



# **Assignment 1: Blog Posts 1-7**

AN EXPERIENCE ON QUANTITATIVE RESEARCH

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Word Count 2993

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Unless otherwise stated images were taken by the author.

## Blog 1: The Chaotic Threshold

(word count 428)



Figure 1: Think-smart (source: mobivisits, 2017) <sup>1</sup>

I begin my academic journey of DBA with the creation of my personal blogs, sharing a learning experience.

Quantitative research is bringing me a shocking critical reflection, comparing my original perception and expectation for business administration. With the beginning of chaos, my doctoral lives give me the feeling that an artist who lives in the emotional world falls into the rational, empirical and real world suddenly, although reading saves me from plight a lot.

Thompson and Pascal (2012) note that tendency of thinking in practice is oversimplified frequently, and furthermore, dominant understandings of reflective practice can themselves be criticized for lacking theoretical sophistication in some

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<sup>1</sup> Bing (2017) Think-smart. Available at: <https://mobivisits.com/top-5-smartest-advertisers-of-2016/think-smart/> (Accessed 17 October 2020).

respects.<sup>2</sup> For a long time, I have been obsessed with the gratifying achievement brought by participant observation and in-depth interview in the fieldwork, while ignoring the silent penetration of positivism in the humanities for the advent of the data era. When I begin to think about the role of quantitative research in business administration and interdisciplinary research, data analysis gives me a new mindset to build that hypothesis which subverts tradition and closes to the truth.

Allen (2004) presents that smart think is to analyze in more depth, to use reasoning, or to be rational.<sup>3</sup> I expect considerable progress when I need to solve the conflict between positivism and relativism by an easier way. Quantitative research may help me to create a rational and empirical research strategy by converting different kinds of thought if my further research demands to think about culture, economy and administration at the same time.

‘Quantitative methods’ is a broad subject that includes many different approaches – but they all start with a model of a problem.<sup>4</sup> My doctoral journey begins with a chaotic situation, which is full of those terms, such as variance, coefficient, validity and soon on. However, I believe that will not lock me for a long time once.

As Waters (2011) said, quantitative methods normally use symbolic models, which represent real features by symbols.<sup>5</sup> We solve problem and make decision learning form the key part of quantitative research. To be grateful for those chaotic experience of study.

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<sup>2</sup> Thompson, N. and Pascal, J. (2012) ‘Developing Critically Reflective Practice’, *Reflective Practice: International and Multidisciplinary Perspectives*, 13(2), pp. 311-325. DOI: 10.1080/14623943.2012.657795.

<sup>3</sup> Allen, M. (2004) *Smart thinking: skills for critical understanding and writing*. 2nd Ed. New York: Oxford University Press.

<sup>4</sup> Waters, D. and Waters, C. D. J. (2011) *Quantitative methods for business*. 5th Ed. London: Financial Times Prentice Hall, P7.

<sup>5</sup> Waters, D. and Waters, C. D. J. (2011) *Quantitative methods for business*. 5th Ed. London: Financial Times Prentice Hall, P9.

## Blog 2: The Ideal Pursuit

(Word Count 398)



Figure 2: World Population (Source: herzindagi, 2020)<sup>6</sup>

The pursuing for those whole population is the mission of every researcher who want to get results approximate to reality. Sampling consists of selecting some part of a population to observe so that one may estimate something about the whole population.<sup>7</sup> However, this kind of pursuit is often idealistic.

The objective existence of dynamic errors which likes a pot of cold water keeps us awake while we analyze data. Some obvious questions for such studies are how best to

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<sup>6</sup> Sharma, U. (2020) World Population. Available at: <https://www.herzindagi.com/society-culture/world-population-day-july-11-2019-theme-significance-interesting-facts-article-117047> (Accessed: 20 November 2020).

<sup>7</sup> Thompson, H. K. (2012) *Sampling*. 3rd Ed. Hoboken: John Wiley and Sons, Inc, p. 2.

obtain the sample and make the observations, once the sample data are in hand, how best to use them to estimate the characteristic of the whole population.<sup>8</sup>

The quantitative research in humanities is affected by many irresistible factors, so it is difficult to get the result which is close to the whole population. This is certainly true in the case of investigation that discusses about the relationship between music and medicine.

