

1. Record Nr.	UNINA9910795828803321
Autore	Fellows Richard F
Titolo	Research Methods for Construction
Pubbl/distr/stampa	New York : , : John Wiley & Sons, Incorporated, , 2015 ©2015
ISBN	9781118915721 9781118915745
Edizione	[4th ed.]
Descrizione fisica	1 online resource (319 pages)
Altri autori (Persone)	LiuAnita M. M
Disciplina	624.072
Soggetti	Building - Research - Methodology Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Cover -- Title Page -- Copyright -- Contents -- About the Authors -- Preface -- Part I Producing a Proposal -- Chapter 1 Introduction -- 1.1 The concept of research -- 1.1.1 Research: a careful search/investigation -- 1.1.2 Research: contribution to knowledge -- 1.1.3 A learning process -- 1.1.4 Contextual factors affecting research -- 1.2 Classifications of research -- 1.2.1 Pure and applied research -- 1.2.2 Quantitative and qualitative research -- 1.2.3 Other categories of research -- 1.3 Theories and paradigms -- 1.3.1 Development of knowledge -- 1.3.2 Testing a theory -- 1.3.3 A paradigm -- 1.3.4 Positivism -- 1.3.5 Interpretivism -- 1.3.6 Models and hypotheses -- 1.4 Research styles -- 1.4.1 Action research -- 1.4.2 Ethnographic research -- 1.4.3 Surveys -- 1.4.4 Case studies -- 1.4.5 Experiments -- 1.5 Quantitative and qualitative approaches -- 1.5.1 Quantitative approaches -- 1.5.2 Qualitative approaches -- 1.5.3 Triangulated studies -- 1.5.4 Data sources -- 1.6 Where to begin -- 1.7 Summary -- Chapter 2 Topic for Study -- 2.1 Selection of a topic -- 2.1.1 Resources -- 2.1.2 Subject selection -- 2.1.3 Choosing a topic -- 2.1.4 Evaluating alternatives -- 2.1.5 Refining a topic -- 2.2 Writing the proposal -- 2.2.1 Aim -- 2.2.2 Proposition -- 2.2.3 Objectives -- 2.2.4 Hypotheses -- 2.2.5 Methodology and methods -- 2.2.6 Programme -- 2.2.7 Deliverables and industrial or practitioner support -- 2.3

Summary -- Part II Executing the Research -- Chapter 3 Initial Research -- 3.1 The research process -- 3.1.1 Initial phase -- 3.1.2 Data and information -- 3.1.3 Dynamic process -- 3.2 Initial search -- 3.2.1 Definitions and assumptions -- 3.2.2 Theory and literature review -- 3.2.3 Analysing data from a search -- 3.3 Literature-based discovery -- 3.4 Assembling the theoretical framework -- 3.5 Philosophy and methodology. 3.5.1 Ontology and epistemology -- 3.5.2 Positivism and phenomenology -- 3.5.3 Constructivism and reductionism -- 3.5.4 Realism -- 3.5.5 Fuzzy thinking -- 3.6 Theoretical models and constructs -- 3.6.1 What is modelling? -- 3.6.2 Theoretical model -- 3.6.3 Constructs -- 3.7 Proper referencing -- 3.8 Summary -- Chapter 4 Approaches to Empirical Work -- 4.1 Role of experience -- 4.1.1 When does research begin? -- 4.1.2 What is experience? -- 4.2 Research design -- 4.2.1 Context -- 4.2.2 Empiricism and verification -- 4.2.3 Deduction and induction -- 4.2.4 Case study -- 4.2.5 Ethnography -- 4.2.6 Experiments and quasi-experiments -- 4.2.7 Variance and errors -- 4.3 Qualitative approaches -- 4.3.1 When are qualitative approaches employed? -- 4.3.2 Development of theory from data -- 4.3.3 Analysis of data -- 4.4 Quantitative approaches -- 4.4.1 When are quantitative approaches employed? -- 4.4.2 Sources of data -- 4.4.3 Experimental control -- 4.5 Experimental design (including experiments and quasi-experiments) -- 4.5.1 Experiments and quasi-experiments -- 4.5.2 Variables -- 4.5.3 Replication -- 4.5.4 Between-subjects design (simple randomised experiments) -- 4.5.5 Between-subjects design (matched randomised groups) -- 4.5.6 Within-subject design (repeated measure design) -- 4.5.7 Factorial experiments -- 4.6 Case study research -- 4.7 Modelling -- 4.7.1 Classification of models -- 4.7.2 Deterministic and stochastic models -- 4.7.3 The modelling process -- 4.8 Simulation -- 4.8.1 Dynamism -- 4.8.2 Heuristics -- 4.8.3 Approaches -- 4.9 Level of research -- 4.10 Summary -- Chapter 5 Hypotheses -- 5.1 Essentials of a valid hypothesis -- 5.2 Roles of hypotheses -- 5.3 Objective testing of hypotheses -- 5.4 Role of sampling -- 5.5 Common statistical measures -- 5.5.1 Normal distribution -- 5.6 Null hypotheses -- 5.7 Validities -- 5.8 Summary. Chapter 6 Data Collection -- 6.1 Data requirements -- 6.2 Collecting data from respondents -- 6.2.1 Surveys -- 6.2.2 Questionnaires -- 6.2.3 Interviews -- 6.2.4 Case studies -- 6.2.5 Triangulation -- 6.3 Sampling -- 6.4 Sample size -- 6.5 Scales of measurement -- 6.5.1 Scaling techniques (non-metric and metric) -- 6.5.2 Non-comparative (metric) scales -- 6.5.3 Comparative scales (non-metric) scales -- 6.5.4 Common scaling methods -- 6.5.5 Development of multi-item scales -- 6.6 Obtaining data -- 6.7 Response styles -- 6.8 Summary -- Chapter 7 Data Analysis -- 7.1 Analysing data -- 7.2 Plotting data -- 7.3 Statistical methods -- 7.4 Non-parametric tests -- 7.4.1 Sign test -- 7.4.2 Rank-sum tests -- 7.4.3 Chi-square ( $\chi^2$ ) test -- 7.4.4 Goodness of fit -- 7.5 Parametric tests -- 7.5.1 t-Test -- 7.5.2 Analysis of variance (ANOVA) -- 7.5.3 Regression and correlation -- 7.5.4 Multiple regression -- 7.5.5 Time series -- 7.5.6 Index numbers -- 7.5.7 Simple average index -- 7.5.8 Chained index -- 7.6 Other analytical techniques -- 7.6.1 Cluster analysis -- 7.6.2 Factor analysis -- 7.6.3 Path analysis -- 7.6.4 Analytic hierarchy process -- 7.6.5 Analysing documents (from texts) -- 7.6.6 Conversation analysis -- 7.6.7 Discourse analyses -- 7.6.8 Social network analysis -- 7.6.9 Multi-level research -- 7.6.10 Meta-analysis -- 7.6.11 Longitudinal research -- 7.7 Summary -- Chapter 8 Ethics in Research -- 8.1 The concepts of morals and ethics -- 8.2 Research ethics -- 8.2.1 Theory and literature -- 8.2.2 Data collection, use and disposal -- 8.3 Data

