



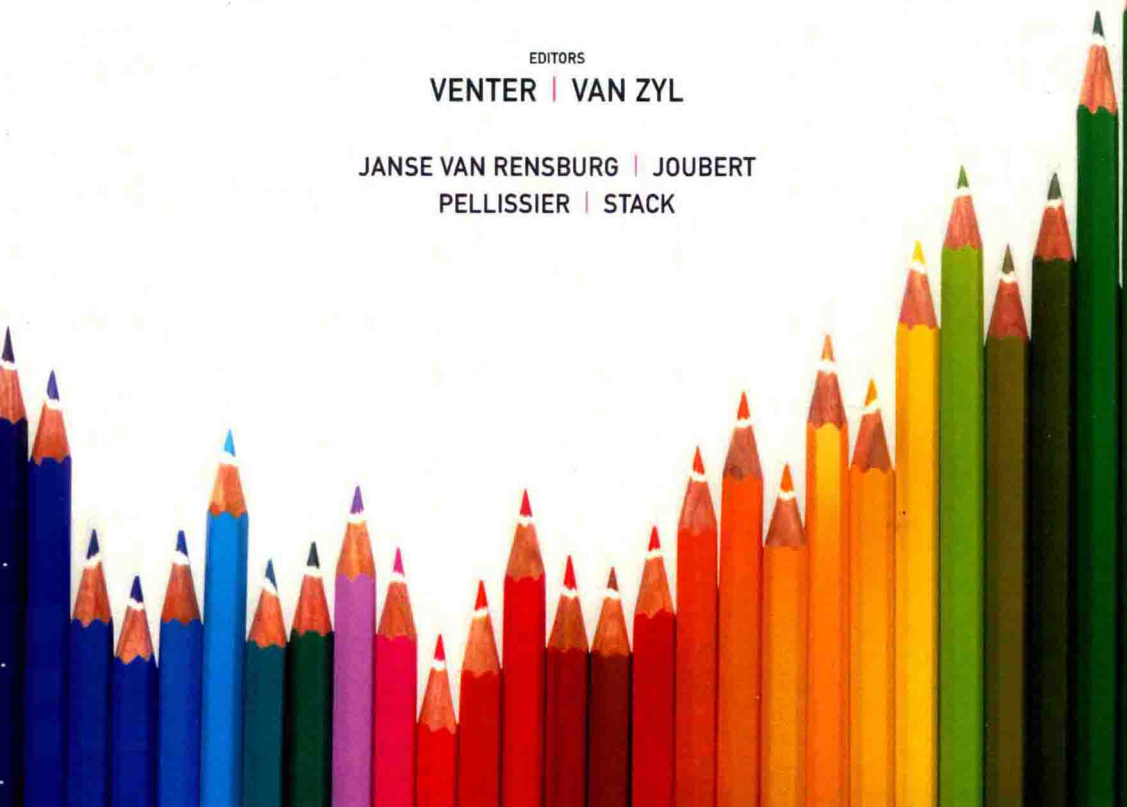
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# **ECONOMIC & MANAGEMENT RESEARCH**

