

Playing With Percentages

6 Things Every Business Person Should Remember

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Why you must read this booklet

Percentages are the most common statistics that business people encounter - from broadcast and print media, training courses, reports, assessments, monitoring and evaluation procedures and the rest of daily life. We know this: in preparing the booklet we talked to some of your business colleagues, reviewed training materials, and surveyed 126 current business textbooks just to understand exactly what you face.

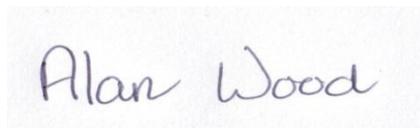
You need to be certain of facts and confident that conclusions are solid enough to withstand the closest scrutiny for growth strategies, market plans, sales presentations and product/service deliveries. Or you need to identify weaknesses and recognise potentially incomplete evidence in order to defend your company's bottom line by avoiding costly errors. Either way, you need to consider systematically written documents and other staff communications. In short, you need to question paperwork and people alike.

This can be daunting even if you are not just starting out on your business career; experienced managers, directors and board members can sometimes find sustaining the required level of concentrated scrutiny is challenging within a punishingly demanding schedule. What questions should you formulate to determine the thoroughness and certainty of a contribution? How do you get under the surface of figures blandly quoted in reports?

This booklet stimulates ideas for some of the basic checks and consequent questions you may need to formulate to gain a more complete picture; it also adds value to your professional skill set as you reinforce the market-winning confidence of clients, colleagues and business partners in the quality of service you offer.

So, welcome. After reading this booklet – all of it based on real life examples - you will be able to question and respond systematically and, possibly, in new ways too. **E-mail your feedback and request the free CTCP e-newsletter with practical tips and news about training events, publications and special discounts for subscribers: info@clearthinkingclearprofit.com**

I look forward to hearing from you, and wish you every success in your professional endeavours.

A handwritten signature in blue ink that reads "Alan Wood". The signature is written in a cursive style and is centered within a light blue rectangular background.

Playing with Percentages (Section 1): The Figures

In this first section we look at three related issues centred around the presentation of percentages themselves. Here, it is possible to have figures quoted in such a way as to create a misleading impression without anything further being stated. These points must feature in your check list; if you are not convinced by what is in front of you then that dissatisfaction will enable you to formulate a clarifying question immediately.

1. Percentage only – incomplete information

Be suspicious or at least discontented whenever a percentage is given in isolation. The percentage figure should always be accompanied by the absolute number eg 40% (200). This is because only having the two types of statistic together can help you to realistically estimate the strength of the evidence and/or the validity of the interpretation (about which more will be said shortly).

The same principle applies when percentage changes are quoted. Imagine a company is reported as suffering a 100% increase (a doubling) in bad debt clients this year. However, that figure could be completely insignificant if the company has one thousand clients and the percentage of bad debt clients has gone from 1% to 2% (ie 10 to 20). The firm is hardly in peril if those particular 20 people aren't responsible for 90% of the business....

