### Managing Archives in the 21<sup>st</sup> Century

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Pitt Kuan Wah

21 June 2011

### On sharing of knowledge...

"The first thing you learnt as a smáll country is to act small and humble. If you go around telling people what to do, they will say, 'You're out of your depth, you don't understand my problems.' So we keep our mouths shut unless we are asked..."



During the dialogue session on "Climate Change in the 21<sup>st</sup> Century" held in Singapore on 2 May 2010, Mr Lee Kuan Yew was asked if Singapore could influence the world to change its behavior , he responded.... It is like fried rice. Key ingredient is still rice. And skill matters.



### • PART I: MY VIEWS ON ARCHIVES

### PART 2:WHAT I LEARNT ABOUT MANAGING RESOURCES

#### Revisiting the role of archivists as seen by Sir Hilary Jenkinson 64 years on...

"The Archivist's career, is one of service. He exists in order to make other people's work possible, unknown people for the most part and working very possibly, on lines equally unknown to him; some of them perhaps in the quite distant future and upon lines as yet unpredictable. His Creed, the Sanctity of *Evidence*; his Task, the Conservation of every scrap of Evidence attracting to the **Documents committed to his charge; his** Aim, to provide, without prejudice or afterthought, for all who wish to know the Means of Knowledge."



Hilary Jenkinson, *"The English Archivist: A New Profession"* an inaugural lecture delivered at UCL on 14 Oct 1947



### **Archives Legislation**

• Why it is important to have an archives act?

 The story of a jar filled with stones, sand and water.





### **Legislative Powers**

- Authority, empowerment and influence
- Mandate and accountability /corporate governance (organisation/structure scope of work & corresponding budget)

子曰:"名不正则言不顺,言不顺则事不成,事不成则礼乐不兴,礼乐不兴则刑罚不中,刑罚不中则民无所措手足。故君子名之必可言也,言之必可行也。

• 《论语》子路第十三

### WHY HAVING AN ARCHIVES ACT ALONE IS NOT ALL?

\*Macro direction – could still end up being N.A.T.O.

\*Need to translate into actions (policy, strategy, tactic and KPI – monitoring output/outcome.

\*Identify partners and collaborators to help you in the course of archiving – esp in digital age, you need more partners from outside the profession.

# Does your legislation address the fundamental question: What are you preserving?

- Most basic but often ignored question. But in reality an archives need to work out policies, implement procedures etc in managing the collection.
- From a technical perspective, in the paper world, the answer is more straightforward: we are preserving a relatively immutable physical artefact recorded in a more or less stable medium.
  Preservation simply means to preserve the medium and extend this stability.
- The question becomes more complex when we need to deal with digital records (it is a complex issue and I shall not cover in this presentation).

But we should always take bearing from the fundamentals...

- How did we obtain the authority and power to execute these tasks to begin with?
- To what extent are these tasks to be completed and by what measurement?
- How are we going be funded to fulfill our responsibilities and obligations (administratively and professionally)?
- And what are "archives" and "records" in the first instance?

### **Records and Archives**

- All archives are records, but not all records will become archives.
- Need to appraise due to limitations in resources and other reasons.
- Increasingly archivists must not confine themselves with only text-based records.

### My Take on "Archives Appraisal"

### Archives Appraisal $\neq$ Selection

Why keep (justification of preservation cost)

Why destroy (evaluation of impact of losses)

- It is like marriage and divorce. The former is a life-long commitment the latter also comes with cost (some of it may not be measureable/countable).
- Today, the nature of archival appraisal planning requires the archivist to be involved actively in the record lifecycle - need to appraise at creation stage for early intervention, esp when dealing with e-records.

Technical appraisal questions whether one has the capacity to preserve

Appraisal is not one-time process, more so in today's e-environment context.

# But what are we really preserving?

# Memory Evidence (direct reflection on corporate

governance)

The two are not necessarily mutually exclusive and of equal importance



#### Need to balance.

"Without reliable evidence set in context...memory becomes counterfeit, or at least is transformed into forgery, manipulation, or imagination. Without the influence of and need for memory, evidence is useless and unused. Without acknowledging the mediation and intervention of the archivist in the construction of memory based on documentary evidence, the claims for that evidence of impartiality, objectivity, and "Truth" ring hollow at best, as professional arrogance at worst."

Terry Cook, 'Beyond the Screen: The Records Continuum and Archival Cultural Heritage' paper delivered at the Australian Society of Archivists Conference, Melbourne, 18 Aug 2000



### Preservation

- Beyond conservation, reformatting and media refresh.
- Repository management is more than providing a secured conducive storage environment. Housekeeping (routine) is the weakest link.
- In a nutshell, long term commitment and sustained investment is critical.
- Issues on digital preservation: a tool or an end?
- The question of virtual repository (Cloud Computing) from archival perspective...





