Select News...

be selective

Action Plan on Problem Debt

We recently had the opportunity to work with StepChange, the UK's leading debt charity, who help over 500,000 people a year across the UK to overcome their debt problems. We provided statistical modelling of the relationship between savings and debt which they used to develop their 6-step Action Plan on Problem Debt published in January this year.

Using data from the Wealth and Assets Survey (WAS), published by the ONS, we developed a statistical model to explore the link between savings and household problem debt. The WAS provides considerable information (collected via face-to-face interviews) on the wealth of both households and individuals, including self-reported "heavy burden" from non-mortgage debt. Using these data, we were able to model the relationship between the risk of problem debt and the level of accessible, cash savings. The analysis also accounted for other potential risk factors, including individual and attitudinal variables considered to be associated with over-indebtedness based upon background research provided by StepChange.

The model was then applied to predict the probability of problem debt for all households in the complete WAS dataset. Applying cross-sectional analysis weights we were then able to extrapolate from the predicted probabilities to the number of households predicted to be at risk of problem debt across Great Britain. Finally, scenario testing was used to explore the effect of increasing household cash savings on the estimated levels of problem debt.

It was a great project to work on and we were able to help StepChange to raise awareness of the issues surrounding debt in the UK and to influence Government policy. Their 6-step Action Plan, which also drew upon economic forecasting from the Centre for Economics and Business Research, set out a challenge to the next Government to ensure that families come out of the next five years more resilient and better able to weather shocks to their finances.

> "The work done by Select was excellent. I was particularly impressed with the extra background on the problem done by Select, which we hadn't specified in the original brief. I would highly recommend the organisation and their work"
>
> Joseph Surtees, Senior Public Policy Advocate, StepChange

Our Services:

Advice

Our statistical advice service offers detailed expert guidance on all areas of statistical analysis and interpretation to allow your staff to understand or perform their own statistical investigations.

Analysis

Our statistical analysis service aims to identify and apply the most appropriate statistical tools to make best use of your data in addressing the questions that you need answering.

Research

Our statistical research service extends the analysis service above to tackle problems that lie beyond the boundaries of current statistical know-how perhaps because of the inherent complexity of your data or simply because the usual underlying assumptions don't apply.

Training

We provide training for statisticians and nonstatisticians alike and can cover any statistical topic from the applied end right through to cutting-edge methodological research.

Data

We can source, collect, collate and cleanse data either simply for presentation direct to the client or for subsequent analysis.

Surveys

Often the easiest and best method to obtain information you need from people is simply to ask them. We can conduct online, phone and face to face surveys starting from initial design through to final analysis.

Making numbers work for you

If you would like more information on any of the Services that Select Statistics offer, please contact us on 01392 440426, email: info@select-statistics.co.uk or complete the online contact form on our website: www.select-statistics.co.uk

Lynsey Joins MSc Advisory Committee

Lynsey was recently appointed to the Advisory Committee for the Masters in Statistics at the University of Sheffield. The role of the Committee is to advise the School of Maths and Statistics on the design and conduct of its MSc course, with particular reference to the current and developing statistical needs of organisations employing graduate statisticians.

Having completed the MSc course herself in 2004, Lynsey was especially pleased to be invited back to the School to participate in the Committee and to provide proposals and suggestions for how the MSc can continue to provide the students with the necessary skills and qualifications they will require in their future career.

The Committee meeing in 2014 consisted of reviewing current student feedback and dissertations as well as lunch with the students to hear first-hand what they thought of the course.

Meeting the students was a highlight of the day and it was a great endorsement of the MSc that many of the students already had interesting jobs or PhDs lined up for once they had completed their dissertations at the end of the summer. This really highlighted the value in the course and how highly employers valued this qualification.

Data Intelligence for the Charity Sector

With the majority of large commercial organisations embracing Big Data as a means to refine their products and better understand their customers, the charitable sector has been slow to adopt the same techniques to streamline their operations and increase their donation rates.

