

OR CONSULTING: THERE
IS NO TEMPLATE

Dr. Douglas A Popken, Systems View
2010 Isolated Practitioner Workshop

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What kind of background do you need for OR consulting?

One that will provide you with some credentialing/legitimacy and a variety of experiences that you can draw upon. Other than that I think it is completely open.

Doug Popken Background

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- OR/IE studies at Cornell (BS and MEngr)
- Defense Logistics Agency
- IEOR studies at Berkeley (MS and PhD)
- Scientific Analyst, Program Manager, Logistics Research Officer at Air Force Research Laboratory
- Program Manager (Civilian) at Sumaria Systems
- Assistant Professor, University of Dayton
- Algorithm Developer, Heuristec
- Owner/President, Systems View (1997 - current)

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1) Should I be a specialist or a generalist?

Yes, that is, both. You need some areas with deep knowledge and experience, but be fluent in many.

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2) Can an isolated practitioner make an impact?

Yes, but especially if you assemble the right collaborators.

Systems View Specializations

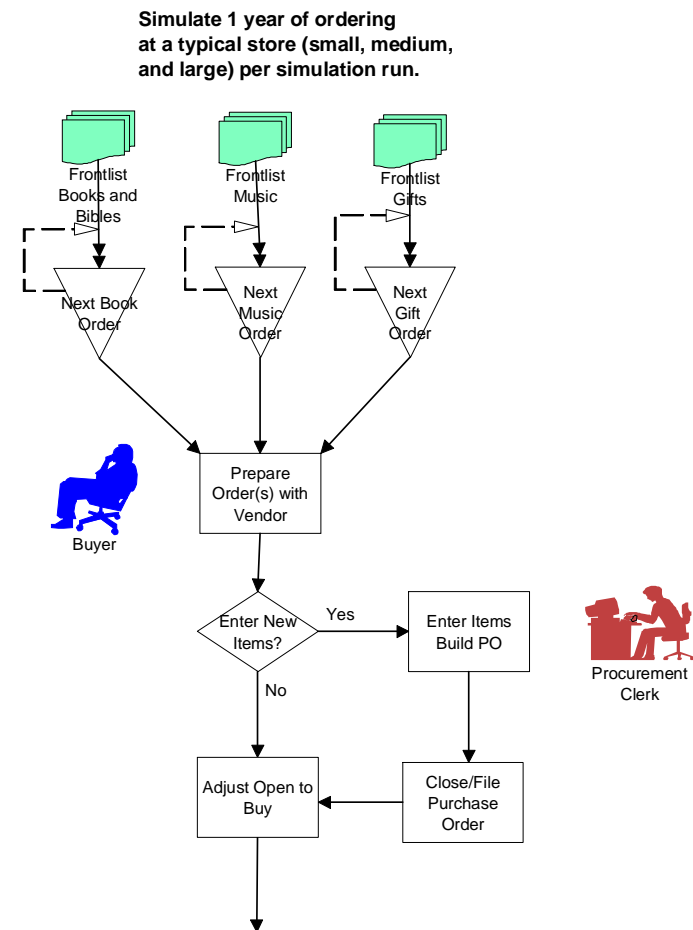
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- Business process modeling and analysis
- Health risk analysis
- Truck routing
- DoD related simulation/optimization

Business Process Modeling and Analysis

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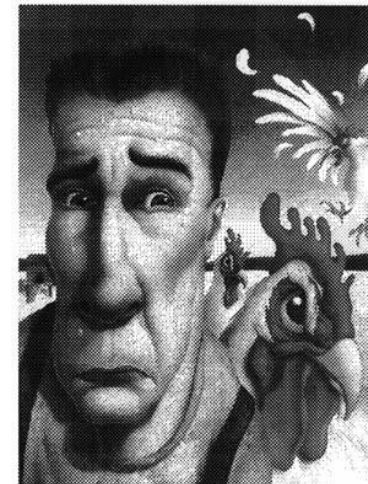
- Telecom services
 - ▣ Simulated repair-call handling, high speed order processing, and appointment scheduling for major telecom.
- Retail back-room processes
 - ▣ Simulated the "back room" processes of book stores to find ways to improve ordering, receiving, and returns.
- Missile launch logistics
 - ▣ Simulated launch process flow and resource usage under different operating scenarios. The results helped to identify an efficient low-cost design.



Health Risk Analysis

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- Projects for multiple drug industry clients in partnership with Cox Associates
- “Franchise” on animal/bug/drug specific risk modeling, for example
 - Chickens/Vancomycin Resistant E. Faecium (VREF)/Streptogramins
 - Chickens/Campylobacter/Fluoroquinolones
 - Swine/MRSA/Tetracycline
- Techniques
 - Statistical: Logistic regression, Bayesian Model Averaging, Bayesian Networks, Classification Trees
 - Discrete-event simulation
 - Farm-to-fork and hospital-to-farm probability chains
- Impact
 - Publications
 - Strong influence on FDA policy making process
 - [Edelman](#) finalists (with Animal Health Institute)
 - Less fear?



Alektorophobia: fear of chickens

Truck Routing

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- Enterprise level dynamic routing system for an auto shipping industry client
- Techniques
 - ▣ Route Optimization (dormant)
 - ▣ Software Development, Project Management
- Impacts
 - ▣ Mission-critical software used to assign hundreds of new orders daily
- ***Route Factory Spreadsheet™***
 - ▣ “Packaged” lower-priced version
 - ▣ Impact largely still TBD



DoD Related Simulation/Optimization

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- Ongoing work with a major DoD contractor to model and optimize a parts and maintenance support system.
- Techniques:
 - ▣ Forecasting
 - ▣ Discrete-event simulation
 - ▣ Simulation optimization
- Impact
 - ▣ Creation of a capability to link performance metrics to resource levels (enables Performance Based Logistics)
 - ▣ Generating efficiencies in ongoing combat operations
 - ▣ Created demand for follow-on and related OR projects

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What kind of business/marketing strategies do you recommend?

It depends a lot on your interests and personality type. But some are universal.

Systems View Business Strategies

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- Diversification
- Collaboration
- Stay Lean
- Marketing
 - ▣ Speaking and writing
 - ▣ Networking
 - ▣ Website
 - ▣ Research
- Work habits

Final Tips

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- ❑ Acquire/develop software development skills
- ❑ Become fluent with a suite of problem-solving tools (simulation, forecasting, statistical analysis, mathematical programming, etc).
- ❑ Seek out potential partners with complementary skill sets
- ❑ Determine a marketing style compatible with your interpersonal and communication skills
- ❑ Develop niches, but don't get stuck in a rut
- ❑ Have a wife with a full time job