percent of Saudi Arabian public sector organisations share the same goal, below the EMEA average. While 78% of EMEA 2004 respondents cited their desire to improve citizen satisfaction with their departments, only 38% of Saudi Arabian organisations share this focus. **Key finding: Although improving citizen satisfaction is a common goal among EMEA 2004 respondents, Saudi Arabian public sector organisations are motivated more by the desire to increase the speed at which their organisations operate and to expand the capacity of citizen services.**

**Services volume plays an important role in productivity.** The EMEA study found that, on average, 72% of the public sector organisations across the EMEA region are interested in broadening the reach of services (with existing resources) to include more citizens and are

innovating to deliver new services and address new citizen demands. The 2005 study revealed that public sector connected organisations in Saudi Arabia also place high importance upon expanding their services volume (45%) though at a lower level than seen in the EMEA study.

Completing the list of investment drivers is the desire to **improve financial metrics via cost savings**. **Key finding: At 44%, public sector connected organisations in Saudi Arabia put much less emphasis on cost savings than the EMEA 2004 average.** The 2004 study found that organisations placing too much emphasis on cost savings through formal measurement systems might be saving money at the expense of citizen satisfaction and other important productivity metrics. Saudi Arabian organisations are largely interested in increasing their agility and flexibility and extending their existing resources to meet citizen demands.

### Achieving Productivity Gains

Earlier *Net Impact* studies found that organisations using Internet business applications achieved single-digit productivity improvements, measured as a reduction in operating costs, over organisations that did not adopt such technologies. *Net Impact: EMEA Public Sector 2004* sought to identify a universal set of best practices that connected organisations could use to further improve productivity. The study revealed that optimum organisational productivity results from a set of inputs working together, including business processes, applications and network infrastructure as well as factors such as worker skills, choice of tools, and the general business environment.

Saudi Arabian public sector organisations are employing many of the best practices that lead to productivity growth, including investing heavily in applications and sophisticated network technology and migrating many of their citizen-services processes online. **Key finding: Many Saudi Arabian public sector organisations, however, have not effectively changed their behaviour or processes to align with their technology investments, and as a result, they have not yet fully realised the greatest possible productivity gains.**

Saudi Arabian public sector connected organisations in Saudi Arabia are ahead of the 2004 EMEA average with respect to network and technology sophistication. Saudi Arabian organisations exhibit higher deployment rates than the EMEA 2004 average for many enterprise applications, customer relationship management (CRM) applications and integrated network technologies. Additionally, Saudi Arabian connected organisations are ahead of the 2004 EMEA average with regard to the integration of their CRM functions and are more likely to use the Internet to transfer information or enhance the functionality of their business applications. Saudi Arabia also leads EMEA 2004 countries in granting access to the

internal data and systems required by remote employees, outside agencies and suppliers, a key best practice associated with productivity improvements.

### Striving Toward Efficiency

More than any other outcome, European public sector connected organisations desired to improve their operational efficiency, with 80% wanting to accelerate the speed at which their organisations operate. *Net Impact: EMEA Public Sector 2004* tracked several efficiency metrics, including average time to case resolution, average number of cases per employee and average cost per case resolution.

*Net Impact 2004 EMEA* found that business-process-based practices are the most significant factors in improving efficiency. Not surprisingly, automation of oft-repeated transactions, such as billing and fee collection, or information and service delivery, yield a significant boost in efficiency. Reducing the response time for interactions like permit approvals, tax transactions and import licensing can have a direct impact on citizen satisfaction.

A best practice that shares a strong correlation to efficiency outcomes is the deployment of data mining and analysis tools. As Saudi Arabian public sector organisations continue to migrate their applications online, they will generate growing volumes of data, increasing the requirement for data mining and analysis tools. Saudi Arabian public sector organisations match their EMEA 2004 peers with respect to application support of data mining and analysis activities. In addition, many Saudi Arabian organisations appear to have many of the infrastructural elements that will help them keep up with the growing demand for data mining capabilities, with 63% having a common data warehouse (vs. 53% EMEA average).