When I studied in Xiamen University as a postgraduate, I joined a scientific research team related to Medical Ethnomusicology<sup>9</sup>. We found that most Shaman believers thought they got healing from shamanistic rituals. Evidences had been found associating music with healing.<sup>10</sup> For purposive sampling, we were hard to assume propriate sample sizes and exclude disturbing effects, although Grounded Theory<sup>11</sup> supported us to continue qualitative research. An example of this is the study carried out by our team in which comparing differences of blood glucose for the same group of followers before and after the ceremony. In spite of getting an expecting data from our experiments, insufficient samples always remind us to query results.

The similar problems happened again in our other researches. Because of language barrier and uncertainty for representativeness of sample, it was inevitable to suspect validity and reliability of data. The great challenge we were facing was how to get results of accurate sampling and reliable data.

So, what is ideal sampling? Could we really close to population in every case that we research? It is worth a try.

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<sup>8</sup> Thompson, H. K. (2012) *Sampling*. 3rd Ed. Hoboken: John Wiley & Sons, Inc, p. 2.

<sup>9</sup> Koen, B. D. (2008) *Medicine Ethnomusicology*. New York: Oxford University Press.

<sup>10</sup> Luna, L.E. (1984) 'The healing practices of a peruvian shaman', *Journal of Ethnopharmacology*, 11(2), pp. 123-133.

<sup>11</sup> Charmaz, K. (2014) *Construction Ground Theory*. 2<sup>nd</sup> Ed. London: SAGE.

### Blog 3: How can you believe that Induction?

(Word Count 413)



Figure 3: Understanding Purposive Sampling (Source: Thoughtco, 2020)<sup>12</sup>

A large fraction of the quantitative information that we receive about our economy and our community comes from sample surveys.<sup>13</sup> Sampling accurately for objectives is the key to obtain representative sample aiming at the whole population, so that the induction takes on scientific significance.

According to Xinhuanet report, the statistical agencies of Chinese government started the seventh national population census with 7 million census takers <sup>14</sup>, which is the full-

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<sup>12</sup> Crossman, A. (2020) Understanding Purposive Sampling. Available at: <https://www.thoughtco.com/purposive-sampling-3026727> (Accessed: 20 November 2020)

<sup>13</sup> Fuller, W. A. (2009) *Sampling statistics*. Hoboken: John Wiley and Sons, Inc, p. 1.

<sup>14</sup> Xinhuanet. (2020) 'China begins 7th national population census', *The Editor*, 1<sup>st</sup> November. Available at: [http://www.xinhuanet.com/english/2020-11/01/c\\_139483256.htm](http://www.xinhuanet.com/english/2020-11/01/c_139483256.htm) (Accessed 1st November 2020).

scale survey to collect whole data by door to door. However, it is impossible for most researches to get the whole population (Not everyone has the resources of a country). Therefore, probability sample is an effective method to deal with this problem.

This is exemplified in the work undertaken by examining relationship between religiosity and subjective well-being (SWB). Diener and Clifton (2002) explored factors by two representative groups, including 41 societies and d approximately 1000 respondent to approach entire population.<sup>15</sup> An interesting question is potential factors also need to be explored further. It means that we need to have a deep study on different sampling methods.

On the other hand, non-probability sample is regarded as another form to obtain robust researches. A case study confirms its importance that social and medical gender experiences associated with mental health problems of Transgender Adults.<sup>16</sup> In this case, electronic flyers and private online message board were conducted for recruited participants.<sup>17</sup> In some researches, we cannot use simple random sampling because of the strong purposive sampling. Also, we demand to pay more attention to methods of collecting data, if the group of our research is particular in some ways.

Realistically, do you believe that induction? Maybe it depends on the process and methods of sampling.

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<sup>15</sup> Diener, E. and Clifton, D. (2002) 'Life Satisfaction and Religiosity in Broad Probability Samples', *Psychological Inquiry*, 13(3), pp. 206-209.

