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I have always been a fan of the "Harvard Business Review" Case Study. So here is my own version for you. Feel free to send in your own assessments and recommendations for action. See page 78.

The Rise and Fall of Overhaul Trucking

- a company brought undone by poor asset management

This company is fictitious but the problems are real.

Overhaul gets itself into trouble with the depreciation funding policy it adopts. Four Experts from different fields answer the question "What went wrong – and can it be put right?"

Part One: The Story of Overhaul Trucking

When *Overhaul Trucking Company* started business, it owned 10 trucks, each with a replacement value of \$100,000. That is, a total truck capital of \$1 million. The life of the trucks was assumed to be 10 years and the company struck a depreciation rate of 10%.

At the end of the first year, and with a depreciation charge of \$100,000, the company asked itself how it should use this amount; should it put it aside for future renewal, use it to purchase another truck, or distribute it to shareholders? The Company decided that the prudent thing to do would be to maintain their company capital at the \$1 million level. However, as their Treasurer pointed

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out, this did not mean “putting the money in a bucket”. Whether they invested in a new truck at \$100,000 or created a financial reserve of \$100,000 the impact on their total financial capital levels would be the same – but since demand was strong, acquiring the truck would be the better option.

Demand was indeed strong and the company wrote \$5m business in the first year – a gross income to capital ratio of 5:1.

The Company Grows

At the end of the second year the depreciation charge of 10% is again levied. This is 10% of the Total Replacement Value of the Trucking Fleet, which is now \$1.1m, so the second year’s depreciation charge is \$110,000. The company again invests the depreciation charge and maintains their financial capital at \$1m.

Funded by Depreciation

The books now show

Initial capital at beginning of year 1	\$1m
Less Depreciation in the first year	\$100,000
Plus New truck acquisition	\$100,000
<u>Capital at end of year one (WD Value)</u>	<u>\$1m</u>

Capital at beginning of year 2 (closing capital year 1)	\$1m
Less depreciation in the second year	\$110,000
Plus New truck acquisition (upgraded model)	\$110,000
<u>Capital at end of year two (WD Value)</u>	<u>\$1m</u>

In the second year, gross income grew to 5.45m as a result of the new capacity and as financial capital was kept constant at \$1m, this saw the gross income to capital ratio climb to 5.45:1. A special performance bonus is awarded to management.

Now in years 3, 4, and 5 things continue very well for Overhaul Trucking. Their prudent financial strategy is clearly paying off. Each year

they have invested their depreciation (correctly recorded as 10% of the total replacement value) and they now have a fleet of 15 trucks (4 of them upgraded models) plus two courier vans purchased with the growing depreciation. Gross income continues to climb, as does the gross income to capital ratio and performance bonuses become standard.

Slight Problems

By the beginning of Year 8 the total replacement value of the fleet has almost doubled, to \$1.949m, and gross income has increased to a massive \$8.178m. Things are looking very good for Overhaul Trucking, so management is not too distressed by a few incidences of truck breakdown and they are able to smooth over the irritation of their clients whose deliveries are delayed.

More Problems

In Year 9 however (and with the total replacement value of the fleet now over \$2m) the company seems struck with a veritable plague of breakdowns. Several clients, affected with late deliveries on two or three occasions, decide to take their business elsewhere. For the first time, gross income fails to rise. In fact, it falls slightly.

Severe Problems

Year 10 and breakdowns are seriously affecting half the fleet. Major losses are incurred in downtime and Overhaul Trucking attracts a reputation for unreliability causing even greater revenue losses as more customers take their business elsewhere. Gross income falls by over \$2m – a combination of loss of truck time and loss of customers.

What is going wrong with Overhaul Trucking – and can it be put right?

The Asset Manager

Rod is a mechanical engineer and an asset manager for large shipping company.

“Rod, What went wrong for Overhaul Trucking? And can you suggest how they can get themselves out of their present position?”

No Asset Planning

Rod:

“Overhaul Trucking’s major problem is they have no Asset Management Plan, in fact they seem to have carried out no asset planning at all! The economic life of the trucks that they are using is ten years but they have no provision for replacing the initial fleet which is now ten years old. With their annual depreciation they can afford to replace 2 trucks but this is not going to make much inroads into their overall reliability and availability when they have 10 trucks in need of such replacement. The first signs of ageing were evident as early as year 8 when breakdowns started to occur but Overhaul Trucking did not heed these early warning signs.

They now have an urgent need to improve the reliability of their fleet. They could buy themselves some time by replacing the worst of their original fleet with some second hand trucks. They could probably afford to replace 5-6 trucks with trucks 4-5 years of age. This will give them some breathing space to get their house in order, which they will need to do because asset renewal is going to be a major expense from now on. They will also need to increase their maintenance budget.”

