

A Positive Approach to Statistics – Jennifer Goddard

1. The need to change

"The new structure of the global economy requires central banks to adapt their thinking and activities in order to deal with the new challenges emanating from the recent financial crises."

The pieces of the puzzle will not all fit with our current thinking - we need to change our thoughts, our paradigm and our approach.

For example: One day you are suddenly faced with the situation of $5 + 5 + 5 = 550$.

Policy dictates that you can only add one single straight line to only one side of the equation to make it true. (Answer is not " \neq ")

How would you solve it?

The answer is simple once you look at it with fresh eyes.

2. Statisticians - Game Changers

Statisticians often feel that they are the invisible profession, having an impact behind the scenes, but rarely visible to the public. In fact, statisticians have always been game changers i.e. provide new data and insights that changes/challenges current thinking.

There are many examples of how people like you have made a positive impact to society. Here are just two:-

William Edwards Deming (1900 – 1993) was an American statistician, professor, author, lecturer, and consultant. He is perhaps best known for his work in Japan. There, from 1950 onward, he taught top management how to improve design (and thus service), product quality, testing and sales through various methods, including the application of statistical methods. Deming made a significant contribution to Japan's later reputation for innovative high-quality products and its economic power.

He is regarded as having had more impact upon Japanese manufacturing and business than any other individual not of Japanese heritage. Despite being considered something of a hero in Japan, he was only just beginning to win widespread recognition in the U.S. at the time of his death.

Deming believed that statistical and economic information is vital - if you don't know where you are, you are not in 'control' if you are not in control, you can't manage, if you can't manage, you can't improve.

Florence Nightingale (the invisible statistician) (1820 – 1910) was a celebrated pioneer of modern nursing, a writer and a noted statistician. One of the first statisticians working in the area of public health in the nineteenth century, Florence Nightingale used carefully collected data to better understand issues and had immense influence on government policy. Her contributions were recognised by her being the first female Fellow of the Royal Statistical Society of London, the world's first statistical society.

Her work included collaborating with mathematical statisticians, as she realised that analysis of data was a mathematical process. However, today Florence Nightingale is largely remembered for her work as a nurse, not for her statistical contributions.

3. The need for creativity and innovation

Creativity - New and useful ideas

There are many definitions for creativity.

“You cannot use up creativity. The more you use the more you have.” -Maya Angelou.

Creativity is marked by the ability or power to create – to bring into existence, to invest with a new form, to produce through imaginative skill, to make or bring into existence something new. - Webster's Dictionary.

“The occurrence of a composition which is both new and valuable.” -Henry Miller (writer).

“The ability to make new combinations of social worth.” -John Haefele (CEO and entrepreneur).

“A special class of problem solving characterized by novelty.” -Newell, Simon, & Shaw (team of logic theorists).

“Any thinking process in which original patterns are formed and expressed.” -H. H. Fox (scientist).

“Fluency, flexibility, originality, and sometimes elaboration.” -E. Paul Torrance (educator, academic, creativity investigator).

“Creativity is the process of bringing something new into being.” -Rollo May (writer, philosopher).

“A hunch is creativity trying to tell you something.” -Frank Capra (film director)

“Creative thinking involves imagining familiar things in a new light, digging below the

surface to find previously undetected patterns, and finding connections among unrelated phenomena.” -Roger von Oech.

“... the ability to use different modes of thought to generate new and dynamic ideas and solutions.” - Carnevale, Gainer, Meltzer.

Innovation - is the implementation of these ideas and...

“The act of introducing something new” (the American Heritage Dictionary)

“A new idea, method or device” (Webster online)

“Change that creates a new dimension of performance” (Peter Drucker)

“The introduction of new goods (...), new methods of production (...), the opening of new markets (...), the conquest of new sources of supply (...) and the carrying out of a new organization of any industry” (Joseph Schumpeter)

“Innovation is a new element introduced in the network which changes, even if momentarily, the costs of transactions between at least two actors, elements or nodes, in the network” (Regis Cabral)

“The three stages in the process of innovation: invention, translation and commercialization” (Bruce D. Merrifield)

“The ability to deliver new value to a customer” (Jose Campos)

“Innovation is the way of transforming the resources of an enterprise through the creativity of people into new resources and wealth” (Paul Schumann)

“Innovation does not relate just to a new product that would come into the marketplace. Innovation can occur in processes and approaches to the marketplace” (David Schmittlen)

Will be given lots of new ideas and information over the next 3 days - It important that you keep thinking about "how can I apply this" and apply “Yes, And...” thinking.

5. Change your thinking

Statisticians are a key part of the puzzle in the Bank's activity, Economic policy and end user's application of publications.

The importance of using statistics at the bank's executive level is cannot be overstated.

Your role is a vital foundation on which the organisation bases decisions - creating a baseline for the rest of the organisation.

An executive at an Australian Bank recognised the need to turn numbers into knowledge. When tasked to bring about organisational change to a large department, he insisted that his right arm was a statistician.

A quick look into the 23rd century, via Star Trek, gives us an insight into an ideal balance in the executive team. The captain always turns to the science officer/statistician for facts and data as part of the decision making process.

6. The Value of accurate statistics

The value of accurate statistics is immeasurable - pardon the pun.

We want to dispel the myth that 83.5% of all statistics are made up.

At this conference we will be exploring the data collection value chain, data management, data processing, data analysis and reporting and how the department can apply data quality models such as DQAF to ensure data integrity and confidentiality throughout the activity of disseminating statistics and economic information.

The goal is to constantly improve the quality of statistics in order to support monetary policy. Your ideas and insights gained from this and other discussions will be critical to success.

7. Remember, numbers tell a story

Statistics is both an art and science. The implications of an upward, downward or stable trend are far reaching and part of your role is to interpret and create stories so that key stakeholders can do something with the knowledge and insights.

8. We need your help to solve the puzzle and put all the pieces into place.

Over the next three days, you will

- discuss improvements in the data collection process,
- evaluate current publications and dissemination methods,
- increase understanding and treatment of statistical developments
- explore new financial instruments and environments.

9 A positive approach

In the coming months we need to embrace this positive approach as we work together to make a difference in people's lives as the following video demonstrates.