TPE 2023 – Guide to Answer

Hutden

The Test of Professional Expertise multi-discipline case study is designed to encourage students to provide alternative creative answers and there is no "right answer" at TPE level. This Guide to Answer illustrates the structure and the depth of analysis and explanation the examiners are seeking.

In assessing candidates' scripts, credit is always given for appropriate answers even if not contained in this published guide.

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Morning Paper

Briefing Paper for Walter

This briefing paper sets out comments in relation to the issues raised by Walter at the initial introductory meeting with Bobbie. The issues and comments are set out below:

1. An evaluation of the issues on the construction of eco-houses via EcoFries Ltd.

2. An interpretation and evaluation of the KPIs of Qdwell in conjunction with a sense check on the Profit Forecast in light of the analysis of the KPIs.

1. An Evaluation of the Issues on the construction of eco-houses via EcoFries Ltd

General

1.1 Control

The group currently provides the service of constructing eco-houses and thus bringing it 'in-house' will provide continuity of the service and provide more control over the provision of the service in addition to being less dependent on a third party.

At present the group is wholly reliant on Weeco. If they change their pricing structure, such as increasing their prices by 20%, EcoFries will have to do the same in order to maintain the same gross margin.

This could impact the ability to sell the eco-houses due to the high prices. This in turn may have an impact on the group's reputation, which may have a negative impact on future sales at Qdwell.

However, the ability to control the provision of the services will inevitably bring with it increased costs such as management review and director overview.

1.2 Market trends

Based on the actual and forecast number of eco-houses sold by EcoFries during the four-year period to March Yr20 there is undoubtedly an upward annual trend from 10 to 35. The figures are too small to state in meaningful percentage terms but if this trend continues along a similar trajectory then this is a market the group should continue to be present in.

However, the figures provided by Weeco as shown in the appendix show a flat market with sales averaging around 90 per annum during the same four-year period. Again, these figures are too small to draw any firm conclusion and may be company specific, for example, many of the other builders may be based in Scotland, but it does indicate the demand for eco-houses may have reached a plateau.

Prior to any firm decision being taken it is recommended that further market research is undertaken to gain a better understanding of the size of the market and its likely future direction.

If a decision is to be made this afternoon, then there is insufficient time for detailed research to be undertaken. However, it is recommended that an internet search is undertaken prior to the meeting to obtain general market data. This may provide some evidence to support either the continued growth of the market or if it has stagnated.

1.3 Risk/reward

On the assumption that Weeco is making a gross profit on each sale to EcoFries, constructing the eco-houses in-house should mean that this profit margin is retained within the company, assuming the same cost structures and efficiency.

On the other hand, all the operational risk would be transferred to EcoFries and thus the board would have to consider if the increase in potential profit and control is greater than the increased risk.

Operational issues

1.4 Expertise

Although the construction of houses is the core business of the Hutden group there will be a different set of skills required to construct eco-houses and to understand the building regulations for eco-houses. These are skills the group is unlikely to possess.

Employees will have to be fully conversant in the construction processes and techniques involved with eco-houses. Irrespective of whether the intention is to use existing employees or to hire new employees they will need to be trained; this will take time (up to five years) and incur costs. Enquiries should be made as to whether it is possible to hire 'fully-trained' eco-house construction workers since this will have an impact on the operations of the enterprise, especially in the initial start-up phase.

It may be possible to 'poach' employees from Weeco. However, this may put a strain on the current relationship, which seems to be working well for both parties.

One significant drawback to poaching the employees is that their remuneration package is very generous, and it may not be cost effective to pay at this level. Although these employees may be engaged by EcoFries the differing terms may cause resentment amongst existing workers should this information get disseminated. The fact that they are specialist eco-workers may not be sufficient to stifle any resentment and could cause issues with the existing work force e.g. better pensions.

1.5 Materials

The materials will need to be sourced from certified suppliers that can demonstrate their eco-friendly credentials.

The information provided by Weeco states that most of the suppliers are from overseas. The Hutden group has very little experience with dealing with overseas suppliers due to the policy of buying from UK suppliers.

This would mean further training and time needs to be incurred to ensure local customs and procedures are adhered to as well as gaining an understanding of trading overseas e.g. VAT or the equivalent tax.

The accounting system will need to be checked/adapted to ensure it can handle overseas transactions. Consideration will also need to be given to entering in to hedging contracts to mitigate the risk associated with volatile movements in both the currency and material markets.

There may be difficulties in sourcing some materials if suppliers are only able to supply in relatively small quantities. Assuming the demand for the eco-houses is increasing this may cause supply chain issues, which in turn will restrict the ability to construct the eco-houses in sufficient quantities to meet the demand.

This potential limitation in materials will extend beyond just traditional materials such as wood, steel, glass, concreate etc and include specialist supplies of items such as water collection and management systems, solar panels, smart control of the eco-houses, temperature and sun control systems, noise abatement systems, to name but a few. Supply of these items should be researched prior to committing to construct houses that require these items.

1.6 Construction processes

If it is the case that the specialist processes required to construct the eco-houses have been patented, then this too needs to be researched.

If permission is not granted to use such processes or if the licence/royalty cost to use them is prohibitively expensive then this needs to be understood prior to any decision being taken.

1.7 Equipment and carbon footprint

A similar point as that made regarding materials is appropriate to the fixed assets. The narrative from Weeco suggests that specialist equipment is required to construct the eco-houses. Research into the extent to which this is the case needs to be undertaken. Without the specialist equipment the construction of the eco-houses could be problematic.

At the very least the availability, costs, time scale and whether it is possible to modify any plant and equipment should be understood.

Being able to reduce the carbon footprint of the construction will be a marketing feature of an eco-house. If it cannot be demonstrated that the footprint is low/negative it is likely potential customers will look for other constructors to build the house.

To offset any positive carbon impact the group should have a policy in place to purchase ‘Carbon credits’ from a reputable company at least equal to the carbon footprint. Enquiries should be made as to how this is done and the likely costs involved.

1.8 Land

The existing model of customers building on their own land means there are no issues with acquiring and retaining additional land.

