

Case Exercise Due September 30

The Escalation of Hong Kong

[Note: The information in this exercise is almost entirely made up, although it is based on something real. I would welcome (though not necessarily use) factual information that anyone might provide about the real circumstances of the actual Hong Kong escalator. For the purpose of this assignment, however, you should use the information provided here, regardless of how far from the truth it may be.]

In 1985, the government of Hong Kong decided to build an escalator from the Central portion of the downtown up an adjacent hill nearly to the top, where a large number of high-rise apartment buildings had recently been constructed. The purpose was to provide transportation to and from work for the residents of those buildings, both for their convenience and to reduce the congestion that was increasing in other modes of transportation.

A study done in that year estimated the demand for using the escalator that would exist at various prices, and their estimates will be noted below. However, the study recommended that no price be charged to ride the escalator if it were constructed, in order to maximize its use. The government first decided to go ahead with the project, building two parallel escalator tracks along a single path up the hill, one to carry riders up and the other down. However, a budgetary crisis late in 1985 led to a reassessment of the project, and it was decided to save money by building only one track. The resulting single escalator travels down in the morning between the hours of 7:00 and 10:00 and up the rest of the day.

The escalator required a full year to build, during 1986, and went into operation at the beginning of 1987. It was an immediate success, attracting 85% of the riders that had been anticipated in the study, even though it was presumed that a portion of the population had schedules that did not permit them to take advantage of it. The number of riders has remained roughly constant since then, as was expected since the area was largely built up by the time the escalator went into service.

In the ten years since it was built, the escalator has been a source of justifiable pride for the residents of Hong Kong, since it is regarded as the world's longest escalator and is something of a tourist attraction. It is also, however, a bit of an oddity, since it only goes one direction. Now that the budgetary situation of Hong Kong has improved, it has been proposed to expand the escalator to include two tracks. The purpose of this assignment is to evaluate that proposal.

The "Facts:"

In 1985, bidding for construction of the planned 2-way escalator led to a contract with Acer Construction to build it for HK\$620 million. When it was decided to eliminate one of the tracks, the contract was renegotiated for HK\$480 million. Today, however,

allowing both for the 3% general inflation that has occurred since 1985 (and is expected to continue at that rate) and for the extra difficulty of adding a track after the rest of the project has already been completed, Acer Construction has quoted a price of HK\$310 million to undertake the expansion in 1998. They also estimate that the existing escalator will have to be shut down for six months while construction is underway.

The original project was estimated by its designers to have a life expectancy of 30 years. That is, while routine maintenance could keep the escalator operating safely for that period of time, it was expected that after 30 years a major overhaul would be needed that would be so costly that it might then be decided simply to rebuild the escalator from scratch or to abandon it. The supplier of equipment for the expansion, the Step Lightly Corp. of Philadelphia, has assured that their standard model of today will last even longer than 30 years, and they promise, but do not guarantee, 40 years of service. Their Hong Kong sales representative has predicted that the equipment could be resold after 20 years for half its current price of HK\$110 million (which is included in the construction cost quoted above by Acer).

The costs of operating the escalator are shown in the table below. The current costs listed for running the one-way escalator include electricity for the motors, lights, and controls, a staff of three workers who must be on hand at all times to handle problems that might arise (listed as "security"), and a maintenance contract for servicing the escalator itself and the supporting structure. The table also lists the higher estimated costs that are expected once the second track is operating.

Annual Costs of Operation of the Hong Kong Escalator,
Thousands of 1997 HK\$

	One-way	Two-way
Electricity	720	1270
Security	480	640
Maintenance	520	980

The study done in 1985 estimated that the two-way escalator would attract 108 thousand riders per week if it were free, that this number would be cut in half if riders were charged HK\$15 per ride, and that the number of riders would decline to zero if the price were raised to HK\$30 per ride. As mentioned, the actual number of riders on the one-way escalator turned out to be only 85% of this, or 92,000 riders per week. There could be many reasons for this, of course, but a survey done at the time and repeated in 1997 was consistent with the original estimate having been correct, with the shortfall being people who would have ridden the escalator had it been available in both directions at other times. Even many of those who were able to ride the escalator regularly complained of the inconvenience of the rigid schedule, however, and it is believed that their willingness to pay for the rides that they did take may have been reduced by 10%.

The Hong Kong government decided against building the full project in 1985 because of perceived budgetary constraints. They were criticized at the time, however, for their unwillingness to borrow on international capital markets, where funding would have

been readily available for a (nominal) 7% rate of interest. Indeed, that rate of interest continues to prevail today, and seems likely to continue into the future unless there is a change in the rate of price inflation in the future.

Assignment

Write a memo laying out the current costs and benefits of expanding the Hong Kong escalator in 1998 to include a second track. To perform this analysis, you may need or wish to make certain assumptions about things that were not mentioned in the description here. That is fine, as long you make those assumptions explicit and they do not undermine the general spirit of the assignment (such as assuming that a terrorist blows up the escalator before expansion can begin, making it pointless).

There may be parts of the proposal that have not been explained sufficiently above, such as how certain things will be done, what prices will be charged, etc. Or you may think of other sources of cost or benefit than the information here would permit you to evaluate. In such cases you may need to decide on such details yourself, and you should explain and briefly defend your decisions. Alternatively, or in addition, you may want to analyze and compare more than one possibility. You should also check the sensitivity of your results to information or assumptions about which you are most uncertain.

The bottom line of your memo should be a recommendation to Hong Kong as to what it should do. This may either be simple – “Do it.” or “Don’t do it.” – or it may be conditional (“If this, then that”) if the best course of action depends crucially on something you don’t know.

Your memo should not exceed two (8 ½ by 11) pages (with a font no smaller than 10 point – this is 10 point – and margins no smaller than 1 inch). If you use a table to display your results, this should be part of the two pages, if you know how to do that with your word processor. If not, it may appear on a separate page, but then an equivalent amount of space should be left in the two pages of text. You may also include (at most) two additional pages of assumptions and calculations, with the same font and margin requirements.

Extra Credit:

I think there is enough information here for you to answer another question: Did Hong Kong make the right decision in 1985 when it opted not to build the 2-way escalator? If you would like to address that question, do not do it in the memo assigned above. However, I would be interested to read a one- or two-page appendix to your memo that would deal with this. (This *really* is extra credit. Please do not feel obliged to attempt it.)