<sup>16</sup> Jaclyn M. W. H. et al. (2020) Social and Medical Gender Affirmation Experiences Are Inversely Associated with Mental Health Problems in a U.S. Non-Probability Sample of Transgender Adults Archives of Sexual Behavior. *Archives of Sexual Behavior*. 49, 2635–2647. DOI: <https://doi.org/10.1007/s10508-020-01655-5>.

<sup>17</sup> Jaclyn M. W. H. et al. (2020) Social and Medical Gender Affirmation Experiences Are Inversely Associated with Mental Health Problems in a U.S. Non-Probability Sample of Transgender Adults Archives of Sexual Behavior. *Archives of Sexual Behavior*. 49, 2635–2647. DOI: <https://doi.org/10.1007/s10508-020-01655-5>.

## Blog 4: The world of big data-Are you tracked?

(word count 440)



Figure 4: 8 big trends in big data analytics (Source: Computerworld, 2014)<sup>18</sup>

In the world of big data, are you tracked by recommendation engine? Netflix co-founder Marc Randolph said what differentiates Netflix from Disney, Apple, NBC and others is the company's "focus," which could prove to be its "secret weapon."<sup>19</sup> However, recommendation engines has been a key service for Netflix to push films actively according to big data and machine learning. There is no doubt that this method improved the efficiency of film recommendation, which had been reaped a mass of customers.

In the era of stream media, crazy pursuit for click rates provokes criticism of Business Ethics. Click-through rates reflect the concerned level of content on a website and are

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<sup>18</sup> Mitchell, R. L. (2014) 8 big trends in big data analytics. Available at: <https://www.computerworld.com/article/2690856/8-big-trends-in-big-data-analytics.html> (Accessed: 20 November 2020).

<sup>19</sup> Brown, B. (2019) *Netflix co-founder Marc Randolph says company's 'secret weapon' sets itself apart from Disney, other streaming services*. Available at: <https://www.foxnews.com/tech/netflix-co-founder-marc-randolph-says-companys-secret-weapon-sets-itself-apart-from-disney-other-streaming-services> (Accessed: 8 November 2019).

often used to measure the appeal of advertisements. Nevertheless, the original purpose of evaluation for customers is apt to improve content of platform rather than reveal personal information.

Jahn (2018) notes that Milton Friedman's (1970) essay *The Social Responsibility of Business is to Increase Its Profits* represents a hallmark of disagreement for researchers in business ethics.<sup>20</sup> It is difficult to avoid the hypothesis of "Free Ride"<sup>21</sup> because the company collects big data to track user's preference by machine learning. When we enjoy that services of recommendation increasingly accurately, the worry about personal information leakage is awakened because of unimpressed user agreement, which is necessary to agree that terms if you want to use this platform.

This is not the only case in network security and business ethics. We are easy find if you visit some web page, a pop-up window is often seen which include a sentence that "this website uses cookies to ensure you get the best experience on our website". We have the only choice to select "accept", or this window will open every time when you visit this platform.

without diminishing the importance of the profit motive, the enterprise has a broader role and responsibility towards society and the environment. The core of network platform construction is respect users demand and create high quality content instead of pursuing click rates blindly. As Marc Randolph said focus is the secret weapon, and focusing on providing high quality products is the most significant action to fulfil their social responsibility and manifest Enterprise ethics in order to obtain long-term interests.

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<sup>20</sup> Jahn, J. et al. (2018) 'How Friedman's View on Individual Freedom Relates to Stakeholder Theory and Social Contract Theory', *Journal of business ethics*, 153(1), pp. 41-52.

<sup>21</sup> Jasay, A. D. (1989) *Social Contract, Free Ride: A Study of the Public Goods Problem*. Oxford: Oxford University Press.