Overall, *Net Impact: EMEA Public Sector 2004* found that connected organisations implementing all the best practices for driving efficiency realised a 35 to 55% improvement in efficiency. Saudi Arabian organisations estimated that the implementation of these best practices have facilitated an average improvement of 31% in efficiency, slightly below the best practices range, but ahead of the EMEA 2004 average of 23%. To achieve even greater improvements in efficiency outcomes, Saudi Arabian organisations should increase their focus on the following best practices:

- Automating information service and delivery processes
- Automating case-management processes
- Integrating case-management activities to share data and processes

A deeper focus on these best practices will drive an improvement in the metrics used to track efficiency,

which will in turn positively affect overall operational efficiency within the organisation.

### Focusing on Expanded Services Volume

In addition to making themselves more efficient, connected organisations also need to expand the reach, diversity and quantity of citizen services. Seventy-two percent of respondents in the 2004 study desired to expand their citizen-services capacity using existing resources. (Citizen services could include such capabilities as responding to citizens' requests for information or issuing licenses/permits.) Only 59% of Saudi Arabian public sector organisations cite this as a desired outcome.

The integration of processes automated through applications and data has the greatest impact upon increasing services volumes. Some networking best practices, particularly the use of security technologies, played a significant role in increasing services volumes. Saudi Arabian public sector organisations have adopted real-time intrusion detection technologies at a slightly lower rate and a layered security approach at a rate similar to the public sector organisations studied in 2004.

*Net Impact: EMEA Public Sector 2004* showed that most connected organisations were working to establish online services within their own department or organisation (86%), before providing online services directly to citizens and customers (57%) or to other external organisations (46%). The majority of Saudi Arabian organisations are also focused on bringing online services functionality to their own desks before extending services to external parties. **Key finding: However, connected organisations in Saudi Arabia lag behind the EMEA 2004 countries in terms of providing online services within their department or to other agencies. Where they do outpace the EMEA 2004 average is in providing online services to citizens and end users.**

Overall, connected organisations that implement the services volume best practices could expect an estimated 30 to 50% improvement in their productivity. Saudi Arabian public sector connected organisations have achieved improvements in their services volume below the best practices range at 22% but at nearly the same level as the EMEA 2004 average of 20%.

For Saudi Arabian organisations to achieve even greater improvements in services volume outcomes, they should turn their focus to the following best practices:

- Increasing the use of real-time intrusion detection technologies
- Supporting e-learning capabilities
- Supporting regulatory compliance through technology
- Consistently aligning their applications, network and business processes

## Value of Investing in ICT – Cost Savings

*Net Impact: EMEA Public Sector 2004* showed that organisations investing in appropriate network technology, business processes and network applications realised an average reduction of 20 to 30 in operating costs. Prudent network engineering practices, such as providing sufficient network capacity for application upgrades planned over the next year and deploying sophisticated traffic management tools, contributed significantly to cost-containment efforts. About half of Saudi Arabian public sector connected organisations report that their networks will not support the deployment of future applications, highlighting that these organisations may have to focus on strategically building out their network infrastructures in the next few years in an effort to achieve the highest possible cost savings.

The related costs of providing customer services have actually increased as a result of technology implementations, and the ultimate goal of improving the customer experience has yet to be realised. Many Saudi Arabian public sector connected organisations have found that reducing customer service operating costs is not a guaranteed outcome of technology implementation. Although 24% of organisations have seen a reduction in such expenditures during the past 12 months (at a level similar to the EMEA average of 23%), 18% of Saudi Arabian connected organisations have seen these costs increase.

The study further revealed that **the primary drivers for cost reduction are the percentage of cases resolved through self-service and the number of citizens using self-service**. Doubling either of these metrics translates to a 10% or greater reduction in annual operating costs, as well as a greater than 20% increase in citizen satisfaction. As they expand citizen accessibility to self-service, Saudi Arabian public sector connected organisations will be able to harvest more of their cost-saving potential.

Increasing revenue, however, requires a different set of practices than those most effective at containing costs. Automated billing and fee collection was a key best practice that connected organisations used to achieve significant increases in revenue over the past 12 months. Additionally, the use of a remote disaster recovery technology was paramount in affecting revenue growth: A network that is down cannot collect money, and an organisation unprepared for unexpected network failures will require more time for recovery, compounding the revenue loss.

