

Financial dashboards – Using graphics to monitor and understand finance

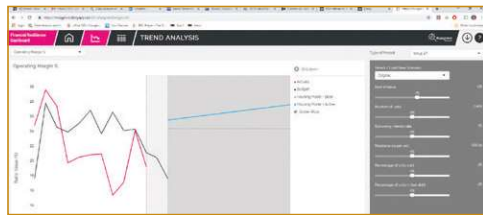
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showing historic performance or simply the previous year's values.

In depth assessments - scenario modelling and forecasting

Going beyond simply monitoring, a board also needs to know what might happen in various circumstances. The regulator's guidance is: "We have reinforced our expectation that boards take ownership of their organisation's stress testing and ensure they understand the impact of economic cycles as well as one-off shocks on their businesses."

Real time scenario modelling



The objective of stress testing is to be able to understand the key risks and how they interact. The figure above shows an interactive dashboard that can be used in

board meetings to explore the impact of any of the key risk factors on the VFM ratios.

The more data-literate board members expect to be able to interact with data in this way and these tools facilitate this. Live scenario modelling requires a full financial model in the background. In the example above, this is done using R (the statistical computing language) which re-computes the financial model as soon as a slider is adjusted.

A further advantage of using an environment like R is that sophisticated forecasts can be generated that project time-series data into the future. Where there are clear trends and seasonal patterns, the value of a series can be projected with a good level of confidence.

Monthly reporting

While the board or senior executives wish to monitor the main ratios or explore the risks, the financial manager wants to ensure that they understand the current data, and although accountants are obviously skilled at reading tables, using graphics makes it easier to spot trends and anomalies. The screen in the figure to the

Graphical financial reporting



right allows the user to see any number of series on a graph with a completely flexible time-horizon, as well as presenting data in a tabular form.

Conclusion

Good analytics requires the merging of multiple skills in IT, design, statistics, data management and of course, the business domain itself. This article argues that the design of good dashboards can make a significant difference to the understanding of risk and the delivery of sound performance.

Simon Musgrave is a director of Musgrave Analytics.



Mobile surveying – More than just data capture

Graeme Reid, Director, Hub Asset Management

In my other life as the owner of a surveying company, we have completed a lot of stock condition surveys over the past 15 years; probably around 150,000 surveys spread across every conceivable property type, and from remote island communities to dense, city-centre developments.

During that time, our methods and processes have developed to keep pace with changing requirements, housing standards, data demands and the available technology. We started our survey work using paper forms that were manually input into spreadsheets and evolved into using some software designed for mobile data-capture running on a variety of hardware from Psion Workabouts (remember them?) to 10" tablets. The problem with all of these data capture solutions was that they were designed by very clever developers who have clearly never spent a whole day on site using their own products.

Good condition surveyors are in high demand and, in many cases, work on a

freelance basis, being paid per survey. They are therefore very motivated by productivity and the efficient use of their time in each property. There is clearly a balance between ensuring that correct, accurate and robust data is being collected, inconvenience to the tenant is minimised and the surveyor is getting through the survey and out to the next property. Good survey design is therefore crucial.

After trying various products, we decided that the only way to get what we needed was to develop it ourselves and so Hub Surveyor, the companion product to Hub Manager, was born and in doing so we

Continued on next page

Mobile surveying – More than just data capture

Continued from previous page

have identified a number of key factors that differentiate the good from the bad.

ID	Status	Property Address	Surveyor
1	Complete	10 Capetown Drive, 400 000	John Smith
2	In Progress	11 Capetown Drive, 400 000	Jane Doe
3	Complete	12 Capetown Drive, 400 000	John Smith
4	Cancelled	13 Capetown Drive, 400 000	Jane Doe
5	Complete	14 Capetown Drive, 400 000	John Smith
6	In Progress	15 Capetown Drive, 400 000	Jane Doe
7	Complete	16 Capetown Drive, 400 000	John Smith
8	Cancelled	17 Capetown Drive, 400 000	Jane Doe
9	Complete	18 Capetown Drive, 400 000	John Smith
10	In Progress	19 Capetown Drive, 400 000	Jane Doe

Size

Several providers in the sector have developed data-capture tools to run on tablets or laptops. While these may look great in the office, anyone who has tried carrying one around with them for a day (let alone three weeks) while climbing ladders, knocking on doors, measuring room dimensions or just keying in data with one finger will tell you that they are a pain – quite literally!