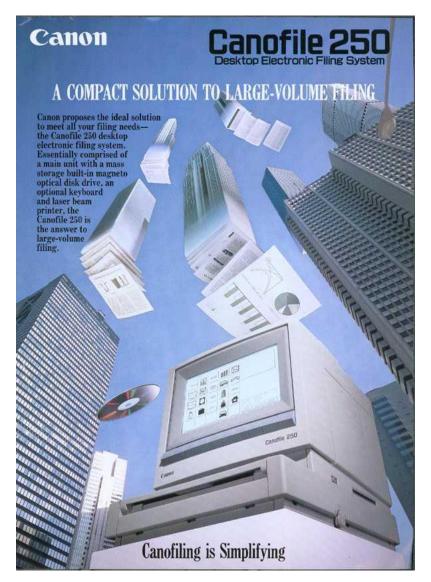
### My take on technology

- It remains largely a tool, not an end not yet.
- Beware of bleeding technology: the story of Canofile
- Cutting edge vs mature
- Taking calculated risks, small steps but leapfrogging.
- The next few slides illustrate these in greater details....

#### "The answer to your filing needs - today and tomorrow" (as advertised)

# I was proven right on this!

- Product introduced in early 1990
- Ceased production in 1998
- Few drives left to access (extract) data stored. Medium & format are proprietary.
- Tomorrow seems too far away!



### Laggarding or leapfrogging?



Some management gurus (perhaps include your bosses) always insist that we must make quantum leap when making changes.....

### Analysis of risks of each approach...

- Early adopters of technology will buy everything new.
- The opposite are people who will wait for years to pick up a new gadget – the laggards.
- But laggards could become leapfrogs
  - From walkman to iPod users (bypassing CD, mini disc, DVD and cheap versions of MP3 players)
  - How we had avoided TIFF version 4..

Photo-CD for Photographic & Cartographic Images (Last decade of 20<sup>th</sup> Century)

- Stable & mature technology developed by world's leader in film industry:
  - Conceptualized in 1989, released 1992
- Adopted by many libraries, museums and archives (More than 60 million PCD images worldwide)
- Direct input from source (film)
  - System able to differentiate film types (brands) & their characteristics, thus accurate conversion
  - Opportunity to correct colour & density errors in original image - occurred either in camera exposure or film processing

- - High quality image, low storage cost
    - US\$1 per 2000 dpi scan (35mm film)
    - U\$\$6 per 4000 dpi scan (4"x5" film)
  - Meet multiple needs for Internet display, desktop printing, exhibition and high quality publishing
    - A 4000 dpi single scan produces six multiple optical (true) resolutions:
      - Base/16 (128 x 192 pixels)
      - Base/4 (256 x 384 pixels)
      - Base (512 x 768 pixels)
      - 4xBase (1024 x 1536 pixels)
      - I6xBase (2048 x 3072 pixels)
      - 64xBase (6144 x 4096 pixels)

# How does NAS deal with proprietary problem?

- deposit source code or make an ESCROW arrangement to deposit with 3rd party
- sign MOU, help us to migrate when technology is replaced
- Planning for migration in 2012 /2013



March 25, 1998

Mr. Pitt Kuan Wah Deputy Director National Archives of Singapore 1 Canning Rise Singapore 179868

Dear Mr. Pitt

This letter is in response to concerns about ensuring the long-term viability of PHOTO CD Products for the National Archives of Singapore. PHOTO CD Products have been around for over 7 years and continues to be valued by customers worldwide due to the color integrity, multiple resolutions, and lossless compression that are core to this technology. Last year over 52 million images were scanned using PHOTO CD Equipment; an increase of 65 wor 1996.

The question that has been mixed is what happens if Kodhk xxits the PHOTO CD business and discontinues the Photofinisher Images Workstation. In such an event, Kodak would continue to provide support for previously-sold PWA firs a considerable period of years. For that purpose, Kotak would archive the source code, bill-of-materials, drawings, assembly procedures, and schematics in our facility in Rochester and would inventory parts for service.

There presently are several migration paths available to convert IMAGEPAC Files to other popular formats such as TIFF, IPEG, and in the near future, FLASHPIX. One of these products is ACCESS 3.1 that was developed by Kodak and allows the user to perform the above-mentioned conversions. Another package is DEBABILIZER by Equilibrium which supports over 60 file formats.

In addition to these existing packages, Kodak is working on a PHOTO CD Toolkit to allow third parties to develop applications to author IMAGEPAC Pless. Our intontion is to more broadly enable the IMAGEPAC File in the market. This package will be available in May, 1998.

In order to provide a future safe path for your PHOTO CD Disks, Kodak would be willing to provide copies of the ACCESS 3.1 Software. We also would offer, on nearonable terms, the PHOTO CD Tookik with technical support from Rochester through 1998. Either of these options would provide a method of converting IMAGEPAC Flois if Kodiak exist the PHOTO CD business in the future.