However, the group could extend the existing strategy of building on customer's land to include that of the model used in Qdwell, namely building on land acquired by the company and to sell the 'complete package' to customers.

This increases the operational risk but is more in line with the existing business strategy and may increase the demand.

Although this increases the operational risk it could bring higher rewards. The risk could be mitigated by the use of forward selling, a process which the Hutden group is familiar with.

1.9 Impact on existing business

Any reputation, good or otherwise, may have an impact on the group sales. For example, if the reputation is of great customer service then this may generate more sales for Qdwell by way of association and appropriate marketing.

A point to consider is whether the directors will have sufficient time to manage the additional volume of business, notwithstanding the point on expertise? On the assumption the directors are fully occupied with the existing level of business this should be considered prior to the final decision being taken.

If the decision is taken to no longer use Weeco and the in-house operation is not successful then Weeco may not want to go back to acting as a subcontractor in the future, or if they would be prepared to provide the service, then it may be on less favourable terms.

The management of any 'change over' would need to be handled sensitively for construction projects that have been started but not completed i.e. work-in-progress.

Financial issues

1.10 Gross margin

The gross margin for Weeco has fallen from 20% in Yr17 to 15% in Yr20[1], a sharp decrease over four years. Although these are likely to be specific to Weeco the fact that they have been a specialist in this sector for many years would indicate their operations should be efficient.

The points that can be drawn from this are firstly that the gross margin trend is downwards and, secondly, that they are significantly lower than the current margins obtained by Qdwell, which are forecast to be 22% for both Yr20 and Yr21.

Whilst not a 'return on investment' indicator, the directors may prefer to invest working capital to expand the existing business, which generates a greater gross profit margin, rather than one in which the margins are much lower and are possibly falling.

[1] Yr17: £5,750k/£28,750k = 20%, Yr20 (F): £4,825k/£32,165k = 15%

1.11 Initial investment and working capital

Effectively setting up a new operation will involve finance. This will include plant and equipment, marketing, working capital/cash flow and initial HR and training.

Does the group have sufficient resources to be able to finance all these activities immediately? For example, the stringent health and safety regulations will need to be adhered to from 'day 1' e.g. fire safety and manual handling courses.

1.12 Suppliers

Assuming many of the potential suppliers to EcoFries will be similar to those used by Weeco it is likely the unit cost will be higher than that charged to Weeco due to economies of scale. This needs to be considered due to the negative impact it will have on the gross margin.

If there is a restriction on obtaining supplies, which could restrict future growth, then the additional cost to find alternatives should be considered. Conversely, if additional materials can be purchased from existing suppliers then there may be scope for lower unit costs due to an increase in the volume purchased.

Conclusion/ Recommendation

1.13 Overall

The analysis above demonstrates there are many positive points to bringing construction of the eco-houses in-house, but these are offset by many negative points. It is a matter of how much emphasis is placed on the various points and how much research has already been undertaken on the issues.

One major positive point is being in control over the whole construction process from start to finish. This will enable valuable information and experience to be obtained that should improve future margins. It may also prove useful in the other construction projects undertaken by the group.

However, there are many uncertainties and risks not least of which is the ability to carry out the work from 'day 1' due to the specialist plant and equipment, specialist processes and skill, materials and labour.

At present the few financial indicators are not positive; the market trend may be flat and the gross margins seem to be decreasing. Without doubt starting from scratch will involve a major unknown investment cost.

Based on the information above, and only on this information, it is recommended the decision to bring the construction of eco-houses in-house is deferred until a detailed business plan, including financial projections and risk assessments, is carried out. It is considered that there is too little information on too many issues that could put the project in jeopardy e.g. sourcing supplies, that further information is required before a decision can be taken. In the meantime, the group can still benefit from making 'profit for nothing' by continuing with the current low risk model.

2. Interpretation and evaluation of the KPIs and Profit forecast sense check

Any comments given are based on the limited information provided and it should be noted the figures for Yr20 are draft and therefore will be subject to change, which could impact any interpretation.

KPIs

2.1 Inventories – increase in the percentage of finished properties

The main change in inventories for the Yr21 forecast is the 7% percentage shift away from Work-in-Progress into Finished properties. This represents a shift away from partially completed houses to those that have been completed and are awaiting to be sold. The interpretation of this is that fewer properties are being sold via forward-selling. This increases the risk of the properties not being sold as well as not securing the cash flow advantage of the 5% deposit. If this trend continues it may put pressure on future cash flow.

In addition to the increased operational risk the build-up of finished properties may increase the risk that some of the properties may not be able to be sold at the full asking price and may need to be discounted, especially if there is a change in market conditions which results in a fall in the demand for properties in the area in which they have been built.

Market research should be undertaken to determine whether this is a general shift in the market dynamics or whether this trend is unique to Qdwell Ltd. If it is the latter, then the board should consider revising its strategy to address the issue e.g. lowering the 5% deposit.

It is recommended assessing the age of these properties with a view to putting in place marketing incentive schemes to encourage future sales.

2.2 Inventories – increase in funding requirement

The number of inventory days is forecast to remain constant at around 548 days. If this is the case, then it is forecast that the value of year-end inventory will increase by 21%[2].

Assuming the inventory days has been calculated using the cost of sales figure unadjusted for the increase in inventory then the inventory held at 31 March Yr20 is approximately £700[3] million and the forecast level of inventory is £845[4] million i.e. an increase of £145 million. Where is the money coming from to fund this increase and has this been taken into consideration?

It needs to be ascertained if the profit forecast has been compiled in isolation or whether it has taken account of the movement in the balance sheet items and cash flow requirements of the group.

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[2] Cost of sales is forecast to increase from £466m to £563m i.e. a 21% increase

[3] £466m x 548/365 = £700m

[4] £563 x 548/365 = £845m

2.3 Revenue-general /UK owner occupiers

The overall 21% increase in turnover for Qdwell is contrary to what Zena thinks is happening in the market-place i.e. there is downward pressure on house prices and demand. It is recommended a more detailed review of the assumptions underlying the profit forecast should be undertaken especially since the increase in both the average selling price and the number of homes sold for both the small and large dwellings are 10%.