Action Panel

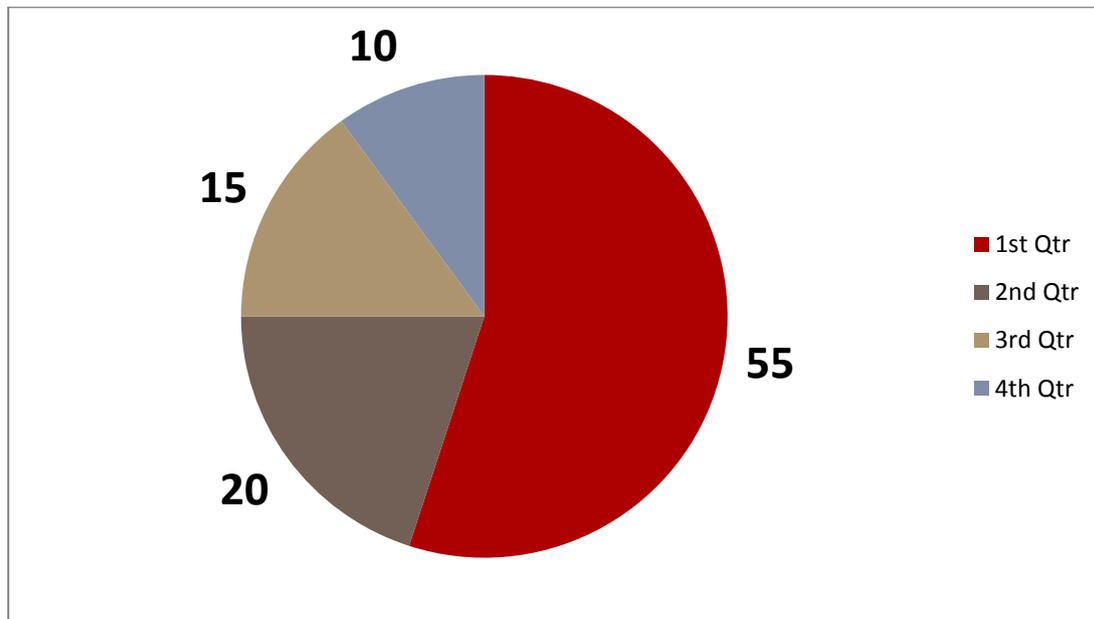
- (a) Ensure all documents and presentations for which you or your staff are responsible have both percentages and absolute numbers available together as shown above wherever percentages are cited. Where such figures do not accompany percentages then you should make further efforts to obtain them and review the collective picture created by all the assembled information together.**
- (b) Challenge all 'percentage only' data in documents, presentations or other briefings you receive and request absolute figures.**

A Further Thought

It is always worth asking any provider of percentages without the corresponding absolute numbers why the latter were not forwarded as they should have been. Posing this question conveys an appropriate message concerning the standards to which you work and expect of others. It may open up further lines of enquiry concerning the quality of information and/or wider circumstances which you are addressing - and simultaneously provide a useful impression of the provider's business honesty and competence.

2. Percentage breakdown (sets) – visuals

Moving on from the occurrence of figures in text, percentages quoted in isolation can similarly disguise low and potentially unconvincing numbers when expressed through visual means such as pie charts or bar line graphs. These methods of communicating information may appear particularly within sales pitches or expenditure summaries.



Consider the above generalised pie chart showing various percentages. The initial impression created is that the 55% figure is not just dominant but highly significant – it implies something substantial lies behind it. You need to be aware that this is a strong and immediate subconscious message to those who view the pie chart.

But how reliable an impression does the breakdown create if it is then revealed that the absolute numbers are those in the first set below? The 55% is revealed as 11. At this point a wider context is required: is 11 a greater number than might be reasonably expected for that time period (first quarter)? How do you know or measure such a frequency of occurrence? **Big questions must follow small absolute numbers wherever percentages are involved.**

To emphasise the potential strength of a misleading impact created by percentages we can compare the two sets of numbers below, both giving rise to the same pie chart just shown. If we think of these figures as equally valuable income sources then surely firms would much prefer the second set.

Percentage	Absolute number – set 1	Absolute number – set 2
10	2	200
15	3	300
20	4	400
55	11	1100