EDITORS

VENTER | VAN ZYL

JANSE VAN RENSBURG | JOUBERT  
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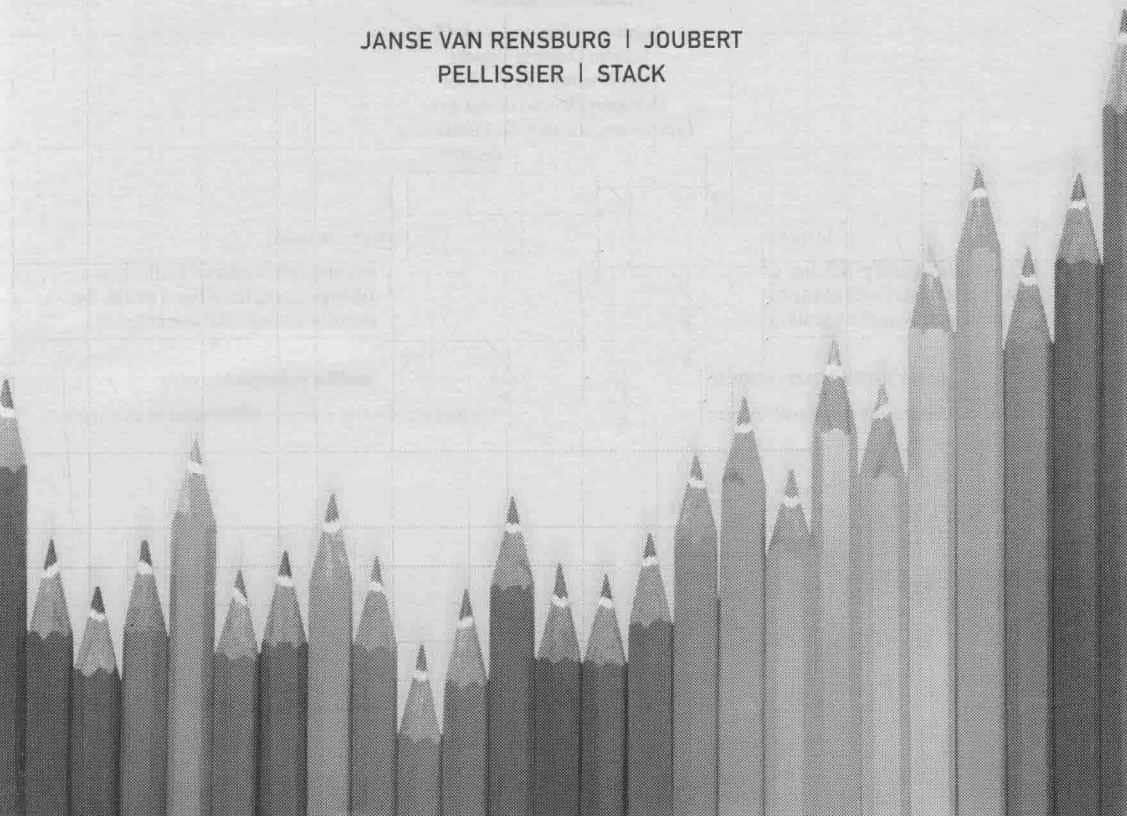


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# Preface

When there are so many different and excellent research books available on the market, a natural question to ask would be: Why another research book? We believe that there is a need for a book that focuses on the systematic decision-making process around research, and the academic production of research. For that reason, our focus is less on the specific methods and techniques of research, and more on the research decisions that every research student has to make. This process is based on many years of research and supervision experience of the authors, and has been tried and tested with a wide range of successful Master's and Doctoral researchers. Underlying our approach to this book is the knowledge that no research book provides a comprehensive source to all types of research, and accordingly the purpose of this book is to serve as a compass to guide researchers through the research process and to point them in the right direction before they immerse themselves in the design and methodologies supported by their research decisions.

The book is divided in three sections. Chapters 1 to 3 deal with an overview of the process and the initial phases of research, where the researcher conducts a literature review and develops the research problem and purpose. Chapters 4 to 7 deal with the important aspect of research design and analysis, and in this section we have tried to focus on those qualitative and quantitative research strategies and designs most applicable to business and management research. The final section (Chapters 8 to 10) focuses on the production of actual research outputs, by way of a research proposal and a research report.

We trust that you will find this South African book a useful contribution to the research journey of your postgraduate students.