The forecast figures show a decrease in the percentage for UK: owner-occupiers from 53% to 48%, which at first sight is in line with the comments that the banks are likely to tighten their lending criteria in the next 24 months. However, the profit forecast shows UK: owner-occupier turnover of £347m as compared to £316m in Yr20[5], an increase of £31m or 10%, which is at odds with the comment regarding the banks' lending criteria.

It is recommended the growth assumptions should be double-checked to ensure they are reasonable.

The board could consider a strategy of introducing some incentives targeted at UK: owner-occupiers, which will assist future sales. These could include joint-ownership or purchasing an existing property from them, assuming they are not first-time buyers. Clearly, any costs associated with the introduction of incentives need to be considered before the implementation of any scheme.

2.4 Revenue - overseas investors/ Buy-to-Let

Table 1

KPIs extract/ calculation	Yr20 (F)	Yr21 (F)
Overseas investors: % of revenue	35%	42%
Overseas investors: turnover	£209m	£303m
Buy-to-Let investors: % of revenue	12%	10%
Buy-to-Let investors: turnover	£72m	£72m

The forecast for Yr21 shows the percentage figure for overseas investors has increased from 35% to 42%, which is essentially a shift from UK purchasers to overseas investors. This seems at odds with the comment that the UK pound is forecast to strengthen against other major currencies[6] over the next 18 months.

In absolute figures the Yr21 forecast is showing turnover of £303m[7] as compared to £209m in Yr20, an increase of 45%. This seems unrealistic and should be confirmed as being based on reasonable evidence/assumptions. It is possible overseas investors have decided now is the time to invest in North-West England but this does need confirming.

[5] £722m x 48% = £347m: Yr20 £597m x 53% = £316m

[6] £1 = more overseas currency i.e. 1 overseas currency buys fewer £1

[7] £722m x 42% = £303m: Yr20 £597m x 35% = £209m

If the forecast figures are considered to be accurate the board should instigate an investigation into how the large increase has come about. Based on the findings of this investigation, if part of the reason is due to a marketing or advertising technique then it may be possible to apply the same technique to other areas of the business i.e. to all of Qdwell.

The decline in Buy-to-Let investors percentage is consistent with the historical trend and therefore the forecast percentage appears sensible. However, in absolute terms the revenue from Buy-to-Let investors has remained reasonably static, as shown in table 1. If desirable, the board could introduce incentives to attract more Buy-to-Let investors. These could include starting up a Buy-to-Let investors club whereby investors can meet on a regular basis, have seminar/webinars and maintain a register of properties available for buying/selling.

2.5 Margins

The overall gross margin has decreased gradually from 27% in Yr17 to 22% in Yr20. However, the forecast has not continued this trend and assumes a figure the same as Yr20, namely 22%.

This is in contrast to the comments made by Zena who said "…are putting downward pressure on new house prices in our catchment area as well as affecting the demand for new houses." This downward pressure on prices would suggest a reduction in the forecast margin is more realistic and thus it is recommended more evidence is obtained to support this view.

It is recommended the analysis of the differing types of property sold is extended beyond the two categories currently used e.g. more accurate house-types, flats. This information would be useful to have in order to be able to produce more accurate forecasts and budgets.

The board could fine-tune its strategy using this information. It will enable a more profit-driven approach to be taken when deciding on the mix of properties to be constructed on each site. This would be in addition to the extensive market research carried out prior to purchasing a site, which would tend to focus on sales rather than margins.

Forecast appraisal

Comments regarding the reasonableness of the turnover and gross margins for Qdwell have been covered in the analysis of the KPIs above.

2.6 EcoFries

The turnover is forecast to increase by 48%[8]. This increase will come from either an increase in the number of Eco-homes being built and/or an increase in the average price of each home. Given the comments regarding the state of the current housing market it is unlikely this has come from a large increase in the average house price. However, the trend towards more environmentally friendly houses may push up the demand for such houses. In any event evidence should be provided to support such a large increase, which at first sight appears too high.

[8] (£21,250k - £14,350k)/£14,350k = £6,900k/£14,350k = 48%

It is recommended the board consider the standard gross margin of 10%, which is as a result of maintaining the historical mark-up applied to the cost from Weeco. If this margin could be flexed to individual circumstances e.g. more affluent customers, then it may have a positive impact on the final gross profit figure.

2.7 Wallace P

Further information is required in order to comment on the Wallace P figures. However, it is noted the gross margin has remained constant at 20%. Whilst this may be a reasonable assumption it is recommended the margins are reviewed to ensure they take into consideration the anticipated loss that will be made on the affordable housing, all of which are likely to be completed at approximately the same time in advance of December Yr20.

2.8 Net operating expenses

The forecast figures are similar to the previous year with the exception of the increase in the advertising expenditure, which presumably is in line with any marketing budget.

With the exception of the advertising costs there is no obvious increase in expenses to cover the increased work associated with the Wallace project coming on stream. These costs may not be significant, but it should be confirmed that the figures include an allowance for such costs, if any.

2.9 Tax and finance costs/ Overall

Net finance costs have increased from £3,000k to £5,000k. This is a large increase and should be compared with forecast cash flow projections and existing loans/borrowing plans to ensure it is reasonable. Details of the assumptions e.g. interest rates and loans would be useful to review for reasonableness.

The effective tax rate has decreased from 22% to 17%[9], which seems steep.

The underlying assumptions/calculations should be checked to ensure the 17% is reasonable given the anticipated level of future capital expenditure and disallowable items. Without detailed calculations it is not possible to comment with certainty but if the reduction in the tax rate is not as a result of receiving R&D credits then it is recommended the board instigate a review of the operations to identify areas that may qualify for R&D credits.

Many of the figures per the forecast appear inconsistent with the current market conditions and the trend in the historical figures. A general recommendation is for all of the figures to be compared with supporting documentation to justify them, especially if they are to be provided as part of a loan application.