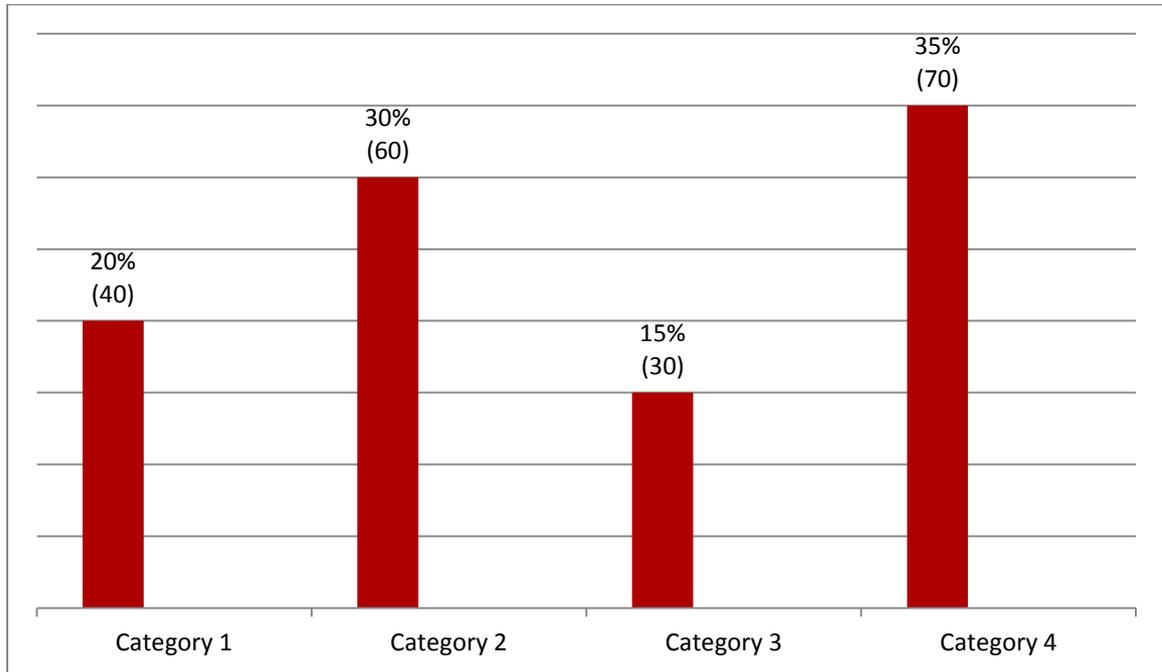
Action Panel

- (a) Ensure all visual presentations for which you or your staff are responsible include both percentages and absolute numbers on the chart or graph itself at the appropriate sections.
- (b) Alternatively you can make them available in an accompanying list which should be placed alongside the chart or graph in order to most clearly and openly communicate the information.
- (c) In either case (a or b) where such figures are not provided initially you should make further efforts to obtain them and review the collective picture created by all the assembled information together.
- (d) Challenge all 'percentage only' data in graphical images received from other sources and request full sets of data as illustrated above.

A Further Thought

DO NOT try to present a series of figures and percentages in a turgid paragraph of text. A simple table such as that demonstrated above relays figures far more readily with a minimum of additional explanation and a maximum impression of brisk efficiency.

In the light of everything stated so far here is an example of **how percentages should be presented** with absolute numbers in brackets beneath.....



3. Percentage versus absolute number

It is possible to find an initial 'whole group number' stated, followed by details of percentages in the format:

"Of the organisation X's 300 000 membership, 65% voted for action Y on a turnout of 35%".

It takes a little time to understand that from the information given then 105 000 people actually voted. Of these, 68 250 were in favour of action Y and 36 750 were opposed. It is likely that those in favour of action Y will emphasise the percentage figure 65%; those opposed will highlight the small absolute number who voted for that action in comparison with the membership total as a whole.

The significance of percentages versus numbers must be considered carefully for each particular situation according to their own merits but be aware that providing a total absolute number yet emphasising a percentage is a basic presentation tactic. And this leads neatly into section two.

Action Panel

- (a) Always complete the mathematics so that percentages + corresponding numbers are to hand**
- (b) Identify the emphasis and potential interest/agenda being promoted by each stakeholder**

A Further Thought

Writing down the findings from the actions (a) and (b) may provide a starting point for clarification questions and even significant counter-arguments; because the presentation tactic may represent a particular mind set then the first example you identify may prove to be only one of a series - all of which will need to be addressed.

Playing with Percentages (Section 2): The Interpretation

In this second section we look at three important points centred around the significance of the reported percentages. Common to these points, a framework is created which deliberately leads the observer towards the conclusion favoured by the presenter when other views are possible – or even more valid according to the totality of the evidence.