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2 (opener)	Based on case study FNB 'Steve' campaign Online Available: <a href="http://www.rab.co.za/radioworks-2011/case-study-fnb-steve-campaign.html">http://www.rab.co.za/radioworks-2011/case-study-fnb-steve-campaign.html</a> . Reprinted by permission of Ryan Till, CEO The South African Radio Advertising Bureau (RAB SA)
42 (2.4.4)	Oxford Dictionaries.com (2016) In: English Oxford Living Dictionaries [online] Available at: <a href="https://en.oxforddictionaries.com/definition/hypothesis">https://en.oxforddictionaries.com/definition/hypothesis</a> Oxford: © 2016 Oxford University Press [Accessed 04 November 2016]. By permission of Oxford University Press.
49 (case study)	Van Schalkwyk, Riaan Dirkse. 2012. The impact of leadership practices on service quality in private higher education in South Africa. Thesis (Business Management) University of South Africa 2011. Reprinted by permission of the author
62 (table 3.1)	Unisa. Undated. Template to evaluate journal articles. Pretoria: Dept. of Business Management, University of South Africa. Reprinted by permission of the Dept.
68 (case study)	Permission was granted by the student and the supervisor to use the research proposal.
74 (opener)	Adapted from Moody, Glyn, 2012. Making the most of file-sharing: free market research and a captive audience. Techdirt, Available online at: <a href="http://www.techdirt.com/blog/?tag=market+research">http://www.techdirt.com/blog/?tag=market+research</a> [Accessed 21 January 2012] and Show doing well on BitTorrent? We'll buy it. 2012. Torrentfreak, Available online at <a href="http://torrentfreak.com/show-doing-well-on-bittorrent-well-buy-it-121010/">http://torrentfreak.com/show-doing-well-on-bittorrent-well-buy-it-121010/</a> , [Accessed 21 January 2012].
76 (ethical issues)	Adapted from ESOMAR Guideline for conducting mobile market research. Available online at: <a href="http://www.esomar.org/uploads/public/knowledge-and-standards/codes-and-guidelines/ESOMAR_Guideline-for-conducting-Mobile-Market-Research.pdf">http://www.esomar.org/uploads/public/knowledge-and-standards/codes-and-guidelines/ESOMAR_Guideline-for-conducting-Mobile-Market-Research.pdf</a> [Accessed 28 October 2012].
77 (4.2.6)	Adapted from de Vos, A.S. 2004. Combined qualitative and quantitative approach. In: de Vos, AS, Strydom, H, Fouché, CB and Delpont, CSL (eds). 2004. <i>Research at grass roots</i> . Third edition. Hatfield, Van Schaik. p. 362
79 (4.3.1.2)	Based on the guidelines for conceptual stage model studies by Solli-Sæther, H. and Gottschalk, P. 2010. The Modeling Process for Stage Models, <i>Journal of Organizational Computing and Electronic Commerce</i> , Vol. 20 No. 3, p. 284. Reprinted by permission of the publisher (Taylor & Francis Ltd, <a href="http://www.tandfonline.com">http://www.tandfonline.com</a> ).
96 (case study)	Tustin, DH. 2012. Practice makes perfect – simplify your marketing research skills. Unpublished. p. 5–6. Bureau of Market Research (BMR), Unisa. Reprinted by permission of Prof. D H Tustin, Bureau of Market Research (BMR), Unisa.
99 (opener)	Adapted from Jane Goodall's biography. Available online at <a href="http://www.biography.com/people/jane-goodall-9542363?page=2">http://www.biography.com/people/jane-goodall-9542363?page=2</a> [Accessed 7 March 2013]; <a href="http://www.janegoodall.org/wp-content/uploads/the-Jane-Goodall-Institute_JaneGoodall_LongBio.pdf">http://www.janegoodall.org/wp-content/uploads/the-Jane-Goodall-Institute_JaneGoodall_LongBio.pdf</a>