[9] Yr20: £9,450k/£42,955k = 22%, Yr21: £10,786k/£63,446k = 17%

Appendix 1

The number of houses sold by Weeco Ltd

	Yr17	Yr18	Yr19	Yr20 (F)
Number of houses sold				
EcoFries Ltd	10	15	23	35
Other builders	80	70	65	55
Total	90	85	88	90

Note: Students were not expected to undertake detailed calculations in relation to the number of houses and turnover of the sales made by Weeco to builders other than EcoFries. The calculations above and below are here for completeness for markers. They do indicate a company in trouble if the sales to EcoFries are taken out of the equation.

Analysis of turnover of Weeco Ltd

	Yr17	Yr18	Yr19	Yr20(F)
	£'000	£'000	£'000	£'000
Turnover				
EcoFries Ltd	3,150	5,063	8,280	12,915
Other builders	25,600	23,100	22,100	19,250
Total	28,750	28,163	30,380	32,165

The average selling price per house sold by Weeco Ltd

	Yr17	Yr18	Yr19	Yr20(F)
	£'000	£'000	£'000	£'000
Average selling price				
EcoFries Ltd	315	338	360	369
% change		7%	7%	3%
Other builders	320	330	340	350
% change		3%	3%	3%

Afternoon Paper

Contents

1. Introduction

This report has been prepared for the directors of Hutden Plc to provide advice on three matters:

- Critical risk assessment
- Revised profit forecast and impact of Weeco liquidation
- Eco-house suggestions and recommendations

The report contains projected figures, which by their very nature, depends on the underlying assumptions. These assumptions may not necessarily reflect what will actually take place and thus the limitations of these assumptions should be considered before relying on these figures for any decision-making purpose.

2. Executive Summary

Critical risk assessment

- The main critical risk is the potential breach of the bank covenants, which could result in a going-concern issue.
- It is recommended the board ensure systems are in place to monitor the bank covenants at least on a monthly basis.

Revised profit forecast and impact of Weeco liquidation

- The revised profit forecast shows a profit before tax of £29.5 million, which breaches the bank's major covenant.
- The board should make some short-term strategic decisions to avoid next year's breach such as reducing the spend on marketing and advertising.
- The liquidation of Weeco is likely to mean the group will forego around £2 million of profit.
- Legal advice should be sought on the practical steps taken to deal with the use of non-eco-friendly materials in the construction of the eco-houses. The likely cost of rectifying the position should be quantified for inclusion in the financial statements.

Eco-house suggestions and recommendations

The main ideas for turning around the eco-houses business include:

- Undertake robust market research to establish the demand and pricing point for eco-houses.
- Develop a matrix of selling options with a guaranteed minimum percentage (25%, 50%, 75% or 99%) of eco-friendly materials.
- Research the option of being able to provide financial assistance to potential customers either directly, such as part ownership, or via an introduction to a specialist mortgage provider.
- Consider the use of ex-Weeco assets e.g. employees and tangible assets.

3. Critical risk assessment

Note: a critical risk identified by a student but not listed was awarded credit where appropriate. It had to be relevant to the scenario and a critical risk (risks that cause significant financial loss or business disruption). It would not include purely a business risk e.g. competitors entering the market…. Indication of prioritisation of the risks should be demonstrated i.e. they will not be of the same importance, as indicated below by High, Medium and Low.

3.1 Risk Description and Impact	***3.2 Suggested Mitigating Actions***
Financial risk (High) Any beach of bank covenants may cause financing to be withdrawn resulting in a going-concern issue for the group.	The group should have in place systems to monitor all bank covenants at least on a monthly basis. Regular forecasts should be produced to anticipate changes in the bank covenant criteria. All breaches or potential breaches should be reported to the board immediately.
Key Employees (High) An inability to retain directors has an adverse impact on the group being able to deliver its vision. Other key skilled workers need to be retained to ensure completion of building projects e.g. bricklayers, electricians, etc.	Directors should continue to be amply rewarded for their services with above market rate salaries and bonuses. Long-term incentive plans could be introduced for directors. A succession plan should be in place at both subsidiary and head office level. All key skilled worker and employee rates should be independently reviewed on a regular basis. Long-term incentive plans could be introduced for key skilled workers and key employees.
Project Risk (High) Any high risk project could jeopardise the company resulting in a deterioration in its profitability and impact it as a going concern.	Any high-risk large project should continue to be undertaken via a 100% owned separate subsidiary incorporated solely for the purpose of that project.

	All large projects should be subject to a detailed risk assessment and signed off by an operations manager or director. This assessment should be reviewed by the board prior to the project being approved. Regular risk assessments should be undertaken throughout the construction process and compared with the original assessment. Any change in the risk profile should be brought to the board's attention immediately. Insurance should be in place to cover the risks involved in the construction projects.
Supply chain (Medium) The non-availability of key materials and/or the potential fluctuation of prices could jeopardise the future profitability of the group.	 The group could enter into forward contracts with key suppliers for agreed quantities at agreed prices. A joint venture or partnership could be established with key suppliers to maintain supply of key materials. Where possible the group should not be dependant on one supplier and should have in place agreements with alternative suppliers to supply key materials as required.
Business environment (Medium) comments on the impact of interest rates, mortgages, exchange rates, the financial effect of the new levy, change in demand, fewer speculators would apply here under this heading. Reasonable comments on one aspect will earn the credit if identification, impact and mitigation are covered.	 All could be dealt with individually by changing approach, but accept that the market change is very much against the company. Suitable mitigations earn credit.
Health and safety (Medium) Health and safety risk is an inherent part of the construction industry. Any accidents or site-	 The board must have in place a health and safety strategy including a competent health and safety

related incidents impacts the reputation of the group, which would impact its future profitability. A serious and continued breach could jeopardize the existence of the group.	officer. All employees should undergo health and safety training starting from their first day at the group e.g. fire safety training and control of substances hazardous to health. All subcontractors should undergo appropriate industry training prior to working with Hutden, whether by a third-party specialist or in-house. Employees and subcontractors should undergo regular training updates at least once a year. Policies and procedures should be reviewed regularly and communicated to all employees.
Availability of Land and Planning Consent (Low) If suitable plots of land or development sites are either not available or not acquired at a price that will enable an appropriate margin to be obtained the group will be unable to fulfil its vision or to continue trading.	Prior to any land purchase the potential acquisition should be subjected to a formal internal appraisal and approval process by a committee headed up by the chief operating officer. This will include consideration of planning consent. The group should continue to maintain a strong experienced land team that focuses on the North West of England. An indication as to whether or not planning consent will be given should be sought before any land is purchased.

