

# Benchmarking City Surveying Offices as a Tool for Development

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## ABSTRACT

Knowing what you produce, production costs per unit, who the customers are and what preferences they have is essential questions for an efficient organisation. Three years ago an initiative was taken to use benchmark methods as a driving force for development in some Swedish city surveying offices. Up to now, 15 medium-size cities co-operate on a yearly base comparing approximately 40 key figures and indicators which makes it possible to learn from the best performers. Examples are cost per inhabitant for updating basic mapping, delivery time for a property formation matter and customer satisfaction index. Great efforts have been laid on developing standardised division of working procedures, time reporting systems and customer and staff inquiries. Interesting results of political importance are e.g. big differences in taxpayers yearly costs for basic surveying services, ranging from 3 US\$ to 10 US\$ per inhabitant and the fact that high cost cover for fee-charged services not always correspond to low cost production. Evaluation of customer needs shows that keeping delivery times are more critical than low costs. Staff inquiries indicate the importance of good leadership and need for more focus on developing personnel competence. One of the most appreciated activities has been the regular thematic meetings that have been arranged between the participating cities. These possibilities for person-to-person studies of more specialised professional work is not always so easy to achieve without the framework that the benchmark project has created.

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## 1. CITY SURVEYING OFFICES IN THE SWEDISH CONTEXT

Land surveying matters are in Sweden mostly carried out by the public sector. There is a rather sharp division of responsibility between the National Land Survey (NLS) and the municipalities. NLS takes care of the basic geodetic network, national mapping in scales smaller than 1:10 000, has the main authority for property formation and land registration and carry out a lot of geographical information and geodetic services on consultancy basis.

The municipalities are responsible for the local geodetic networks, large-scale mapping and some of them – the bigger ones – also execute other land survey services, if and when, there is a local demand.

A special feature in the Swedish context is the pragmatic solution that makes the approximately 40 biggest cities responsible also for the property formation and land registration procedures within their own territory under the NLS supervision. These cities comprises near half of the Swedish population and the main idea is to create a strong link between land survey and the municipal monopoly on physical planning and building permission. Overall there are about 2 000 employees carrying out “geodetic” surveying tasks in the Swedish municipalities. An ordinary city surveying office amongst the above-mentioned 40 “biggest” has a personnel staff of about 20-30 employees. All of the cities that are involved in the benchmark project this presentation describes, could be found in this category.

## 2. ABOUT THE METHOD

How do you explain big cost-differences in producing e.g. “building permission maps” in different municipalities? Is it a question of conditions e.g. diverse customer demands or is it more related to differences in productivity between the compared working environments? Someone has said that; “information is a difference that makes a difference”. Therefore it is often a kind of temptation to investigate and analyse differences to get a better understanding of how well you perform or in other words - your efficiency.

A prerequisite for efficiency is to have satisfying answers on these four questions;

- How do you describe what you produce?
- How much is the cost per produced unit?
- Who will benefit from your production – which are “the customers”?
- How do the customers value what you produce and deliver?

You can merge the first two and call them “productivity” (or doing right) and the last ones can be summarised as “customer value” (or doing right things). But how do you know if you

have high values on “productivity” and/or “customer value”. In a perfect market it should be simple – there it is most likely that the best performers are the most profitable winners. But in the public land registration, mapping and geodetic surveying field we have almost a practical monopoly. The financial outcome – at least in the short run – is probably not the best criterion. Other methods are needed to identify possible improvements. Otherwise the surveillance of public City surveying should be questioned. An inefficient monopoly could no be defended in the long run.

Benchmarking is to find inspiration in “best demonstrated practise”. That is through systematic comparisons learning from leading performers in fields of activities you have chosen to improve and develop. Benchmarking is sometimes seen as a boring “exercise of figures” where you often got caught in disputes about definitions and if things could be compared or not. This is not a fair assessment because focus in benchmarking should be laid on understanding and explaining why differences occur. These discussions should be the inspiring source for making changes in the organisation. The systematic measurements should only work as a catalyst and indicate results.