## Blog 5: significance test-Shortcut, Get it!

(Word Count 428)

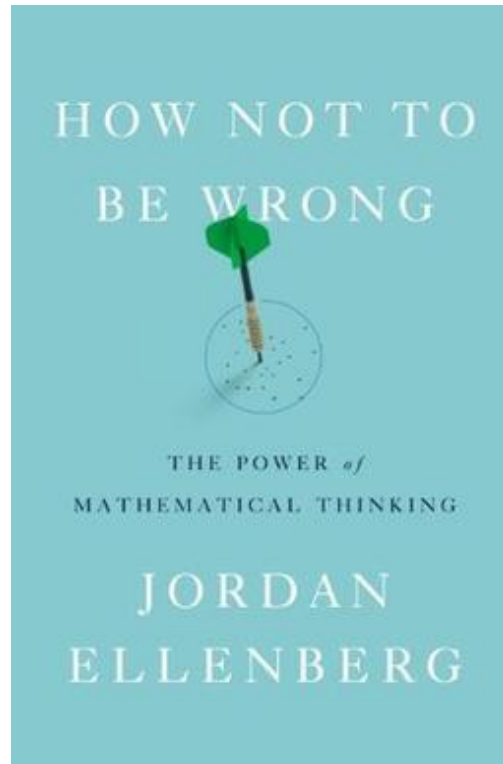


Figure 5: How Not to Be Wrong. (Source: Wikipedia, 2017)<sup>22</sup>

Ellenberg (2014) notes that “Fisher certainly understood that clearing the significance bar wasn’t the same thing as finding the truth”.<sup>23</sup> When we try to test something, there are significant differences between the fact of the population and the null hypothesis.

Small probability events are actually impossible, which does not mean that is truth. But you get a hypothesis that has statistically significance for promising research. Meanwhile, we usually build hypothesis according to the thought of proof by contradiction. At some point, the significance test is the detective, not the judge.<sup>24</sup>

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<sup>22</sup> Wikipedia (2017) *How Not to Be Wrong*. Available at: [https://en.wikipedia.org/wiki/File:How\\_Not\\_to\\_Be\\_Wrong.jpg#/media/File:How\\_Not\\_to\\_Be\\_Wrong/](https://en.wikipedia.org/wiki/File:How_Not_to_Be_Wrong.jpg#/media/File:How_Not_to_Be_Wrong/) (Accessed 22 November 2020).

<sup>23</sup> Ellenberg, J. (2014) *How Not to Be Wrong the Power of Mathematical Thinking*. New York: Penguin Press, p. 156.

<sup>24</sup> Ellenberg, J. (2014) *How Not to Be Wrong the Power of Mathematical Thinking*.

That is to say, if null hypothesis is not valid, alternative hypothesis is true. By way of illustration, pollsters want to test who will be the next president of USA between Joe Biden and Donald Trump (let us pretend to forget Biden's victory speech). The null hypothesis ( $H_0$ ) is that Donald Trump is the next president of USA, and alternative hypothesis ( $H_1$ ) is Trump cannot be successor. Logically speaking, if  $H_0$  is not valid, his only competitor Biden wins the presidency.

Actually, this hypothesis is not appropriate for the particular case, because it is not a small probability event whether Trump or Biden wins this competitive election. Therefore, we just demonstrate the logical mind of hypothesis in significant test, also we are supposed to understand the p value (three significance levels)<sup>25</sup> is not constant according to different facts.

Another example of what is meant by trap of significant test is verifying whether a drug has effect.  $H_0$  is the drug has not effect, and  $H_1$  is that drug has effect. If P is lower than standard level of  $\alpha$ , we reject  $H_0$ , and think that drug has effect. However, we often need to focus on that probability of  $\alpha$ . On the other hand, if P is higher than those three standard levels, we have reason to think  $H_0$  is valid. But with the test of medicine, professionals frequent to find that some medicine has not efficacy in spite of previous opposite conclusion.

Thus, significance test is detective to get probability that some events might happen. If we never collect data close to population as far as possible, or we do not analyze data depend on specific situation, significance test might give us the false result.

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New York: Penguin Press, p. 156.

<sup>25</sup> Field, A. (2013) *Discovering Statistics Using SPSS for Windows*, 4th Ed. London: Sage. p. 174.