Political and Regulations (Low) Changes to legislation on housing, taxation and human resources impact the group's operational ability and profitability. Non-compliance with some regulations may jeopardize the existence of the group. Any high-risk project could jeopardise the company resulting in a deterioration in its profitability and impact it as a going concern.	Policies need to be in place to communicate changes in regulations to all members of staff and regular training of all employees should take place at least once a year or after a critical event has occurred e.g. an accident. The group should continue to forward-sell as many of the homes as is possible. This will enable some degree of certainty for both the group and the purchasers and will mitigate against any sudden downturn in the market. The group should continue to concentrate on trading in North West England thus reducing the risk and enabling the group to focus on an area it knows very well. The group should produce regular forecasts that are flexed to reflect possible worst-case

4. Revised Profit Forecast and the impact of Weeco liquidation on Hutden

Forecast (sections 4.1 to 4.5, in appendix)

The revised group forecast for the year ending 31 March Yr21 is set out below. The calculations and assumptions are in the appendix.

	Original	**Revised**
	Yr21	Yr21
	£'000	£'000
Revenue	767,620	621,289
Cost of sales	(601,774)	(498,393)
Gross profit	165,846	122,896
Net operating expenses	(97,400)	(88,400)
Operating profit	68,446	34,496
Net finance costs	(5,000)	(5,000)
Profit before tax	63,446	29,496
Income Tax expense	(10,786)	(5,899)
Profit for the year	52,660	23,597

4.6 Principal Bank Covenant

Profit before tax/ Share capital	6.3	2.9

There is a clear potential breach of the bank covenant, which could impact on the future interest charge assuming the bank sets the rate of interest based on an analysis of risk.

The breach could lead to the bank calling in the loan, which ultimately could lead to a going concern issue. Sensitivity analysis should be undertaken to see how sensitive this breach is to a change in the assumptions used in the calculations.

If the bank covenant is forecast to be broken it is imperative the board make some strategic decisions to rectify the breach. For example, taking short-term decisions at the expense of the longer-term profitability of the group such as reducing the spend on advertising and marketing.

4.7 Impact of liquidation of Weeco - financial matters (3 marks)

Revenue and profit

Clearly the main impact is the inability of EcoFries to use Weeco as a turnkey supplier of eco-houses. If the in-house operation is not successful and no alternative can be found then the lost annual revenue would be in the region of £19.5m[10], based on the original forecast figures for the year ending March Yr21. The corresponding fall in profit would be £2m[11] i.e. 1.2% fall[12] in forecast gross profit for the group. This may be mitigated by the fulfilling of current orders, but further information is required to quantify this.

The forecast revenue of EcoFries for the year ended March Yr21 was 48%[13] more than that of Yr20, which in turn was 56%[14] higher than in Yr19. This suggests this was an expanding source of revenue and profit, which although relatively small in comparison with current group profits could have grown into something more substantial.

Warranties

The contract between Weeco and EcoFries provided for a 20-year warranty with each eco-house. Enquiries should be made to check if this 20-year warranty was backed up with an insurance guarantee i.e. an arrangement whereby if Weeco was unable to fulfil the warranty then an insurance company would ‘pick up the tab’.

If not, then the 20-year warranty may be worthless. If this is the case the contract(s) with Weeco should be reviewed to see if having an insurance guarantee was one of the conditions of using their services and take appropriate legal advice depending on the outcome of the review.

With Weeco in liquidation there may not be any assets to pay a legal claim even if any action was successful. A review at Companies House will provide an indication of the last reported net assets of the company. This and an indication of the legal costs and time involved would be required prior to reaching a decision. In theory, the veil of incorporation can be removed under certain circumstances but the costs and benefit of doing this would have to be assessed.

In any event, EcoFries will have provided its customers with a warranty, which, irrespective of the agreement with Weeco, will have to be honoured. This will incur a cost and should be quantified for both forward planning and financial reporting purposes.

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[10] Original forecast EcoFries revenue £21,250k, Revised forecast Ecofries revenue £1,771k

[11] Original forecast Ecofries profit £2,125k, Revised forecast Ecofries profit: £177m

[12] Original forecast group profit £166m: £2m/£166m = 1.2%

[13] £21,250k/£14,350k -1 = 48%

[14] £14,350k/£9,200k -1 = 56%

4.8 Impact of liquidation of Weeco - other matters (4 marks)

Reputation and rectification

Weeco only sold through other construction companies and built the homes on behalf of the construction companies. It is therefore quite possible EcoFries's customers will not know that Weeco were using non eco-friendly materials.

The board therefore should consider whether or not to contact EcoFries's customers and advise them of this issue.

If the customers were contacted it is probable they will want the non eco-friendly materials to be replaced with eco-friendly materials with EcoFries having to meet the cost. If this is not practical then they may seek some financial compensation for breach of contract, even if it was in good faith.

If the customers are not contacted then clearly there is no short-term financial cost. However, if customers did find out then not only will EcoFries have to bear the remedial costs but this would also be harmful to the reputation of the company.

Although EcoFries is a separate subsidiary, Hutden group's reputation will be harmed by association, which in turn is likely to have a detrimental impact on the future sales of Qdwell.

An estimate of the remedial costs should be quantified in order to assess the magnitude of the problem. This will be required for forward planning and financial reporting (contingent liability) purposes. With possibly only 35 homes being affected the cost may not be prohibitive, especially in relation to the total costs of the group. However, the cost of completing unfulfilled orders may be high and needs to be established.

The honourable and correct course of action would be to estimate the cost of the remedial action and to contact EcoFries's customers explaining the situation and to offer the directors' apologies and explain that the problem was out with their control. Some customers may accept this, others may not. Each customer can then be dealt with on a one-to-one basis.

