

Innovation and Entrepreneurship

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Synopsis

My background

D'Crypt, Innovation and Enterprise

Q&A

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Educational History

Early education in S'pore

- Raffles product ☺

A.B. in Computer Science from U.C. Berkeley

- NCB Undergrad Scholarship

Ph.D. in Theoretical CS from Berkeley

- U.C. Regents' Fellowship
- AT&T Scholarship

Distinguished Graduate Student Instructor

Work History

Spent 8+ months at Bell Laboratories

- Part of AT&T Fellowship

Served 8-year bond in DSO

- MINDEF's R&D outfit
- DMTS
- Center Head for Advanced Electronics and Signal Processing

Adjunct Lecturer at NUS

- Helped start Programme (later Dept) of Computational Science

Entrepreneurial History



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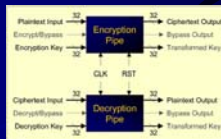
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Cryptographic Trapdoor with Timed Locks and Controlled Escrow



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Homebrew Entrepreneur Taxonomy

Opportunists

- See and exploit a usually un-replicable opportunity
- The kid selling erasers at school

Lemmings

- Following the herd
- Dot-coms and the “*Stupid is Better*” business plan

24/7 Entrepreneurs

- Passionate and self-sacrificing (plus others)

Kampung Entrepreneur

- Vision is limited only to our small island state
- Businesses that are inherently unscalable or difficult to scale

My view of a True Entrepreneur

Delivers consistent, differentiated value to target audience

- Clear and well-articulated organizational vision
- Possession and control of necessary skills-sets to deliver value

Society before self

- Provision of employment
 - The IPO party
- The circle of life
 - Citibank, Peter White, and wealth management

Technocentric Businesses

Competitive edge through technological domination

- Comprehensive understanding
- Paranoid attention to detail

Innovation through understanding

- Willingness to understand and reflect requirements
- Applying technology innovatively to bring benefits to the customer

Innovation

How do we build an innovative company ?

- **M**otherhood and **B**asic **A**pple-pie stuff
 - Value-system and culture,
 - Clear mission and vision,
 - Management processes, and
 - ... all the other stuff that will show up in the exam©
- Developing, motivating and managing human capital
- Funding innovative, technocentric startups
- Doing meaningful business
- Giving back

The Team at D'Crypt

Tech-heavy, highly-qualified and skilled

- The hygiene freak
- The air-conditioned carnivore
- The nocturnal feeder
- The self-taught feng-shui expert
- The party-animal

How is such a group motivated and managed?

Observations

God is not fair

- Talented = valuable = better treatment
- Cannot run a communist business

The “full tank of gas” phenomenon

- Need to instill a learning culture

Keeping current

- Often abdicated in favour of softer options

HR Policy

Values driven

- The need for trust in the security business
- Uncompromising standards on integrity

Quality Control

- Stringent, rigorous recruitment process

Separate technical and management roles

- Technical experts given influence and recognition
- Managers motivate, guide, and facilitate technical work

Managing HR

Maintain HR in-house

- “Close to the action”
- Individualized attention, especially to stars

Understanding, empathy, and flexibility

- Technological dominance must start from the top
- Listen to, and meet their unique requirements, and they will meet the company's requirements

Innovative HR

Creative management

- “X hours per month”
- Notebook + DE
- Foosball & pinball
- Neopets
- Windtalkers

Venture Capital

VC's in Singapore

- No experience with real startups
 - Govt-linked VCs staffed with civil servants and scholars ...
 - What do they know about startups, huh ?
- The “Creative” Story
 - Make it cheap, make it fast, make lots of it, and make lots of money ...
 - ... and make our exit strategy happen quick!

Getting Into Bed with the VCs

Different aspirations and goals

- Technology is not a fast route to IPO

VC's care first about themselves

- Maybe *some* spare CPU cycles are spent on you

VC's only bring \$\$

- They are no better than the rest of us at assembling that vaunted "management team"

What Did We Do ?

Put our \$\$ where our mouth was

- Entirely bankrolled by two co-founders

Leverage off Government support

- Grants and subsidies to build tech base

Remain unencumbered by VC thinking

- Prudent cash-flow management

Kept faith with our technological core

- Partner with VCs to form subsidiaries to market spin-off technologies and products

Doing Meaningful Business

Profitable = \$\$ + capability development

- Balance between tech outflow and learning

Avoid selling just your time

- Not providing an engineering or SI service

Identify a niche and stick with it

- Especially in these bad times...

Grow marketing from technical ranks

- Need in-depth understanding of technology to market technocentric products

Doing Meaningful Business

Listen first, talk later

- Understand and reflect customer's requirements
- Innovate through understanding
 - Synchronization of security devices

Be selective about the projects to do

- Know why you are doing the project
 - You must be exploiting technological advantage to contribute something unique
- Employ projects to develop technical edge further
 - "Sharpen the saw"

Time to market is not that important

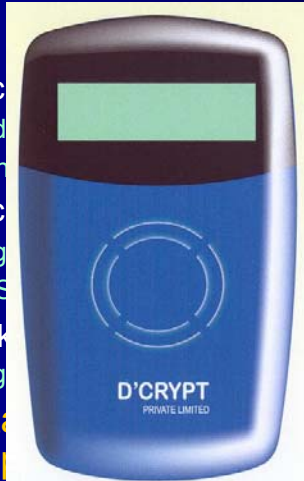
- Meeting requirements with quality product

Giving Back

Completing the Entrepreneurship cycle

- Giving back
 - Time and
 - “Driving h
- Giving back
 - Fostering
 - “The 14 S
- Giving back
 - Deploying

Fundamental order to make a lasting impact



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In Conclusion

Entrepreneurship is about values, not about making money

- It is a long, hard struggle
- There are far easier ways to make \$\$

Singapore needs entrepreneurs to grow the next stage

- Core values must be right
- Innate desire to innovate and build differentiated, unique value

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Thank You

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