MEI Conference 2014

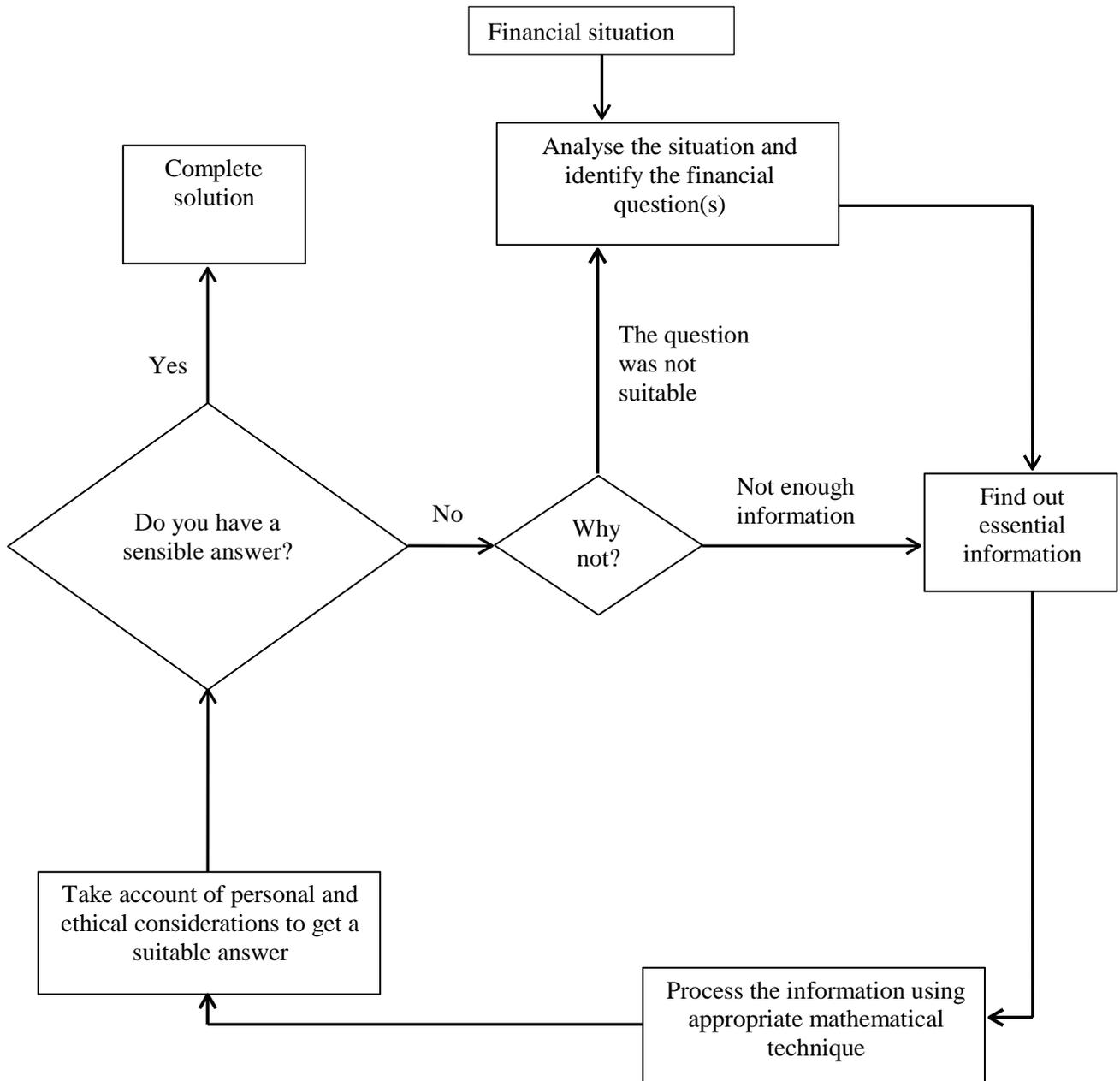# IQM: Financial problem solving

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Derek's Decorating Business

Derek wants to start a painting and decorating business. He will charge for the materials used (paint, wallpaper etc) and for his time. Derek estimates that it will cost £4000 for the year to cover the cost of equipment and running his van to get to the jobs he will do. He wants to earn £15 000 a year. Derek can work 6 hours a day and will not work weekends or bank holidays. How much an hour should he charge for his time?