The group should of course comply with any legislation. If there is any doubt about the legal position regarding the company then legal advice should be sought from a lawyer with specialist knowledge in this area.

5. Suggestions and recommendations on the eco-house situation

5.1 New Subsidiary

On the basis that the construction of eco-houses is to be undertaken in-house, consideration should be given to creating a new subsidiary, separate from EcoFries, and transfer all the set-up work currently undertaken to this company. Group relief provisions will be available and thus no adverse tax costs are foreseen, although this should be confirmed with our tax team/ advisors.

This will have the advantage of 'ring-fencing' any unknown risks within EcoFries.

At the moment the consequences of Weeco using non-environmentally friendly material in the construction of the eco-houses are unknown but has the potential to be substantial.

It would therefore be advantageous to have the option to simply liquidate EcoFries should this be desirable. Clearly, this would have implications for the group e.g. reputation but these can be assessed at the time. If the construction of eco-houses remains within EcoFries then this option is not available and any future costs e.g. litigation costs (stress, anxiety, distress, etc.) could bring down the whole subsidiary after it has been established and trading profitably.

5.2 Gross margins

Prior to considering the adoption of any 'ideas' or strategies it is important the pricing and costing structure associated with each property is known. If not, then any ideas to stimulate sales may be detrimental to the profitability of the group as a whole. The selling price of the eco-houses is price sensitive. Although the average cost per house is generally higher than 'standard construction' houses there is a limit to which customers are prepared to pay for using environmentally friendly materials and systems. This is demonstrated by the fact that when the gross margin was increased to 15% the volume of sales decreased to nil. The increased margin on an increased cost of sales figure is likely to have increased the selling price substantially as compared to the original 10% margin on Weeco's costs.

Given the price-sensitive nature of the final product it is recommended research is undertaken to find out what would be the tipping point at which a customer will not go ahead with the purchase. From this it can be calculated whether or not a profit can be made on each sale. For example, if the cost charged by Weeco were £300,000 then the selling price by EcoFries would have been £333,333[15], which would have been acceptable to a customer. If the in-house construction costs were, say £320,000, then the selling price would have been £376,470[16], which would not have been acceptable. The ideal selling price would lie somewhere between the two.

If the additional cost of sales as incurred by EcoFries is more than 11.11% more than the selling price as charged by Weeco then it is likely the construction of eco-houses in-house will not be a profitable venture unless greater cost savings can be made.

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[15] £300k / (100% - 10% margin)

[16] £320k / (100% - 15% margin)

It is recommended a detailed analysis of the cost of sales figure is obtained. This will allow a review to be undertaken to determine the true variable costs associated with constructing the property and therefore whether or not a contribution to the fixed costs will be made. The results of this outcome will determine the minimum selling price, which can form a basis of determining the recommended selling price to be quoted to customers.

5.3 Using existing operation

Discounting

Notwithstanding the points raised at section 5.2, the salesperson(s) could be given the authority to offer discounts to induce a sale. A price could be quoted to the customer that is slightly higher than what could be charged and if the customer considers this too high then a discount up to, say, 5% could be given, provided the final price is still within the authorised limits permitted by the directors i.e. so a profit can be made.

However, a cautious approach needs to be adopted with this method of discounting due to the potential adverse impact this can have on the reputation of the group.

Hybrid eco-house

The construction of a house involves hundreds of differing components ranging from basic commodities such as wood, steel and concrete to bespoke systems for controlling temperature (solar gain and cooling) and rainwater management systems. The price differential between some eco-friendly products and the equivalent non eco-friendly products is significant. The customers could be offered a house that is, say, at least 75% eco-friendly, i.e. the majority of it is but a few selected materials or systems e.g. rainwater systems are not eco-friendly. This could make a substantial difference to the price and appeal to those who want to become more environmentally friendly but cannot afford to go the ‘whole way’.

It may be possible to develop a matrix or grid of selling options that are, say, guaranteed to be at least, 25%, 50%, 75% or 99% eco-friendly. This could give the customers the option of selecting which package is best suited to them, which would be more standard and in addition to fine-tuning individual systems such as the rainwater management system.

Efficiency of construction

Without compromising on offering a bespoke eco-house to the customer the eco-house designs could incorporate an element of pre-fabricated house construction. This would reduce the construction cost.

This reduced cost could either be passed on to the customer, thus increasing the likelihood of a sale, or retained, thus increasing the profit made on the sale.

Part exchange

Depending on the circumstances of the customer the group could offer to accept a customer’s property as part exchange for the new eco-friendly property. This may be sufficient for the customer to conclude the purchase.

This could be extended to the whole group and provided it is managed appropriately could increase sales. Clearly a cost/benefit analysis should be undertaken before this is considered.

Part ownership

The group could jointly own part of the property with the customer. This will enable a customer to occupy a more expensive property than they would otherwise been able to afford.

As with the suggestions this should be fully costed prior to being considered since there will be risks involved as well as benefits.

Financing

The group could offer financing assistance to buyers whereby the funds are lent to the customers to purchase the property. This has risks associated with it and would need to be researched.

An alternative is to enter into a joint-venture or some other agreement with a bank that will provide the funding. This may introduce a new income stream, albeit not likely to be a significant one.

Locations and customers

The eco-houses could be marketed in locations outside the area of North West England, especially the more affluent areas of the country where cost may be less of an issue.

In addition to being able to recover the increased cost of sales the increased number of sales may mean that economies of scale may force down the unit cost both in-house and with suppliers.

5.4 Use of Weeco experience/ Assets

With Weeco in liquidation there will be many fully trained eco-house construction workers looking to secure employment. Depending on the position regarding the liquidation it may be possible to make it known that there are vacancies for such workers. This will solve the experience issue immediately.

The difference in the remuneration packages would have to be managed carefully. However, if it can be done in such a way that the redundant employees' approach EcoFries then they can be offered terms that are the same as the existing employees; essentially a 'take it or leave it' approach. This may have to be modified if attracting the appropriate personnel is initially unsuccessful although in the first instance only a few employees need to be engaged.