### **3. FIRST RESULTS AFTER TWO YEAR OF DEVELOPMENT**

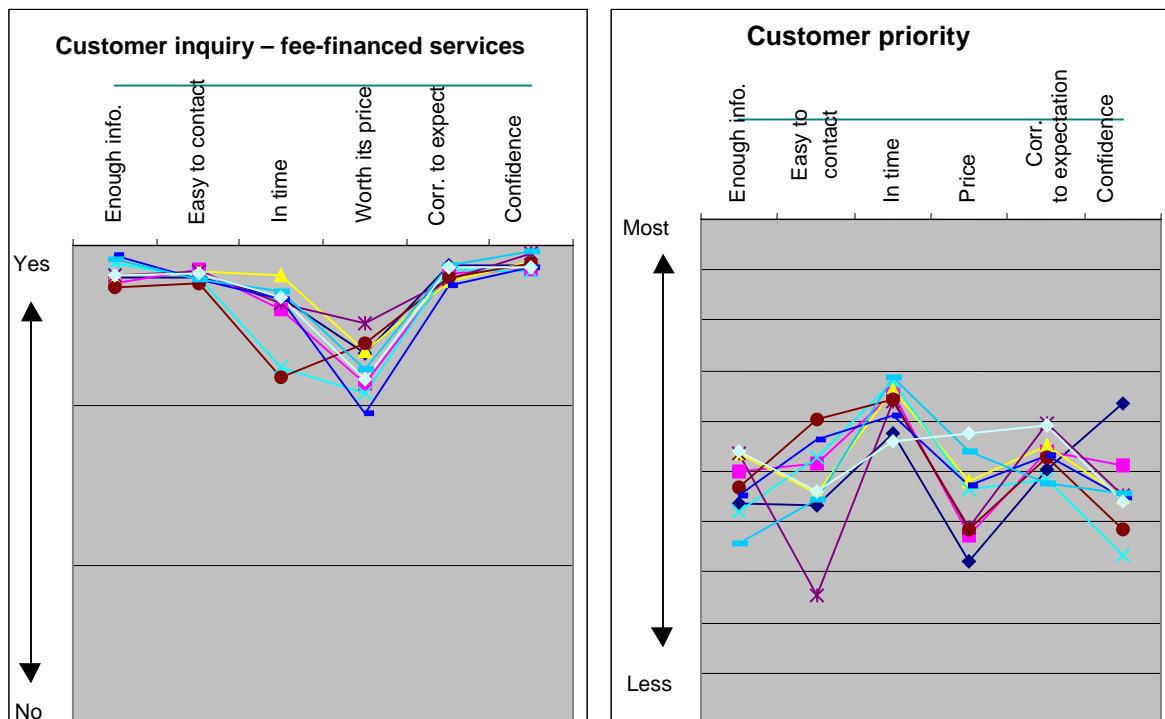
Three years ago four cities began a co-operation with the aim to use benchmark methods as a tool for development in the field of local land survey activities. After a two-year long development period and a growing interest amongst other municipalities, a first result could be presented in 2001, showing data from the year 2000. It comprise key-figures from 11 municipalities, all in the size of about 100 000 inhabitants. The key-figures are based on four harmonised data-sources;

- a) A standardised division of the working procedures making comparison possible regardless the organisation
- b) Time reporting systems founded on the above mentioned standard
- c) A yearly customer inquiry
- d) A yearly staff inquiry.

In all 39 key-figures where included in this first comparison. It is no surprise that no one of the cities taking part in the study had the best result in all aspects and no one had the worst. In fact the result indicates that all participating cities had something interesting to give away to the others.

#### **3.1 Customer satisfaction index**

The inquires show that the customers in common are very pleased with the city surveying offices performance. Delivery-times and the “worth its price”-question are poorer assessed than other questions. At the same time the customers give more priority to the delivery-time than to the price. Although it must be noted that there is a large variation amongst single customers. Hence the conclusion must be that improving the individual treatment of every customer is the most challenging objective.



### 3.2 Productivity

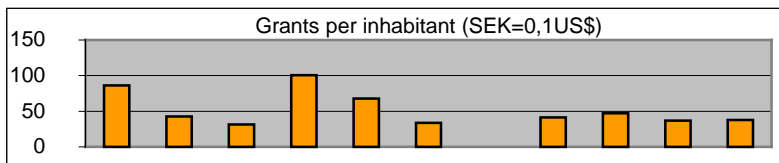
Useful key-figures for to assess productivity has been e.g.; cost per produced unit, cost recovery (income/cost) and delivery time (see diagram below). Some other key-figures have been more difficult to compare. Cost per inhabitant for to up-date geographical information in the city system is an example where comparison must be done with careful consideration. Here we have a variation between the eleven involved cities ranging from less than 1 US\$ to over 3 US\$ per inhabitant. These figures are very much depending on the building and construction activities in the city. This activity doesn't always correspond directly to the number of inhabitants.

Delivery times also show distinct variations. The more complicated property formation procedures range from 75 calendar days up to over 200. The more simple matter to produce building permission maps indicates a great variety in the city surveying offices ambitions since some cities deliver in a few days where others have a mean value of over three weeks.

The study has also shown that there is a poor correlation between a high level of cost recovery and a low production cost. This indicates that there is a relative big variation in prices or that the product differs a lot depending on their content.

### 3.3 Grant Financing

Most offices are grant financed at a level of about 50 % and the diagram below show how much the city surveying offices cost in taxes per inhabitant.



### 3.4 Staff Satisfaction Inquiry

An important factor for efficiency and a precondition for development success is the attitude of the staff. Hence a standardised staff satisfaction inquiry is included in the benchmark. The answers show a rather positive attitude. Most improvements could be foreseen in leadership and better prospects for individual competence development.

## 4. CONCLUSIONS

When starting up a benchmark process like this it is easy to underestimate the time needed for defining normalised key-figures and establishes the common systems for division of procedures, time reporting and inquiries. Since the new systems must be used during a whole year before relevant data could be compiled the time period from start of discussions to first results normally must be 2-3 years. A benchmark introduction therefore needs a lot of perseverance amongst the involved parties.

But the yield comes earlier. The introduction period creates a rapidly growing interest amongst the staff and other stakeholders on the development possibilities. In some cases we can talk about a real attitude turn-around. A strengthened interest in customer opinions and financing matters are the driving forces for to seek new solutions. In addition; one of the most appreciated activities during the launching of this benchmark has been the regular thematic meetings that have been arranged between the participating cities. These possibilities for person-to-person studies of more specialised professional work is not always so easy to achieve without the framework that the benchmark project has created.

## BIOGRAPHICAL NOTES

**Anders Ekengren** has a M.Sc. in Land Surveying from Royal Institute of Technology, Stockholm, 1974. The employment record comprises e.g. Director of the City Surveying Office and Director of the Internal Administration in The City of Västerås and Area Manager at Swedesurvey. Since two years Anders Ekengren is responsible for the Planning and Environmental Department at the Swedish Association of Local Authorities.