The best practices analysis indicates that while a one-to-one correlation cannot be identified, a focus on the following activities is associated with improvements in cost containment:

- Increasing the accessibility of their networks to

remote employees or staff

- Supporting integrated records systems
- Re-engineering business processes to take advantage of new technology capabilities, such as network applications

A deeper focus on these best practices will drive improvement in the percentage of cases resolved through self-service and an increase in the numbers of citizens using the service, which will in turn help contain costs.

## Putting It All Together for Citizen Satisfaction

Citizen satisfaction is measured by many public sector organisations in the EMEA region, with 44% of respondents reporting they tracked this metric over the previous 12 months. Saudi Arabian public sector connected organisations are no exception; these organisations have an even greater focus upon tracking citizen satisfaction than their EMEA 2004 peers, with 50% tracking this particular metric.

Previous *Net Impact* studies identified that citizen or customer satisfaction is strongly correlated to the efficiency of the organisation. Specifically, the quicker the organisation can respond to citizens' requests, the higher the citizen satisfaction. However, it takes more than increasing efficiency to dramatically affect the satisfaction of citizens. *Net Impact: EMEA Public Sector 2004* found that focusing on services volume outcomes also has a significant positive impact on citizen satisfaction. The higher the number of citizens using public sector services, the higher the citizen satisfaction.

The keys to improving citizen satisfaction are increasing the number of people who use the services because of enhanced accessibility, especially online accessibility, and delivering faster turnaround times for requests through the automation of services. Improving citizens' accessibility to services is another instance where Saudi Arabian organisations can reap productivity rewards. Across nearly all tracked metrics, Saudi Arabia has realised higher levels of positive results than their EMEA 2004 study counterparts. Specifically, Saudi Arabian connected organisations have seen greater improvements in the number of cases or requests filed online (23% Saudi Arabia vs. 15% EMEA 2004), and in the number of citizen services that are available online (22% Saudi Arabia vs. 19% EMEA 2004). An increased focus upon all best practices associated with citizen satisfaction should boost improvements in citizen satisfaction.

Overall, connected organisations implementing the best practices for citizen satisfaction reported a 45 to 65% improvement in citizen satisfaction over the past 12 months. Saudi Arabian public sector connected organisations have experienced improvements in citizen satisfaction at slightly below the best practices range at 44% but well above the EMEA 2004 average of 29%.

In order to experience further gains, Saudi Arabian public sector connected organisations should focus on the following best practices:

- Regularly communicating throughout the organisation the strategic plan for developing and delivering citizen services
- Having the IT department work closely with organisational leaders to ensure that technology fulfills organisational needs

### Bringing People, Process and Technology Together

It is not surprising that successful public sector projects require a combination of investing in applications and implementing business processes through a sophisticated network. Many studies, including previous iterations of *Net Impact*, have identified the importance of these actions. However, the timing of these activities is critical to realise the full productivity potential of connected organisations. *Net Impact: EMEA Public Sector 2004* found that process re-engineering to make use of new technology capabilities was a significant contributor to improvements in efficiency and cost reduction.

#### Do You Measure Up?

Determining productivity improvements requires measuring results. Earlier *Net Impact* studies demonstrated that measuring results is as important as the activities organisations choose to undertake. *Net Impact 2004* revealed similar results and found that 10% of public sector organisations do not track any delivery metrics of citizen services.

Citizen satisfaction and average time to resolution are the most frequently tracked service metrics among Saudi Arabian public sector connected organisations, at 50% and 47%, respectively. Compared to the EMEA 2004 average, public sector organisations in Saudi Arabia are much more focused on tracking these metrics, as well as all other citizen support metrics included in this study.

The importance of measurement is illustrated by the greater improvements achieved by organisations that monitor metrics than those not tracking metrics. The greatest impacts are in:

- Citizen satisfaction—13% increase
- Average cost per case—12% decrease

When sequenced appropriately, processes and technology have an even greater impact: Organisations that, in addition to other best practices, applied process re-

engineering before the deployment of applications realised cost savings of 20 to 30% over 12 months. Those that re-engineered *after* application deployment were likely to achieve less than half of that result. In other words, that difference in timing imposes a penalty as high as 50% penalty on the improvement in operating costs. Results for *Net Impact Saudi Arabia's* results showed that Saudi Arabian public sector connected organisations behave similarly to other public sector connected organisations in the EMEA region: They undertake process re-engineering either before or in response to the implementation of new network applications 64% of the time (vs. 68% EMEA 2004). Slightly more than one-third of Saudi Arabian connected organisations do not re-engineer at all, presenting a clear opportunity for improvement.