There may be the option of approaching the liquidator to take on some of the workers although this may involve employing them on the same terms and conditions as they had with Weeco under the TUPE regulations.

Existing employees will be aware of the liquidation of Weeco and the resulting job losses. This may result in a surplus of construction workers looking for work in the local area. If this is the case then Qdwell could be in a position where the directors can minimise any future wage increases or, depending on the employment contracts, seek to reduce rates of pay.

The liquidators will be seeking to extract as much value as possible from the assets of Weeco and will be wanting to sell the modified plant and equipment and patents. There is unlikely to be a big market for second-hand modified equipment and thus it is recommended a low initial offer is made for the equipment, if it is considered useful within the business.

Depending on what the patents cover enquiries should be made into purchasing these but only if relevant and enforceable. If they are now unenforceable then they are of little value.

Due to the unknown quantities involved with the lawsuit and the HMRC investigation into the R&D claims any suggestion of the liquidators for the group to purchase the shares of Weeco should be refused even if they are almost ‘given away’.

5.5 Summary of main recommendations

The practical recommendations to prioritise are:

- Form a new subsidiary for the in-house construction of eco-houses
- Undertake robust market research to establish the demand and pricing point for eco-houses
- Develop a matrix of selling options with a guaranteed minimum percentage (25%, 50%, 75% or 99%) of eco-friendly materials
- Explore the possibility of part exchange and part ownership to encourage sales
- Research the option of being able provide financial assistance to potential customers either directly or via an introduction to a specialist mortgage provider
- Consider expanding out with North West England
- Explore the option of engaging some ex-Weeco employees
- Approach the liquidators of Weeco with a view to making a low offer for some of the plant and equipment and, if appropriate, the patents

APPENDIX A - Revised forecast for the year ending 31 March Yr21

Note: the marks for the revised forecast figures and assumptions are primarily awarded for the logic and association with the market changes rather than the absolute figures, which may vary depending on the interpretation of how much those changes impact the future revenue and margins.

Forecast

The revised forecast for the year ending 31 March Yr21 is set out below. The assumptions follow the main figures.

	Note	**Draft Forecast** Yr20 £'000	**Original Forecast** Yr21 £'000	**Revised Forecast** Yr21 £'000
Revenue	A1	617,750	767,620	621,290
Cost of sales	A1	(483,695)	(601,774)	(498,394)
Gross profit	A1	134,055	165,846	122,896
Net operating expenses	A2	(88,100)	(97,400)	(88,400)
Operating profit		45,955	68,446	34,496
Net finance costs	A3	(3,000)	(5,000)	(5,000)
Profit before tax		42,955	63,446	29,496
Income Tax expense	A3	(9,450)	10,786	(5,899)
Profit for the year		33,505	52,660	23,597

Notes

A1. Revenue/Cost of sales/Gross profit

	Forecast for the year ended 31 March Yr20				**Revised Forecast for the year ending March Yr21**			
	Qdwell Ltd	**EcoFries Ltd**	**Wallace P Ltd**	**Total**	**Qdwell Ltd**	**EcoFries Ltd**	**Wallace P Ltd**	**Total**
	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000
Revenue	597,000	14,350	6,400	617,750	597,000	1,771	22,519	621,290
Cost of Sales	(465,660)	(12,915)	(5,120)	(483,695)	(477,600)	(1,594)	(19,200)	(498,394)
Gross Profit	131,340	1,435	1,280	134,055	119,400	177	3,319	122,896

Note: Due to the lack of 'exact' figures on the assumptions a broad brush approach would be adopted – the case study has a large steer, namely "..to assess the impact the market changes will have on the figures, which will be rough; there is little merit in using more precise figures......")

Assumptions:

A1. Revenue, Cost of Sales and Gross Profit

4.1 Qdwell

On balance although there is a current shortage of accommodation nationally the factors influencing the future demand for new homes are mainly negative. There is a lack of detailed information as to the exact quantitative impact these will have on the forecast. However, any increase in both the number and average selling price is likely to be small, if any. The forecast will assume no increase in either the volume of sales or the average selling price. The justification is as follows:

Revenue – UK owner occupiers

There is clearly a trend away from the old family-unit, which requires a large dwelling to the new family-unit, which requires a small dwelling. Ideally the forecast should therefore show a relative increase in construction of the smaller houses as compared to the larger ones. The assumption that both will change at the same rate is probably unrealistic.

The population increase of Greater Manchester is forecast to be around 0.8%. This compares with the growth rate in the forecast of 10%. This suggests the growth rates in the number of new homes sold in the forecast is optimistic.

There are unsubstantiated rumours the Bank of England may increase the bank interest rate. If this occurs it will reduce the affordability of new borrowers resulting in fewer new mortgages being offered. In any event, even the rumours may restrict the increase in sales for the group or it could result in fewer sales.

The trend in national house prices is downwards and although the forecast already assumes a drop in the % by value of UK: owner-occupiers from 53% to 48% it is likely the overall 10% increase in selling price used in the forecast is unrealistic and should be reduced.

Revenue – overseas investors

The forecast is assumed to take into account the increase in the % by value of overseas investors from 35% to 42%. Given the strengthening of the pound it is likely the volume of future sales to overseas investors will decrease. This again suggests a reduction in the volume of sales as opposed to an increase.

Revenue – Buy-to-Let investors

The effective increase in the council tax by 100% for all properties that are let out will have a significant impact on Buy-to-Let investors. The reduction in demand for 'Buy-to-Let properties is likely to be fairly immediate and thus the forecast volume of sales in the forecast is likely to be optimistic.

Cost of Sales/ Gross margin – Qdwell

Overall, the gross margin is likely to be lower in Yr21 as compared with Yr20. The forecast will assume 20%, which is a 2% reduction on the existing forecast and on the Yr20 percentage. The justifications are as follows:

- The pound is forecast to strengthen, which will reduce the cost of materials imported. However, the policy of using UK suppliers mitigates the impact this will have on the overall profitability of the company. To quantify this effect the amount/proportion of material imported will need to be ascertained.
- There is currently a shortage of subcontractors in the area. This will mean the rates are likely to increase due to the imbalance of supply and demand. This will reduce the gross margin in the forecast as compared with Yr20.
- The national minimum wage increases year after year and so the wage bill is likely to be higher in Yr21 than in Yr20.