The Financial Problem-Solving Cycle

Financial situation

Analyse the situation and identify the financial question(s)

Complete solution

Yes

Do you have a sensible answer?

No

Why not?

The question was not suitable

Not enough information

Find out essential information

Take account of personal and ethical considerations to get a suitable answer

Process the information using appropriate mathematical technique

Notes on the Financial Problem-Solving Cycle

Financial situation

Examples of financial situations include the following.

- Deciding what to do with income
- Needing to find somewhere to live
- Planning for the future

Financial question

Examples of financial questions include the following.

- How much will that coat cost in the sale?
- How much will I earn after my wage rise?
- I am making earrings to sell; how much should I charge for them?
- Where should I borrow money to buy a car?
- Where should I invest my money?
- How much should I put aside for my pension each month?

Essential information

Examples of information which could be needed to answer the question include the following.

- The percentage reduction for a sale
- If someone wants to sell something they need to know what it cost and how much someone else might be willing to pay
- Asking an adviser about options for loans or investments

Process the information

This could include the following.

- Using a spreadsheet
- Doing a calculation
- Putting information into a table or chart

Personal and ethical considerations

Examples include the following.

- One shop might be cheaper than another but pay its workers low wages so people may prefer to shop at the more expensive shop.
- I may want to buy a car but I need to think about how much spare money I have to repay a loan.
- It may be cheaper to buy a larger pack of fruit than a smaller one but someone may get the smaller one to avoid waste.

Being unable to answer the question

There are various reasons why it may not be possible to give a satisfactory answer to the original question.

Here are some examples.

- The original question was too vague so it is not possible to tell whether it has been answered or not –
  the question should be made more specific in a second circuit of the cycle.
- It is not possible to find a satisfactory answer. For example, someone wants to buy a large house but cannot afford to repay the mortgage. The question should be amended: perhaps looking for a smaller
  house or considering shared ownership.
- It may not have been possible to find enough information to answer the question. Advice should be sought in a second circuit of the cycle.

A place to live

A financial problem solving exercise

Can someone earning the minimum wage afford a place to live in your part of the country?

Find out what the minimum wage is. You will see that it varies for different ages. Choose an age of worker.

Find out how much it costs to rent a flat or room in your area.

Could a worker earning the minimum wage afford to rent a flat or room?

Remember the wage will be taxed.

You could also try to find out what benefits the worker might be entitled to.

Would it be possible for several workers on the minimum wage to share a flat or house?

National Minimum Wage rates from GOV.UK

The National Minimum Wage rate per hour depends on your age and whether you're an apprentice - you must be at least school leaving age (https://www.gov.uk/know-when-you-can-leave-school) to get it.

Year	21 and over	18 to 20	Under 18	Apprentice*
2013 (current rate)	**£6.31**	**£5.03**	**£3.72**	**£2.68**
2012	£6.19	£4.98	£3.68	£2.65
2011	£6.08	£4.98	£3.68	£2.60
2010	£5.93	£4.92	£3.64	£2.50

*This rate is for apprentices (https://www.gov.uk/apprenticeships-guide) aged 16 to 18 and those aged 19 or over who are in their first year. All other apprentices are entitled to the National Minimum Wage for their age.

The rates are usually updated every October, so the current rates apply from October 2013.

Previous years

The age groups were different before 2010 and there were no National Minimum Wage rates for apprentices.

Year	22 and over	18 to 21	Under 18
2009	£5.80	£4.83	£3.57
2008	£5.73	£4.77	£3.53
2007	£5.52	£4.60	£3.40
2006	£5.35	£4.45	£3.30
2005	£5.05	£4.25	£3.00

! Read the information on who is entitled to the minimum wage (https://www.gov.uk/national-minimum-wage/who-gets-the-minimum-wage) or use the National Minimum Wage calculator (https://www.gov.uk/am-i-getting-minimum-wage) to check whether the National Minimum Wage is being paid.

Call the Pay and Work Rights Helpline (https://www.gov.uk/pay-and-work-rights-helpline) if you're not getting the National Minimum Wage and think you should be.

Discussion question: which is the better offer?

Which is the better offer?

Getting 20% off the price or getting 20% extra free?