

Capital inefficiency: the scourge of South Africa

Its impact may even outstrip that of corruption

Many believe that corruption is the biggest bottleneck to growth, development and poverty eradication in this country, but in my own experience there is another factor that is an even bigger constraint in this regard: *capital inefficiency*. As you will see in this paper, capital inefficiency is mostly the result of poor **infrastructure strategy**, a failure of the **project preparation** function, lack of **integrated planning** or a lack of robust **project evaluation**.

Capital inefficiency is a broad term, but I can narrow it down as I am specifically referring to capital inefficiency in the development of infrastructure. And then I can narrow it down even further, as capital inefficiency in government's investments in infrastructure. What do I mean by capital inefficiency? Very simply, it is when the wrong infrastructure is built, or the infrastructure is built in the wrong place, or the infrastructure is built at the wrong time. I will give three simple examples to illustrate this.

The first example is one where the wrong infrastructure is built and I will illustrate by way of a generic example. Lets say there is a town that is experiencing severe water shortages. The situation is so critical that most residences only have water for a few hours everyday and then the pipes run dry. The council of the municipality decides to take drastic action to remedy the situation and to build a dam in a river 50km from the town. To get the water to the existing water treatment works will also require a pipeline of 50km and a pump station. The existing water treatment works must be expanded and upgraded to treat the additional water. This project will cost the municipality a significant sum of money – even for a relatively small-scale project it can easily exceed R1 000 million. But, in this town the water losses due to wastage, poor maintenance of pipes and poor cost recovery practice is estimated at 45%. Can you spot the problem? Clearly, this dam, pipeline and pump station should not be built! Not now in any case. One can identify a number of negative consequences resulting from this “wrong” investment but just think what impact that R1 000 million could make towards social upliftment or poverty eradication in that town if spent more wisely.

In this case, I specifically used a generic example because this is a situation that you will find in virtually every town and city in this country and where exactly this kind of wrong investment decisions are made daily. Before we delve any deeper into this, the two other examples.

There are many classic examples of infrastructure built in the wrong place: toilets in the veld, highway bridges in the veld, dual carriage highways leading nowhere and dams that silt-up within a few years. But for an excellent example of infrastructure built in the wrong location we go to the city of East-London. If you have ever visited this area you will agree that East-London lies on the most beautiful stretch of coastline. Prime properties are located on the seaboard or along the river estuaries in and around the city. But, if there is one piece of prime property that outranks the rest it is probably Nahoon Reef. There is just one problem with Nahoon Reef – instead of containing the most upmarket residential and tourist developments in the city, it contains a sewage works. Can you imagine the long-term benefits the city could derive from relocating this works and developing the area?

In the case of infrastructure built at the wrong time the problem can be rephrased as infrastructure built with the wrong capacity. In this instance, capacity utilisation is a key performance measurement. Low capacity utilisation over a protracted period of time indicates that a portion of the capacity should have been built later whereas high capacity utilisation over a short period of time indicates that greater capacity should have been built – conversely a portion of the capacity should have been built earlier. Except in certain rare instances, infrastructure built at the wrong time is not always so easy to spot. If you visit the Nelson Mandela Metro Case Study on the website of the Claassens-Lijnes Demand Estimation Instrument you will find an excellent example of where the planning function is so flawed that it would result in infrastructure being built far too early. Most people intuitively understand that infrastructure built too early carries a significant penalty – it is capital in the ground that is not working. Fewer people intuitively understand the penalty of infrastructure built too late. In that instance the penalty is firstly in the form of an opportunity cost – the lost opportunity to benefit from economies of scale. Secondly, the penalty relates to services rendered through the infrastructure costing more than it would have if the infrastructure was built earlier.

Why do we see so many gross instances of capital inefficiency in this country? There are many reasons that all contribute to this phenomenon. I will discuss a few ~

Firstly, I believe one of the key reasons is that there is often a total failure in government to conduct robust cash flow or cost-benefit analysis to inform the capital investment decision. Often, infrastructure is implemented because of a perceived (or measured) need without considering its affordability and sustainability. Sometimes infrastructure is developed simply because a planning function scheduled the

implementation. I have witnessed national government departments as well as consultants (on behalf of their government clients) utilising diluted mechanisms such as the Unit Reference Value as a test for financial viability and to motivate the capital investment decision ([put in a link to the paper Stop this rubbish!](#)).

Secondly, I believe there is a fundamental failure in government (and here I refer to all three tiers of government) to grasp the concept of 'cost of capital'. I've been informed on numerous occasions by municipal officials that they do not have to consider the cost of capital in a project's evaluation as the project will be funded through grant monies. This is a spectacular failure of the corporate finance principle that: *the cost of capital doesn't depend on where the money comes from, it depends on where the money is going*. This mind set also relates to the failure to conduct robust cash flow analysis etc.

One very seldom sees an infrastructure project planned in this country in a robust way where key risks are properly analysed, quantified and mitigated or priced. Key risks that will have a direct bearing on capital efficiency and which are present in virtually every infrastructure project but which are typically ignored includes Demand Risk, Development Risk and (Cost) Recovery Risk. Improper risk identification leads to improper project identification and is a third key factor contributing to capital inefficiency.

Lack of integration and integrated planning is a key factor that contributes significantly to capital inefficiency – especially in the municipal environment. This lack of integration often stems from a silo approach in planning. Such silo oriented planning often flows from historic structures in a municipality and can in my opinion only be eliminated through a detailed business re-engineering process.

Finally, capital inefficiency as well as most of the factors listed above, attests to the failure of the project development or project preparation function. It is through adequate and rigorous project preparation practise that the biggest impact will be made on growth, development and poverty eradication in this country.