They are too heavy and cumbersome, you can't put them in your pocket when you need both hands (or when you'd rather not been seen walking about carrying an expensive piece of hardware in your hand), and if you put them down, you need to remember to pick them up again. Your data-capture software should run on a standard-sized smartphone; they are light, easy to use, you can put them in your pocket and most apps can be downloaded to a surveyor's own phone so you can reduce costs. And if you think the screen is too small to see all the information you want the surveyor to see, you're showing them too much (more on that later). So trust me, size does matter!

Don't keep tapping!

A typical condition survey might include around 120 questions relating to component specification, age, quantity, compliance and so on. Every time a surveyor selects a response or responds to a request on the survey template, they have to tap the screen.

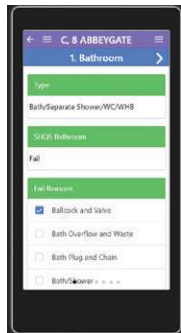
Depending on the system being used and the performance of the hardware device, it may take around three seconds for the device to react to the screen tap. Each time a surveyor is asked a question by the device, they may have to choose from either a drop-down menu, key in a numerical response or scroll through a range of answers to choose a suitable response. If each of the 120 questions requires two taps of the device, that's 720 seconds or 12 minutes, waiting for the survey software to

process the surveyor's requests.

We have seen several systems where surveyors have to make multiple taps to simply allow them to progress from one question to the next. In the above example, if each of the 120 questions required two further taps that's an extra 12 minutes for every survey. Our surveyors complete an average of 10 surveys per day, so that's an extra two hours of a surveyor's time that could be better spent completing a further two or three surveys each day instead of waiting for their software to keep up. So our advice is to design the structure of your survey template to minimise the number of responses needed to navigate through the questionnaire and stop tapping!

Rules

It's important to keep in mind the purpose of the survey and that while we recognise the surveyor's desire to progress efficiently and quickly, we need to be able to have rules, restrictions and protocols that ensure



the survey is completed fully and minimises the potential for rogue or invalid data.

Rules should guide the surveyor through the questionnaire, removing invalid response options based on previous answers, alerting them to keyed responses

outside expected ranges, ensuring they can't leave sections or surveys incomplete, and making it clear as to where they are in the survey in case they get distracted and have to come back to the survey.

Big bold colour schemes work well (Hub highlights green for complete and red for incomplete – it's not complicated!). The end result should be complete, clean and accurate surveys requiring minimal post-survey validation and cleansing, meaning you can confidently use the data immediately.

Need to know basis

Keep the information you are sharing with the surveyor to only that which they need to know. The more information you present to the surveyor, the more cluttered the screen becomes and the greater the scope for errors or confusion.

Structure your survey questionnaire to present the information you want the surveyor to see in a simple and clear way and avoid the temptation to add in fields and data, just because you can. This also

means that you don't need a large screen (see my earlier point) and can keep the surveyor focused on what they're doing.

Survey management

How do you manage your surveyors in the field and make sure they have access to sufficient addresses to keep them productive while retaining control over who has done what?

The data collection software needs to have a survey management function to allow you to assign survey types to particular addresses and allocate these to individual surveyors. You need to be able to reassign addresses if a surveyor leaves or a new surveyor joins the team, and this needs to be done remotely. Surveyors need to be able to upload completed surveys and download new addresses without having to return to base and the survey manager needs to be able to monitor progress and data quality on a daily basis.

Once data has been returned and is sitting in the system, the survey manager needs to be able to choose to sign off the data as being ready and to publish it ready for the end-user to access or to return it to the surveyor to amend or correct as appropriate. This survey management tool is a vital part of the survey system and it needs to be as clear, simple and efficient as the data capture process itself.

Put yourself in their shoes

The next time you are considering sending out a team of surveyors to complete a condition survey, put yourself in their shoes; no, really, put yourself in their shoes and go out for a day or two and spend some time with your device and software of choice and see if it works as well as you think it does. It's not always about shiny kit and clever graphics but more about how it does the job that you and the condition surveyors want.

At Hub, we have developed a system in collaboration with our surveyors, so we know Hub Surveyor works well, our surveyors like it and our clients get the data they want. Many of our surveyors have worked extensively across the UK using other devices and systems and so we know what is out there and we know the difference between the good, the bad and the downright ugly.

Graeme Reid is a director of Hub Asset Management.