## Blog 6: Response Rate- Do your questionnaire succeed?

(Word Count 458)

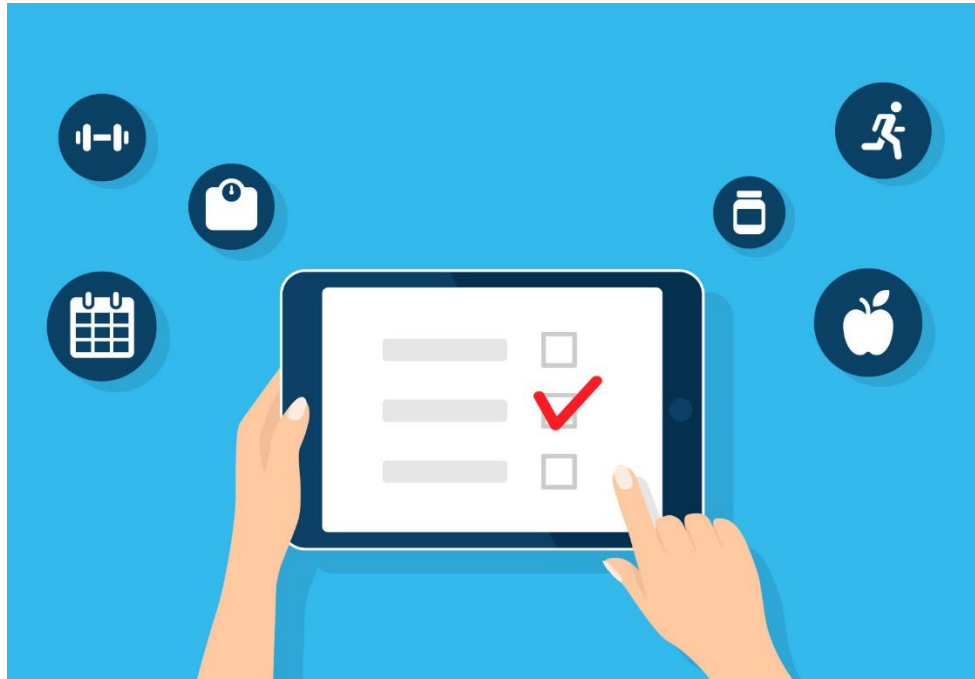


Figure 6: How to Write the Perfect Initial Client Questionnaire (Source: Trainerize, 2020)<sup>26</sup>

There is not a clear norm in academic study about the reasonable response rate (RR)<sup>27</sup>, but it is so sure that we need much high response rate in our research. If the response rate of your questionnaire is extremely low, the data might be used as normal resources rather than research basis.

It is difficult to obtain the high response rate for a questionnaire whether traditional way or online.<sup>28</sup> By way of illustration, due to the impact of COVID-19, universities in

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<sup>26</sup> Roots, M. (2020) How to Write the Perfect Initial Client Questionnaire. Available at: <https://www.trainerize.com/blog/how-to-write-the-perfect-initial-client-questionnaire/> (Accessed 23 November 2020)

<sup>27</sup> Baruch, Y. (2016) 'Response Rate in Academic Studies-A Comparative Analysis'. *Human Relations*, 52(4), p. 422. DOI: 10.1023/a:1016905407491.

<sup>28</sup> Deutschens, E. et al. (2004) 'Response Rate and Response Quality of Internet-Based Surveys: An Experimental Study', *Marketing Letters*, 15 (1), pp. 21-36. DOI: 10.2307/40216512.

China often ask whole students to complete the scale of SCL-90<sup>29</sup>. This is a common phenomenon that students in other grades have more normal range than those freshmen who never finish the course about the psychological healthy education. A mass of questionnaire is valid because of the same answer for every question.

Another example of what is meant by response rate is census of USA in 2020. Rochester's response rate to the 2020 census ranks among the lowest in the nation for medium and large cities.<sup>30</sup> New York lags behind other states on census, and the completion rate ranked New York 43rd among states.<sup>31</sup> Apparently, pandemic and election make it is difficult for American people to give priority to census, although several public awareness campaigns and advertising try to rise response rate.