4.2 EcoFries – Revenue and Cost of Sales/Gross Margin

With Weeco entering liquidation and no obvious replacement identified it is prudent to assume there will be no future sales of eco-houses.

The forecast will assume that only sales during April Yr20 will be recognised, which will be assumed to be 1/12 of the original forecast i.e. £1,771k[17] with cost of sales of 90% i.e. £1,594k.

4.3 Wallace P – Revenue and Cost of Sales/Gross Margin

The turnover in the forecast is sensible based on forecast revenue for the project of in excess of £30 million. However, this forecast assumes the development would only have 10 affordable accommodation flats as opposed to the 30 the Local Planning Officer states is in the planning documentation. The original forecast therefore assumes the selling price of each flat is £148,300[18].

Taking account of the 30 affordable flats the total forecast revenue is £28,919,000[19]

The cost of sales figure will remain unchanged and any additional costs as a result of the letter from the Local Planning Officer will be shown separately.

[17] £21,250k/12 = £1,771k

[18] 200x + (10 x 50%)x = £30,400k i.e. x = £148,292

[19] (180 x £148,300) + (30 x £74,150) = £26,694k + £2,225k = £28,919k; turnover in Yr21 is less £6,400k in Yr20

A2. Net operating expenses

4.4 Net operating expenses

Further information on the analysis of each operating expense heading is required in order to accurately assess the reasonableness of the forecast figures. In the absence of this information it is assumed the figures are reasonable.

	£'000s
As per original forecast (with directors' bonuses)	£97,400
Revised forecast net operating expenses excluding bonuses	£88,400

Additional cost assumptions:

It is clear the principal bank covenant has not been met and thus the directors' bonuses will not be payable. This necessitates a further adjustment of £9,000k.

A3. Net finance and taxation

4.5 Net finance and taxation

There is no information on the finance costs and so the original figure of £5,000k will be assumed to be accurate.

The effective tax rate in the Yr21 draft accounts was 22% and that in the original forecast 17%. The forecast rate seems too low as compared with the previous year. However, the long-term trend for the tax rate is downwards and so a figure of 20% will be used in the forecast i.e. allowing for some disallowed items.

ETHICS MEMO

To: Ethics Partner

Date: 19 May Yr20

From: Bobbie

Subject: Hutden group

During my secondment at Hutden Group a number of ethical issues have arisen, some of which could have serious consequences, others less so.

Personal Relationships

Myself and Zena

During the course of my work at Hutden I have started a personal relationship with Zena, one of the directors, who is the daughter of the CEO and major shareholder. I would stress that this has only been for a few weeks and it may come to nothing. This has not in any way affected my work at any level and I have acted with utmost integrity and objectivity in all matters. I trust you will respect our ethical guidance and keep this information confidential.

My secondment is due to finish at the end of this month and given my involvement with Zena and the client I do not think it is ethically correct for me to be involved in the current ongoing Yr20 audit. This is because that would give rise to both a familiarity threat and a self-review threat and thus there is a risk that I may not appropriately evaluate the results of a previous judgement, activity or service undertaken by myself.

Zena and Walter, her father

At some point during a meeting Walter mentioned a whistleblower had reported him to the board of directors. Apparently, they asserted that he knew about Weeco, the sole subcontractor to EcoFries, one of the group's subsidiaries, passing off non eco-friendly materials as eco-friendly by raising false certificates. Zena stated that this was not the case and the subject was changed.

I have not come across any evidence to suggest Walter did know about this but nor have I enquired into the matter further. Guidance on what I should do, if anything, about this would be appreciated so that I can ensure I am acting in an appropriate professional behaviour in relation to this matter.

Advice

Document on bringing the construction of eco-house in house

In January Walter put me under reasonable pressure to produce a positive evaluation for the option of constructing eco-houses in-house rather as opposed to continuing to use Weeco as a subcontractor. He used the expression 'accentuate the positive'. I ignored this 'intimidation threat' and produced a balanced evaluation considering 'both sides of the story'.

However, five months later he said that the board had interpreted the document in a different manner and were under the impression the venture would be a quick and easy thing to do, which it turned out not to be the case. When I challenged him stating that although I did as he asked me to do, the resulting Briefing Paper gave a balanced evaluation of the proposed venture, he then effectively denied asking me to make a positive recommendation and the subject was dropped.

As far as I am concerned, I resisted his attempt at producing a biased document and acted with integrity, objectivity and professionalism.

Shifting the blame for the decision to bring the construction of eco-houses in-house to me

During a recent conversation with Walter he appeared to be trying to place some of the blame of the slow start of the marketing of eco-houses on to me. Clearly this was a board decision and not mine.

I have not raised this matter with Walter since I felt it would be unprofessional behaviour to make an issue out of a comment that may simply be no more than that. Furthermore, I do not consider this to be an intimidation threat and wanted to draw your attention to this should the client start to drop hints that the current state of their business is as a result of my (our) advice and not their decision.

Ring fencing

As part of a draft report I included as an option the advice to start a new subsidiary to construct eco-houses in-house. The rationale was that with Weeco now in liquidation as a result of legal action being taken against it I considered it commercially sensible to ring-fence any potential future costs/liabilities that may arise in EcoFries e.g. customers start suing EcoFries for use of the non eco-friendly material. I am of the opinion that this is no more than providing sensible commercial advice in line with our fundamental principle of acting with Professional Competence and Due Care.

However, this could be construed as simply winding down a company to avoid liabilities only to transfer the business and assets to another company and effectively 'start again'. In this situation I consider there is a clear difference between using a sub-contractor as a full-service operation and constructing the houses in-house so that the two are sufficiently different. However, I draw your attention to this so you can make the decision as to whether or not the firm could be seen to have a self-interest threat (the company is less likely to become insolvent thereby we are less likely to lose our fee income) or that our reputation is at risk being associated with a client that may take this course of action; the decision has not yet been made.