Organisations that spend significant amounts of money implementing and integrating complex ICT projects should not forget the corresponding investments in people. Organisational and employee issues present by far the biggest perceived barrier to future productivity growth (Table 2). **Key finding: Saudi Arabian public sector organisations also view this as the primary obstacle to future productivity. However, it is interesting to note that significantly more Saudi Arabian connected organisations see their current technology capabilities as significant impediments to their productivity.**

Table 2. Obstacles to Future Productivity Improvements

	Net Impact: EMEA Public Sector	
	EMEA 2004	2005 - Saudi Arabia
Organizational or employee issues	46%	35%
Technology capabilities	7%	24%
Business process integration	21%	15%
Technology integration	16%	12%
Don't know / Refused	5%	15%

SOURCE: MOMENTUM RESEARCH GROUP

Across all countries tracked in the *Net Impact* study series, a lack of budget is always perceived as a top obstacle to automation. Saudi Arabian organisations match their EMEA 2004 counterparts in viewing this as a significant barrier. However, in Saudi Arabia, organisations also mention their inability to fully absorb new technologies and the limitations of current network applications as additional roadblocks to achieving maximum productivity.

### Best Practices for Optimal Productivity

*Net Impact: EMEA Public Sector 2004* identified three best practices that successful connected organisations implemented to help counteract the above obstacles:

1. Communicate regularly the strategic plan for services delivery. It is easy to see how a clear and consistent

communication of objectives throughout the organisation would help lower resistance to process and behavioural change and show leadership support. This virtually no-cost best practice is currently being implemented by only 34% of public sector connected organisations in Saudi Arabia, distinctly lower than the EMEA 2004 average of 44%.

2. Maintain focus on providing online services to citizens or customers. This does not imply that internal or back-office functions should be neglected. In fact, many public sector projects require a certain amount of internal process change and automation before the external aspects can be implemented. However, maintaining a focus on citizens appears to be as important for public sector organisations as a strong customer focus is for corporations.

3. Deploy Web-enabled applications for workforce collaboration and training. Web-enabled training applications are extremely time-efficient, because employees can take courses specifically suited to their needs and schedule. The convenience and flexibility of such applications improve training completion rates. Improving access to Web-enabled collaboration tools, such as collaborative workspaces and instant messaging, will allow workers to quickly deal with exception cases, which constitute an increasing percentage of daily tasks due to process automation. More than half (58%) of EMEA 2004 respondents have made their workforce collaboration and training tools available to their workforce through a Web-based technology. Saudi Arabian public sector organisations are ahead of the EMEA 2004 average, with 79% having pursued this best practice.

Saudi Arabian public sector organisations should continue to focus on these three critical best practices to accelerate their productivity improvements by quickly overcoming the identified obstacles.

### Key Findings

The primary rationale of *Net Impact: EMEA Public Sector 2004* was to understand the interrelationships between people, process and technology and the resulting productivity gains. Do connected organisations achieve higher productivity from their greater investment in sophisticated network infrastructures, Internet business applications and process re-engineering?

Saudi Arabian connected organisations can increase their productivity through the following actions identified in the *Net Impact Public Sector* study:

1. Invest in network sophistication beyond the minimum necessary to implement their applications.
2. Re-engineer business processes for efficiency and effectiveness, prior to application deployment.

3. Automate individual business processes with Internet applications and integrate them with other service functions.
4. Orient the organisational culture toward process improvement and service delivery.
5. Institute formal measurement systems to track operational performance.

While this formula of network + application + process + culture seems rather simple, the actual implementation has as many flavours and variations as does the typical recipe for bread (flour + water + yeast). As with bread, simply combining ingredients does not guarantee a positive outcome. The sequence and timing of the ingredient mix are both essential.