PAGE	ACKNOWLEDGEMENT
104 (example box)	Savage-Austin, Amy R.; Honeycutt, Andrew. Servant Leadership: A Phenomenological Study Of Practices, Experiences, Organizational Effectiveness, And Barriers. <i>Journal of Business &amp; Economics Research</i> (JBER), [S.l.], v. 9, n. 1, Jan. 2011. ISSN 2157-8893. Available at: < <a href="http://www.cluteinstitute.com/ojs/index.php/JBER/article/view/939">http://www.cluteinstitute.com/ojs/index.php/JBER/article/view/939</a> >. Date accessed: 16 Aug. 2016. doi: <a href="http://dx.doi.org/10.19030/jber.v9i1.939">http://dx.doi.org/10.19030/jber.v9i1.939</a> .
105 (example box)	Fitzgerald, M. 2005. Corporate Ethnography. MIT Technology Review. Available at: <a href="https://www.technologyreview.com/s/404920/corporate-ethnography/">https://www.technologyreview.com/s/404920/corporate-ethnography/</a> [Accessed 19 August 2016].
108 (example box)	<a href="http://www.informaworld.com">http://www.informaworld.com</a> : Venter, P, Wright, A and Dibb, S. 2015. Performing market segmentation: a performative perspective. <i>Journal of Marketing Management</i> , 31 (1–2): 62–83. Copyright © Westburn Publishers Limited. Reprinted by permission of Taylor & Francis Ltd, <a href="http://www.tandfonline.com">www.tandfonline.com</a> on behalf of Westburn Publishers Limited.
109 (example box)	McCoy, Sean Patrick. 2012. Brand alignment: developing a model for competitive advantage through a study of selected South African companies Unpublished DBL thesis, University of South Africa, Pretoria.
111 (example box)	Botha, M.J., Van der Merwe, M.E., Bester, A.B. & Albertyn, R. 2007. Entrepreneurial skill development: Participatory action research in a rural community. <i>Journal of Family Ecology and Consumer Sciences</i> , 35: 9–15. Reprinted by permission of the authors
114 (example box)	Grebe, L. 2014. Source: Grebe, Lindie. 2014. The use of strategy tools by chartered accountants in the South African mining industry. University of South Africa: Unpublished Master's dissertation. M. Phil. (Accounting Sciences) University of South Africa 2014. Reprinted by permission of the author.
120 (example box)	Williamson, Charmaine Mavis. 2013. "Strategy in the Skin": An exploration of the strategic practices of South Africa's Official Development Assistance. University of South Africa: Unpublished Doctor of Business Leadership thesis. Reprinted by permission of Charmaine Williamson.
161 (example box)	South African Advertising Research Foundation. 2009. The SAARF AMPS Living Standards Measure (LSM). [Online] Available from: <a href="http://www.saarf.co.za/AMPS/technicalreport-2009A/data%20files/Technical/21+22.pdf">http://www.saarf.co.za/AMPS/technicalreport-2009A/data%20files/Technical/21+22.pdf</a> . Reprinted by permission of SAARF
171 (reflection box)	Velleman, P. & Wilkinson, L. 1993. Nominal, Ordinal, Interval, and Ratio Typologies are Misleading. <i>The American Statistician</i> , 47(1): 65–72. p. 65, reprinted by permission of the publisher (Taylor & Francis Ltd, <a href="http://www.tandfonline.com">http://www.tandfonline.com</a> ).
175 (example box)	Anscombe, F.J. 1973. Graphs in Statistical Analysis. <i>The American Statistician</i> 27(1):17–21, reprinted by permission of the American Statistical Association, <a href="http://www.amstat.org">www.amstat.org</a> and the publisher-publisher (Taylor & Francis Ltd, <a href="http://www.tandfonline.com">http://www.tandfonline.com</a> ).
186	The Shorter Oxford English Dictionary on Historical Principles prepared by William Little, H.W. Fowler & Rev. J. Coulson; edited by C. T. Onions. Third edition (1973:1689). By permission of Oxford University Press.



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188–205	Various quotes from: Hofstee, E. 2009. <i>Constructing a good dissertation</i> . Johannesburg: EPE. Permission to use was granted by the author.
198	Eaves, G. N. (1984:151). Preparation of the research-grant application: Opportunities and pitfalls. <i>Grants Magazine</i> , 7, 151–157
216–230	Various quotes from: Hofstee, E. 2009. <i>Constructing a good dissertation</i> . Johannesburg: EPE. Permission to use was granted by the author.
224	Rhodes University Internal and External Examiner's Report, undated. Assessment criteria. Reprinted by permission of the Head Librarian: Technical Services Rhodes University Library Services.
234 (case study)	Stevens, Nicol Susan. 2012. Unpublished thesis, Masters M.Com. Faculty of Commerce, Accounting. An analysis of the financing mechanisms proposed for funding national health insurance in South Africa. Grahamstown: Rhodes University. Available [online] <a href="http://hdl.handle.net/10962/d1001642">http://hdl.handle.net/10962/d1001642</a> Reprinted by permission of the author.
240	Weideman, A. (2003) <i>Academic Literacy: Prepare to Learn</i> . Pretoria; Van Schaik Publishers, p. ix. Reprinted by permission of Van Schaik Publishers.
241 (figure 10.2)	L. Flower & J. Hayes, "A Cognitive Process Theory of Writing" Figure 3.1: Structure of the Writing Model in <i>College Composition and Communication</i> , 1981 32 (4) 364–387. Copyright 1981 by the National Council of Teachers of English. Reprinted with permission.
243 (figure 10.3)	Coffin, C., Curry, M.J., Goodman, S., Hewings, A., Lillis, T.M. & Swann, J. <i>Teaching Academic Writing: A toolkit for higher education</i> . Copyright © 2003. London; Routledge p. 34. Reproduced by permission of Taylor & Francis Books UK.
244 (figure 10.4)	Haas, S. S. (2010). By writers for writers: developing a writer-centred model of the writing process (Doctoral dissertation, Aston University) Copyright © S. Haas sshaas@mac.com Reprinted by permission of Sarah Haas

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