The Business Economist

Jane is an economist and business planner for a large retail company.

“Jane, what is your assessment of Overhaul Trucking? What went wrong, and can they put it right?”

Declining Return on Real Capital

Jane:

“Well, things have got pretty difficult. I wish I could have been brought in a little earlier. The ease with which funds have been available through the depreciation charge has misled Overhaul Trucking into some unwise investment. In focussing on the annual increase in gross income they have failed to notice that the incremental return on each addition to capital value has been falling. If you look at the following table of investment and return you will see that this is so.

(see table over the page)

I would suggest that Overhaul have to undertake a major structural re-organisation. They are top heavy in capital that is not pulling its weight. Now, with renewal of the older initial fleet now falling due, is a good time to reduce the company size.

This is not simply a matter of failing to replace its ten original trucks. It will need to carefully analyse its current customer composition and decide which services it wishes to continue and wish it will have to forego. Then it must undertake a major customer relations campaign to regain customer confidence.

It will also have to put a sound financial and asset management plan in place to manage the remaining fleet. Whether this will be sufficient

Overhaul Trucking: Capital, Income Statistics

Year	In- come	Capital WDRV Yr n-1	Income to Capital Ratio	Capital Beg Yr n CRC	Annual De- preciation Invested 10% of beg Yr CRC	Marginal Gross Return on Incremental Capital Yrn n-1	Incremenatal Income:Capital Return
	\$m	\$m		\$m	\$'000	\$'000	
1	5.0000	1	5.000: 1	1.00	100.00		
2	5.4750	1	5.475: 1	1.10	110.00	475.00	4.75: 1
3	5.9700	1	5.970: 1	1.21	121.00	495.00	4.50: 1
4	6.4843	1	6.484: 1	1.33	133.10	514.25	4.25: 1
5	7.0167	1	7.017: 1	1.46	146.41	532.40	4.00: 1
6	7.5657	1	7.566: 1	1.61	161.05	549.04	3.75: 1
7	8.1294	1	8.129: 1	1.77	177.16	563.68	3.50: 1
8	8.7051	1	8.705: 1	1.95	194.87	575.76	3.00: 1
9	8.6000	1	8.600: 1	2.14	214.36	-105.12	Negative
10	6.6000	1	6.600: 1	2.36	235.79	-2000.00	Negative

will largely depend on the shareholders, for the initial “honeymoon” period of low maintenance and renewal has now been well and truly used up and the company will now have to face the fact that, in future, costs will be higher and revenues lower.

If Overhaul Trucking is unable to produce serious efficiencies (those management bonuses will have to go!) it is unlikely to survive.”

The Investment Analyst

Jim is a professional investment analyst.

“Jim, what do you think of Overhaul Trucking. What went wrong and can it be put right?”

Jim:

Over-Capitalisation

“Looks to me as if Overhaul Trucking got seduced by the ‘easy money’ syndrome. They became so used to the ready availability of ever-increasing source of funds from the depreciation account that not only did they spend it unwisely but they failed to see what was happening elsewhere in the company finances.

If Overhaul Trucking had been a listed company they probably would not have survived this long. Look at their books! The surplus available for distribution has dwindled to practically nothing. Expenses have increased with more drivers being needed to man the extra trucks, with more administrative costs involved (as well as those management bonuses!). Even pictures of the ever-increasing fleet size on the front page of the annual report can only go so far to assuage the

suspicion that shareholders are not getting value for money here!

What could have been a sound business has grown out of control. Moreover it is not just a matter of cutting back down to 10 trucks again. Even if Overhaul Trucking was to retain just the newest of its fleet it would still have half of its fleet over 4 years old! Its initial reputation, built on the reliability of a brand new fleet, has now been worn away. Personally, I doubt that this company can ever recover. I wouldn't invest any of my client's money in it."

The Public Auditor

Paul is a Senior Auditor. After 20 years in the private sector, he is now auditing in the Public Sector.

"Paul, what is your view of Overhaul Trucking? What went wrong and can it be put right?"

Paul:

Let me Count the Ways!

So many things went wrong, it is difficult to know where to start!

- No asset management plan for maintenance and renewal
- No financial planning for expenses that could have been foreseen
- Unwise investment that failed to maintain initial returns
- A focus on written down valuation to the complete exclusion of what was happening to total replacement value (and thus the renewal commitment)
- A focus on financial capital to the exclusion of what was happening to physical capital (this is also reflected in the lack of physical asset planning)
- Over-capitalisation

And that's just for a start!

Throughout it all, management not only failed their shareholders – they imagined that they were being financially prudent and good managers (even paying themselves performance bonuses!).

The major problem was the assumption that investing in new capital stock was "just as" financially prudent as making provisions for renewal.