4. Editorialising

The key here is to consider the wording which accompanies the percentages. Watch for 'only', 'just', 'hardly more/less than', 'barely', 'similar to' or equivalents which can be casually slipped into the text and which may be quite subtle in their psychological effect. There can be more blatant editorial phrases such as 'significantly worse/better than' and 'obviously this means...' which are more easily identified. In all cases, it is necessary to be especially self-disciplined when those siren-like little words are creating an impression consistent with any of your own assumptions, preferences or arguments!

Sometimes a text can reveal editorial bias by the inconsistency of statements in the very same document or article. Consider:

'X significantly outperforms Y by more than 1%'

'X is virtually the same as Y with the latter only achieving a 3% higher performance'

It is reasonable to conclude that the author favours X over Y.....

Action Points

- (a) Copy the document and highlight/delete the editorialising words. Consider only the percentages values cited.
- (b) Remember to seek the absolute figures as discussed earlier.
- (c) Extract and lay side by side comparative statements drawn from different parts of the text to ensure that inconsistency is identified and further investigated.

A Further Thought

Any discrepancy between the editorialising conclusion and interpretations derived from following the action points suggests additional – possibly urgent - lines of enquiry or questions to formulate.

5. Valid sample or comparison (like with like)

Does a reported analysis/profile with its percentages and absolute numbers really match the characteristics of what **you** are scrutinising, promoting, targeting or defending?

Compare your information profile(s) against those being cited in any reports or potential market/growth presentations.

Action Point

- (a) Comparison can be effectively but rapidly achieved by setting up a 'match grid' as illustrated below.
- (b) The last column of the grid is where you decide if the correspondence is close enough for your purposes. It is a judgement call, but it helps reduce risk as it removes hidden assumptions and highlights aspects which require further enquiry.

<i>Characteristic</i>	<i>Your Analysis/profile % and number</i>	<i>Other Analysis/profile % and number</i>	<i>Match Yes/no</i>
<i>1 – specify in full</i>			
<i>2 – specify in full</i>			
<i>3 – specify in full</i>			

A Further Thought

The grid is an effective time management technique which may apply elsewhere in your work. It is also an alternative means of achieving clarity by removing percentages and numbers from editorialising text. Niche marketing may be a particularly appropriate – but not exclusive - sector for this analytical tool.

6. Context deficiency

As well as considering what is immediately available within the immediate documents, media reports, presentations and anecdotal evidence to hand it is also important to ask, “What else is happening in the background that is linked to percentages and numbers?”

First, a word of explanation about the term ‘context deficiency’. Context here means setting what is known alongside other known facts or comparisons. Omission of relevant facts – either by neglect or deliberate decision - is ‘context deficiency’.

As an example of context deficiency, consider these two companies (assuming each is the only one in its respective town), both serving individual customers and both experiencing approximately 1400% growth over a decade.

Firm	# Customers 2001	Population 2001	# Customers 2011	Population 2011
Alpha	30	8500	420	13000
Zeta	150	10000	2000	800000

Alpha seems far less impressive than Zeta based on absolute numbers that accompany the percentage figure of 1400%. But Zeta is located in an area that went from 10 000 to 800 000 population - explosive urban growth - in same period. In the light of this additional information, how effective are the two firms in recruiting a proportion of customers from their respective communities?

Action Points

- (a) **Always ask the question ‘What else may be happening?’ whenever percentages and absolute numbers are cited in the context of trends and changes**
- (b) **Extracting percentages or numbers at the beginning and end of trends from the original text and placing them in a simple table or a bar graph again assists analytical thinking around an issue**

A Further Thought

Consistent background reading – news and market journals – is the best defence against context deficiency



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I am a former Head of Medical Laboratory Services at two reference hospitals, a successful fundraising, region and major projects manager for 16 years with UK and overseas development agencies, and an emergency relief worker specialising in Information and Logistics. I am PGCE Adult Education qualified with domestic and international management training experience (Africa and India).

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