The other organizations frequent to be more difficult to obtain their target. Brown said response rates have gone down in course evaluations since the UI transitioned from paper to online evaluations in 2019.<sup>32</sup> It is normal for student to think that their responses never affect anything, also may decrease their scores of those courses due to actual evaluation.

Therefore, do you think questionnaire of your research is successful? It is far from over if you go through all kind of hardship to conduct questionnaire. With the experience of waiting for response, you will be more modest and patient than before.

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<sup>29</sup> Schmitz, N. et al. (1999) 'Diagnosing mental disorders in primary care: The General Health Questionnaire (GHQ) and the Symptom Check List (SCL-90-R) as screening instruments', *Social psychiatry and psychiatric epidemiology*, 34(7), pp. 360-366.

<sup>30</sup> Sharp, B. and Walker, A.R. (2020) 'Rochester's census response rate low: Fewer than half of city residents complete forms', *Rochester Democrat and Chronicle*. 21 July, A.4.

<sup>31</sup> Campbell, J. and Sharp, B. (2020) 'New York lags behind in census: Coronavirus has hampered efforts to get a complete count', *The Journal News*. May 04. A.9.

<sup>32</sup> McCarver, K.A. (2019). UI addresses low response rates of course evaluations. *University Wire*. May 07, IA.

## Blog 7: Another Chaotic Threshold

(word count 428)



Figure 7: Start Over or Start Again (Source: maurilioamorim, 2012)<sup>33</sup>

It is unbelievable that course has been closed to the end, although I really begin quantitative research recently because of spending lots of time on mathematical statistics. Also, it may be another chaotic threshold for my DBA journey to think how to complete an integrated quantitative research.

Reviewing the studies of past 6 weeks, I try to observe the demographic transition of data analysis from actual case. In previous academic studies, I committed myself to verify correlation by fieldwork and philology, so that I frequent to be caught in chaotic paronomasia without clear viewpoints. Data visualization is a much more systematic approach to analyse complex variables in marketing cases.

A term “correlation” catches my eyes which lets me find a way to communicate culture that I study for several years and business administration that I just contact. In the quantitative marketing research, the first and obvious question we need to address is

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<sup>33</sup> Amorim, M. (2012) Start Over or Start Again. Available at: <http://www.maurilioamorim.com/2012/11/start-over-or-start-again/> (Accessed 23 November 2020)

whether one needs quantitative models in the first place.<sup>34</sup> However, in practical cases, the definition of correlation depends on those variables whether are linear or continuous. Thus, it is important for us to choose a model which fits the data well.<sup>35</sup>

There are several types of correlation coefficient we often use, such as Pearson, Spearman, Kendall's tau and soon on.<sup>36</sup> But here I want to share more about function of these correlation analysis. Estimate of correlation is the front-end of data analysis, and according to the result we can decide how to continue our next step. Maybe we need to move those variables out which have low correlation with others, or think about which kind of correlation they have. In the statistical significance, we own logical tools rising the efficiency of exploring variables, such as correlation and regression. In my DBA journey, quantitative research brings me clearer mind when I forecast and decide which factors are more significant for my research.

Interdisciplinary study needs the strong confidence of collecting data and drawing a conclusion. Basing on my academic background, cultural industry administration is a suitable field for my further research, so it is necessary for me to deal with the relationship between specific culture, administration and different effective factors. I believe quantitative research is essential for my dissertation although I still do not how to do this.

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<sup>34</sup> Franses, P. H. and Paap, R. (2001) *Quantitative Models in Marketing Research*. Cambridge: Cambridge University Press. p.10.

<sup>35</sup> Franses, P. H. and Paap, R. (2001) *Quantitative Models in Marketing Research*. Cambridge: Cambridge University Press. p.11.

<sup>36</sup> Field, A. (2013) *Discovering Statistics Using SPSS for Windows*, 4th Ed. London: Sage, pp. 543-563.