Had Overhaul Trucking invested the funds raised through their depreciation charges in a replacement reserve they would have been able to continue to operate a viable business – albeit at half the size that it eventually grew to before its collapse.

However, that over time, Overhaul would have had increasing financial reserves which it would have had to manage very carefully, possibly bringing in a specialist investment analyst to manage the reserves.

Having spent many years in private sector auditing, I have seen many companies fail in circumstances similar to Overhaul Trucking. They over-invested and paid the price. For a while, everything looked very good, but it didn't last. Few were able to recover.

If Overhaul had been able to reinvest at a profitable level, and ***if its shareholders were prepared to support the higher capital level by themselves re-investing when the initial trucking fleet came due for renewal***, then the company could survive.

But when funds are too easily available, the sad fact is that companies are often not financially rigorous. Overhaul wasn't. In these circumstances, it would not be wise for shareholders to increase their investment in Overhaul to enable it to continue in its current bloated condition.

These problems are not only affecting small private sector companies. I am now seeing these problems at all levels of Government!

For example, at State Government Level

Some State Treasuries are advocating that, in times of change, re-investment in new and different assets is an appropriate use of depreciation funds – *and overlooking the fact that unless assets are being physically withdrawn at the time of re-investment, the total stock is growing.*

Like Overhaul Trucking, State becomes used to the growing output of the larger capital stock and the benefits it provides in the short-term – until the day of reckoning arrives!

And at Local Government Level

Some councils are being told (like Overhaul Trucking) that it is financially prudent to fully fund all their depreciation. However, lacking the means to preserve the funds until renewal is needed, the money is inevitably being applied to the increase of the asset stock. As the recovery of depreciation charges is forced on ratepayers by statute, it is ‘easy money’ for councils and spending will inevitably reflect this.

But back to Overhaul ...

By the time Overhaul has trimmed back, appeased its shareholders, mollified its remaining customers and overcome negative publicity and organisational inefficiencies built up in easier times – it may survive. But somehow I doubt it.”

What is YOUR ASSESSMENT?

- **Will Overhaul Survive?**
- **What SHOULD it have done?**
- **What CAN IT DO NOW?**

Although the calculations here have been simplified for story telling purposes – for example, there is no inflation – the problems are ones that may potentially afflict you or others around you. The problem is not an easy one to solve. It is time we looked at a wide range of solutions and possible options.

If you would like to do so, please send your comments and suggestions to

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Apologies!

“How Lateral Thinking - and Imaginative Co-Operation with Suppliers - Reduced an 8 Week Delay During the Critical Vintage Period to Just 6 hours!”

In “The Troubleshooter” article on page 68, it was reported that the time taken to import from Europe the specialised bearings needed for the winery’s centrifuge was 2 weeks. Actually it was 8 weeks!

See the last issue for this Troubleshooter Casebook story—and watch for more in future issues.

Scenario Planning

In these days of rapid change we can no longer afford simply to produce asset management plans based on continuance of past trends or levels of usage.

Decisions affecting long term assets need to take into account a range of different likely scenarios and choose the option most calculated to meet future needs, whatever they may be. Scenario Planning is therefore advanced risk management. *Strategic Asset Management* would like to hear from any organisation that is using, or thinking of using scenario planning in their asset management. If you will send me an email, I will ring you to discuss.

<info@amqi.com>

Life changes. Consider.

The New Asset Management

The old asset management was simple and straight forward - construction, operations, maintenance or the birth to death of the asset management life cycle. True, it took us a little time to come to see all the bits as an integrated whole but it was really only a matter of putting together all the things that we were doing anyway - but doing them in a systematic fashion.

The new asset management is not so simple, in fact it is a mass of contradictions:

For example:

- It is more technical and engineering-focussed, yet also, and at the same time, it has a larger financial component
- It covers more detail yet high level aggregation is prized
- It is more "asset focussed", yet, and again at the same time, it is more service-oriented, and
- It is more immediate and in the present, yet also more long-run and wider ranging.

Take the first of our contradictions, asset management is becoming increasingly technical as we apply systematic techniques of analysis to operations and maintenance, techniques that require greater levels of data gathering, accuracy and timeliness. Many organisations have good engineering data but it is not linked, or linked well, to their financials. But let's face it, business decisions are made on the basis of financials. If engineering doesn't win out there, it doesn't win at all. So it makes sense to ensure that engineering information

informs the financials which, in turn, inform business decisions which flow back into demands on engineering. And this is where the latest models are moving.

Business decisions need the detail but detail that is "arranged and packaged" in an understandable and usable format for decision making - *not* the kind of detail seen in too many of the current packages which simply provide lists (of works, 'backlog' maintenance, depreciation elements, values, etc)

There is increasing emphasis on assets, but assets are no longer being seen as an end in themselves, something to be 'preserved'. Assets are expected to earn their keep - and to demonstrate that they are doing so. This is bringing service delivery outcomes to the fore.