analysis, intellectual property and data protection -- 8.3.1 Data analysis, results and reporting -- 8.3.2 Intellectual property -- 8.3.3 Data protection -- 8.4 Summary -- Part III Reporting the Results -- Chapter 9 Results, Inferences and Conclusions -- 9.1 Requirements for valid results. 9.2 Potential sources of error -- 9.2.1 Reliability -- 9.3 Results -- 9.3.1 Producing the results -- 9.3.2 Introductory results -- 9.3.3 Substantive results -- 9.3.4 Inferences -- 9.3.5 Causal relationships -- 9.3.6 Interpretation -- 9.4 Conclusions -- 9.4.1 How to write conclusions -- 9.4.2 Further research -- 9.5 Summary -- Chapter 10 Reports and Presentations -- 10.1 Report production -- 10.2 Communication -- 10.3 Contents of the report -- 10.3.1 How to begin -- 10.3.2 Text of the report -- 10.3.3 Theory and literature -- 10.3.4 Reporting on methodology and methods -- 10.3.5 Reporting on data sourcing and data collection -- 10.3.6 Presentation of results -- 10.3.7 Discussion of results -- 10.3.8 Conclusions -- 10.3.9 Limitations -- 10.3.10 Recommendations -- 10.3.11 Introduction -- 10.3.12 Remainder of the report -- 10.4 Oral presentation -- 10.5 Summary -- Index -- EULA.

---

## Sommario/riassunto

Research Methods for Construction will help you instil rigour into your problem-solving, and into your reports and publications. It will be of value to construction, surveying, architecture and civil engineering students undertaking research, whether for bachelors and masters degree dissertations, or for masters and doctoral research degree theses. Now in its Fourth Edition, this remains one of the few books to provide guidance on research formulation, methodologies, and methods specifically for construction students. Three main sections - Producing a Proposal, Executing the Research and Reporting the Results discuss the key issues in research and examine the primary approaches, both qualitative and quantitative. The methods adopted for scientific and engineering experiments, model building and simulations are discussed, as well as those employed for research into management, social and economic issues. The authors examine the requirements for data and analysis, including the important statistical considerations and a range of qualitative techniques that enable construction researchers to appreciate what needs to be evaluated in devising how research may be carried out effectively and efficiently. This new edition has been updated to reflect current debates and concerns, including ethical issues, legislation and codes of practice concerning the collection, processing, storage, use and disposal of data. Pressures of time and funding to carry out the empirical work all too often lead to a lack of attention to how the study should be done and why. The authors address the importance of explaining the philosophical approach adopted (ontology, epistemology) and the consequent methodology. They advocate close scrutiny of the methods available for appropriateness, both academically and practically. The fundamental theme of the book remains to facilitate a researcher's informed and justified selection of a philosophical paradigm and of appropriate methods to execute the research.

---