A report released by NPC, a think-tank focussed on bringing charities and funders together, suggests that many charities are unaware of the value of the data that they already possess and how easy it is to use that data to increase donations and improve their impact.

Where retailers are using data analytics to better understand their customers' needs and to create targeted marketing campaigns, charities could be using similar techniques to create closer relationships with funders and maximise donations.

The NPC report identifies three reasons that data and analytics are vital to charities:
1. Understand the needs and issue better;
2. To improve operational effectiveness; and
3. To improve the understanding of results and impact.

Charities both large and small can benefit from many of the recent Open Data initiatives that make huge quantities of valuable data available to the public. These data can be combined with data held in any charity's database and using both off-the-shelf and bespoke statistical techniques they can be transformed into actionable intelligence – information that can help charities raise more funds and spend them more wisely.

The NPC report goes on to highlight the 3 key reasons that many charities have been slow to realise the value of data analytics to their organisation:
1. They are unaware of the data available or do not understand it;
2. They don't recognise the potential of what can be achieved with their data; and
3. They do not have the skills to analyse data or to understand the results.

All of these barriers can be overcome with a little statistical advice and support. The statistical techniques are already available and being used to good effect in the commercial World and the data are available and cheap to obtain. For example, in an NCVO blog, a policy officer at Barnsley Hospice, explains how they were able to combine their data with local socio-economic data to create a targeted fundraising campaign and to identify inequalities in the availability of care, showing the hospice that they needed to widen access to care for those in areas with greater socio-economic deprivation.

If you're a charity looking to improve your fund-raising or to ensure that you're making the best use of the resources you have available, contact us to find out how we can help by emailing info@select-statistics.co.uk or phone us on 01392 440426.

RSS 2015 is Coming to Exeter!

The Royal Statistical Sociey (RSS) has announced that their next International Conference will take place at the University of Exeter. Paul Gentry, RSS Meetings and Conference Manager, told us that the RSS were "highly impressed with the quality of the facilities available at the University, and the city has the added attraction of being home to an active statistical community with whom we will be engaging in planning the programme for the conference." There are sure to be plenty of engaging talks, posters, short courses and workshops, as well as lots of opportunities for networking and social events. The conference is always a great occasion for not only statisticians, but users of statistics from all backgrounds and sectors to get together and share knowledge and ideas. We're certainly looking forward to getting involved through ExIStA to help share skills and experience from the wealth of statistical expertise available within the South West.

Case Study: Optimising Stock Control

Retailers always seek to maintain the minimum stock levels to satisfy anticipated demand. Having too many items in stock takes up space and reduces capital that could be used elsewhere. However, having too little stock to satisfy customer demand creates delivery delays and potentially lost custom.

A simple example of this is the problem faced by UK supermarkets. On a warm Summer's day, demand for BBQ ingredients increases dramatically. Weather forecasts can be used to help predict peak periods, but how can they be used to optimise stock levels?

By using statistical methods, historical weather forecasts can be combined with past sales data to predict future demand. By identifying the key factors involved, demand can be broken down by store and product and can even be used to predict demand for each additional degree of temperature rise.

Similar models can be used to relate sales of other products to oil prices or exchange rate fluctations or, by incorporating seasonal variations, they can determine when shops should start stocking Christmas or Summer goods, for example.

Overall, statistical models of customer demand can help maximise sales whilst minimising stock levels, which can greatly improve cash flow. By incorporating models, businesses are able to provide better customer service and operate more efficiently than their competitors who are using more traditional techniques.

Interested in more case studies?

Check out our website for more case studies in marketing, retail and many other areas, as well as details on the many statistical services that Select offers.

ExIStA Update

At the end of 2014, the Exeter Initiative for Statistics and its Applications hosted a seminar together with the Royal Statistical Society (RSS) South West Local Group where Professor Stephen Senn joined us to give a fascinating talk focussing on personalised medicine and the challenges faced in this active area of drug development.