Finally, decisions have to be made here and now, so information has to be timely - but it has to take the future into account because that is where the outcomes will be, and the profits. All of this is producing a new generation of asset management modelling.

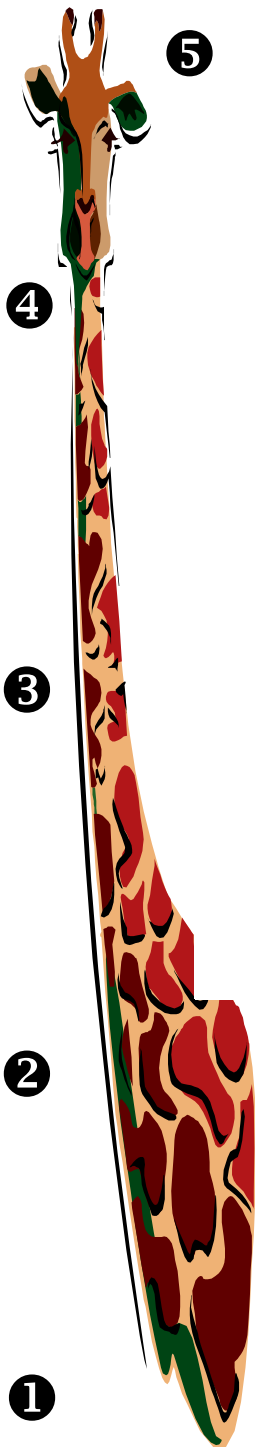
"The Asset Planner" produced by BC Hydro International Limited of Vancouver, British Columbia and briefly described in SAM #30, p.31-32, is a good example. This product is an integrated planning tool that takes a value driven approach to plant maintenance and capital investments.

What started off as an engineering focussed management tool has developed into a fully integrated business management tool. And that is the way that asset management is going. The current buzzword is "integrated" and you will be hearing this in many contexts. We looked at some in the last issue of *SAM*.

But paradoxically, asset management may be getting "too clever". There are many organisations that need basic help with asset management. They are not yet ready (nor may ever be) for sophisticated tools. There may be value in going back to the simpler way- and we will be looking at this in future issues.

Asset Management Plan Growth Chart

Experience in Government (local, state, federal), suggests most organisations are at stages 1-3. Some innovative agencies are moving into Stage 4. Stage 5 is my view of where the leading agencies will be moving within the next ten years. I don't know of any who are quite there yet. If you are – I would very much like to talk with you, particularly if you are in an infrastructure asset business.



Stage 1. Asset operations mostly ‘ad hoc’; no asset management plan.

Stage 2. Systematisation. Asset Management Plans are drawn up within the operations and maintenance section. Service delivery levels are determined by work done to the asset, or by the level of resources employed. There is little business planning input. The asset units set goals that are asset or input related – eg refurbishment of x% of asset stock within the next 3 years. The better plans at this stage will include maintenance, modification, acquisition and disposal elements.

Stage 3. Risk Management. Asset Management Plans are still largely confined to preparation within the operations and maintenance section but the section looks to ensuring that the asset portfolio is a good match with the agency’s business needs. The plans will include risk assessments – the likely impact on *business outcomes* from accelerating, deferring, modifying proposed actions – and they will incorporate an assessment of the impact of changing asset portfolios on personnel practices and training requirements. Service delivery levels are still mostly determined from a technical perspective but some effort is made to validate these levels by surveying customer satisfaction. Some operations and maintenance activities may be outsourced.

Stage 4. Customer Outcome Focus. Here the Asset Management Plans focus not on the assets themselves but on support needed to facilitate service provision, rather than to actually provide services. Extensive customer consultation is considered normal. Emphasis is on developing and analysing technical options for service facilitation. Demand management is common. Service delivery levels are developed in conjunction with customers. Performance is measured by outcomes. Whole services may be outsourced or privately provided. Asset disposal may be accelerated.

Stage 5. Flexible Future Thinking. Asset portfolios are determined on the basis of the options they provide for future services rather than purely for meeting current services. Emphasis is on being able to meet changing needs and requirements, and particularly in being able to foreshadow such changes and what the changes may mean for asset portfolios. Asset management plans emphasize the steps that are taken to ‘keep all options open as long as possible’. Assets are seen not only as a means of facilitating service but also as an integral part of organisational planning. The earlier focus on personnel practices and training requirements is resumed. So too is the focus on customer involvement in service level setting but now the asset management plans assume responsibility for educating customers on possible futures when determining service levels. Longer term effectiveness and flexibility takes precedence over short term efficiencies. Some previously outsourced operations may be resumed in house. The major business tool is scenario planning.