

1. Record Nr.	UNINA9910791705803321
Autore	Busemeyer Jerome R.
Titolo	Quantum models of cognition and decision / / Jerome R. Busemeyer, Peter D. Bruza [[electronic resource]]
Pubbl/distr/stampa	Cambridge : , : Cambridge University Press, , 2012
ISBN	1-107-23957-5 1-107-22899-9 1-283-52200-4 9786613834454 1-139-52713-4 1-139-52832-7 1-139-52593-X 1-139-53179-4 1-139-53060-7 0-511-99771-X
Descrizione fisica	1 online resource (xiv, 407 pages) : digital, PDF file(s)
Classificazione	PSY008000
Disciplina	530.12
Soggetti	Decision making - Mathematical models Statistical decision Cognition - Mathematical models Quantum theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Title from publisher's bibliographic system (viewed on 05 Oct 2015).
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Machine generated contents note: 1. Why use quantum theory for cognition and decision? Some compelling reasons; 2. What is quantum theory? An elementary introduction; 3. What can quantum theory predict? Predicting question order effects on attitudes; 4. How to apply quantum theory? Accounting for human probability judgment errors; 5. Quantum inspired models of concept combination; 6. An application of quantum theory to conjoint memory recognition; 7. Quantum-like models of human semantic space; 8. What about quantum dynamics? More advanced principles; 9. What is the quantum advantage? Applications to decision making; 10. How to model human information

processing using quantum information theory; 11. Can quantum systems learn? Quantum updating; 12. What are the future prospects for quantum cognition and decision?.

Sommario/riassunto

Much of our understanding of human thinking is based on probabilistic models. This innovative book by Jerome R. Busemeyer and Peter D. Bruza argues that, actually, the underlying mathematical structures from quantum theory provide a much better account of human thinking than traditional models. They introduce the foundations for modeling probabilistic-dynamic systems using two aspects of quantum theory. The first, 'contextuality', is a way to understand interference effects found with inferences and decisions under conditions of uncertainty. The second, 'quantum entanglement', allows cognitive phenomena to be modeled in non-reductionist ways. Employing these principles drawn from quantum theory allows us to view human cognition and decision in a totally new light. Introducing the basic principles in an easy-to-follow way, this book does not assume a physics background or a quantum brain and comes complete with a tutorial and fully worked-out applications in important areas of cognition and decision.