#### More Information

Complete *Net Impact 2004*, *Net Impact 2003*, and *Net Impact 2002* results are available at [www.netimpactstudy.com](http://www.netimpactstudy.com)

## About Momentum Research Group

Momentum Research Group (MRG) is a specialty practice of Incepta Marketing Intelligence, a U.K.-headquartered research consultancy. Incepta Marketing Intelligence, recently named research agency of the year by *Marketing Magazine*, employs more than 120 researchers and has offices in London, Hong Kong, New York, San Francisco, and Austin, Texas.

Over the past six years, MRG has examined the macro- and microeconomic impact that information and communications technologies are having in the United States, United Kingdom, Germany, France, Italy, and Canada. In the course of these studies, MRG has partnered with researchers from notable organisations including the University of Texas, University of California, Berkeley, and the Brookings Institution.

For more information about Momentum Research Group, visit [www.momentumresearchgroup.com](http://www.momentumresearchgroup.com). For more information about Incepta Marketing Intelligence or its specialty practice areas, visit [www.incepta-mi.com](http://www.incepta-mi.com).

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## Appendix: Net Impact: EMEA Public Sector 2004



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## Metrics and Best Practices

### Best Practices

#### Efficiency: 35–55% Improvement

##### Applications:

- Finance and accounting application installed;
- Web interface for workforce training and collaboration
- Application data integrated with data from international databases
- Greater numbers of processes accessed through a Web-based interface.

##### Networking Technologies

- Deployment of storage area network (SAN)
- Deployment of a network-user authentication system such as public key infrastructure (PKI)
- Network uses quality-of-service policies/tools to prioritize throughput
- Network will support any applications that may be deployed in the next 12 months

##### Business Processes

- Data mining and analysis
- Automation of billing and collection; information and service delivery; case management processes
- Integration of case management processes

##### Organisational Culture and Behaviour

- Strategic plan for developing and delivering services regularly communicated throughout the organisation
- Re-engineering of business processes (regardless of timing) to take advantage of new technology capabilities

#### Services: 30–50% Improvement

##### Applications:

- Web interface for workforce training and collaboration
- Greater number of data sources (both inside and outside the organisation) integrated with deployed enterprise applications

##### Networking Technologies

- Deployment of real-time intrusion-detection technology
- Having a layered security system designed to monitor traffic and detect intrusion
- Use of storage area network (SAN).

##### Business Processes

- E-learning; support of regulatory compliance
- Automation of information service and delivery
- Integration of information service and delivery processes

##### Organisational Culture and Behaviour

- Focus on providing online services directly to citizens, end customers
- Organisation works to consistently align applications, network and business processes
- Re-engineering of business processes (regardless of timing) to take advantage of new technology capabilities

#### Financial: 20–30% Improvement

##### Applications

- Web interface for workforce training and collaboration; resource allocation and management

##### Networking Technologies

- Network uses load balancing, content distribution and caching to optimize network applications
- Network will support any applications that may be deployed in the next 12 months
- Network is accessible by remote employees or staff

##### Business Processes

- Integrated records systems

##### Organisational Culture and Behaviour

- Re-engineering of business processes (regardless of timing) to take advantage of new technology capabilities
- Data standards are uniform throughout organisation

#### Satisfaction: 45–65% Improvement

##### Applications

- None identified

##### Networking Technologies

- None identified

##### Business Processes

- Data mining and analysis
- Automation of information and service delivery; workforce collaboration and training; problem diagnosis and resolution processes

##### Organisational Culture and Behaviour

- Organisation's strategic plan for developing and delivering services is regularly communicated throughout the organisation
- Re-engineering of business processes (regardless of timing) to take advantage of new technology capabilities
- IT department works closely with organisational leaders to ensure that technology fulfills organisational needs

### Metrics

#### Efficiency

- Citizen satisfaction
- Average time to resolution
- Average cases resolved per employee
- Total cases resolved per day, week, month
- Average cost per case resolution

#### Services

- Number of citizens using the service
- Number of Website visitors
- Number of cases filed online
- Percentage of relevant services available online

#### Financial

- Operating costs (specific to citizen service and support)
- Percent of cases resolved through self-service
- Annual fees or revenue collected (tracked separately)