Stephen is the Head of the Competence Centre for Methodology and Statistics at the Public Research Centre for Health (CRP-Sante) in Luxemburg. He has extensive experience in both academia and industry and is recognised worldwide for his studies in statistical methodology applied to drug development and the pharmaceutical industry.

To find out more about this seminar, see the news article on our website, which includes a link both to

Stephen's slides and a video of the presentation (see: http://bit.ly/1vIUZIn).

The next event we are planning for early 2015 will be held together with the Young Statisticians Section (YSS) of the RSS. The aim of this event will be to showcase the statistical work of career-young statisticians (or those who use statistics in their everyday job/studies) throughout the South West. This event is open to everyone and we're sure that it will be a fascinating evening with a wide range of diverse presentations.

If you'd like to find out more about ExIStA, including details of our career-young showcase visit our website: www.exista.org or contact us on events@exista.org.

Tom Joins the Select Team

Tom Fricker joined the Select team in November as our newest member of the statistical consulting team.

Tom joins us after spending two years at ATASS where he was a researcher specialising in the development and testing of predictive models for sports events.

At ATASS he built on his already extensive modelling experience gained during his PhD and as a Research Associate at both the Universities of Sheffield and Exeter where he worked on statistical models for diverse applications ranging from climate change to hospital admissions.

We're really pleased to welcome Tom to the team and we know that his wealth of both commerical and academic experience in statistical modelling will be put to good use on our consulting projects!

Focus on...
Healthcare Analytics

The Healthcare sector is a rapidly growing source of interesting and challenging projects for us and we've decided to make it one of our six specialist areas that we'll be developing over the coming months.

Our work in this general area varies greatly, but recent work has included:

- Survival Analysis;
- Logistic Regression Modelling;
- Significance Testing;
- Study Design;
- Sample Size Calculations;
- Protocol Review and Development;
- Statistical Advice for Regulatory Approval;
- Statistical Reporting;
- Performance Management; and
- Ad-hoc Statistical Advice and Support

We have been working directly with clinicians as well as with national and multinational organisations to help make sense of clinical study data, patient surveys and performance statistics. We've recently been looking at diagnostic testing, ward management, clinical surveys and drug usage patterns - it's been very busy!

Other specialist areas that we're in the process of developing include business analytics, surveys and sampling, environmental statistics, social research and charity work, and public-sector analytics. That's not to say that we're not willing to rise to a statistical challenge in any area, but these are areas in which we find ourselves working increasingly often and have been developing capacity as well as creating new tools to help streamline our service.

To find out how we can help you analyse your healthcare data call us on 01392 440426.

> "Select Statistics provides an outstanding service for medical statistics. The Consultant got to grips with my subject area very quickly and answered my questions very thoroughly. I would not hesitate to recommend them"
> Clive Brewis, Consultant ENT Surgeon

The Select Network

Select is supported by an extensive network of external consultants based at the UK's top Universities and research institutes and also by a community of specially-selected partner organisations offering skills and services that are likely to be of value to our clients. The Select Network provides us with an enhanced range of skills and expertise to deliver service and value to our clients. Details on how to register your interest in the network are provided in the box at the bottom of the page.

Would you like to join the growing Select Network?

If you are interested in joining the Select Network as a freelance consultant or would like more information, please contact us on: 01392 440426, email: info@select-statistics.co.uk or complete the online contact form on our website: www.select-statistics.co.uk

News in Brief

Tom Achieves Chartered Status

We're pleased to announce that the prestigious Chartered Statistician designation has been granted to Tom by the Royal Statistical Society, recognising his extensive training and experience as a professional statistician. See our web site for more details.

Baby Boy for Lynsey

The Christmas period saw the birth of a gorgeous baby boy for Lynsey. She will be enoying time with the newborn over the next few months and will be returning from maternity leave in August. We all send Lynsey our heartiest congratulations and wish her and her family well for the journey ahead!