I hope that this helps alleviate any concerns about your investment in PHOTO CD Products. If you require further assistance, please contact Don Fillitere, Worldwide Product Manager, Conversion Systems and Scanners, at Tel. (716) 724-0068.

Very truly yours. Jeb S. Hurley General Mangleer Commercial Imaging Business, Vice President Kodak Professional

ec: Mr. D. Pillittere

JSH:slc

EASTMAN KODAK COMPANY + 343 STATE STREET + ROCHESTER, NEW YORK 14650

Kodak Dica Inagin Sporsor of the

### BUT DO NOT FORGET TO ALWAYS ASK YOURSELF: "DO I NEED IT?" More importantly, do you need it NOW?

It is like asking: Do you need to move to Web 2.0 now or go straight to 3.0?

### One KISS Principle: Story of hearing aid

An old man walked into a shop selling hearing aid. The salesman told him that prices could range from a dollar to hundreds of dollars. The old man wanted to know why.

- The salesman: "Those models that cost hundreds of dollars come with very complicated audio sensors which could measure the voice input and adjust the receiving volume automatically. Whereas the \$1 model is just made of a ear plug and a cable."
- The old man: "How could this work?"
- The Salesman: "It work on the principle that once people see you wearing this, they would automatically speak louder to you, if not shouting into your ears..."



csc27006 www.fotosearch.com



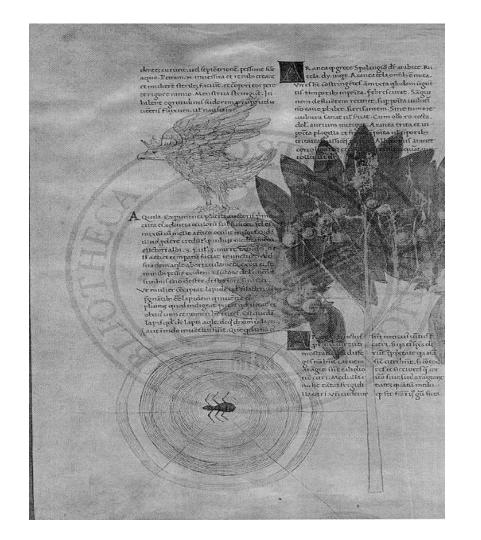
In search of the "best" digital format for online access...

- Illustration on photographs online
- Differences between digital preservation and digital access
  - Different (opposite) requirements need different strategies. No one pairs of shoes!
- Why lossy JPEG?
- Evolving thinking of Water Mark: what is the real message?



### Visible watermark

 Translucent image overlaid on the primary image. Usually in form of logo or seal



### Invisible watermark

 Overlaid image which cannot be seen, but can be detected algorithmically.



One side of this image contains a Digimarc watermark; the other does not.

### Choice of watermark technology

- In 1999, NAS evaluated software from:
  - IBM (USA)
  - Digimarc (USA)
  - Signum Technologies Ltd (USA)
  - Universite Catholique de Lovain (Belgium)
  - MediaSec Technologies LLC (USA)
  - Massachusetts Institute of Technology (USA)
  - NEC Research (Japan)
  - NTT (Japan)

- Selected BatchMarc Pro software from Digimarc as it satisfied criteria:
  - imperceptible
  - undeletable
  - statistically undetectable
  - ownership unambiguous
  - robust, survive multiple generations of copying, modification, printing & scanning
  - low cost
  - supported by many software: adobe, Corel, Micrografx, Live Picture, IE



### BatchMarc Pro

- Unique ID randomly embedded into image pixels, process by batches or one at a time
  - ownership/copyright/charges information
  - information change does not affect image
- Tracking tool MarcSpider constantly crawling WWW search & report Digimarc-enhanced images

## A decade later, we moved back to visual watermarks...

Why the change? It is not a (superior) technology solution that matters any more. In considering using watermark, it is more important not to have something that absolutely could not be removed, but something that would indicate that we had made our effort to prevent casual re-use without permission.

It's like stamping photocopies with a copyright notice stamp - it may not deter further copying but it is our first line of defense against any charge that we were giving things away without thinking of that.

The best protection is not to post high resolution images in the first place. The lower resolution images while will not stop web users from downloading, they will prevent printing.



## **Reality Checks**

- Digital preservation (including conversion) require substantial initial and recurrent funding.
- There is no agreed standards or even best practices for long term preservation of digital contents and media.
  - ICT vendors only sell products, not solutions that can adequately address such issues
  - Archival community is not powerful enough to warrant the attention of manufactures and vendors
  - There is no archival medium but ways to ensure the carrier could physically last longer
  - Functionalities of most digital media will be compromised when reformatted to more permanent media – paper and microfilm
- Researchers increasingly expect retrieval of archives in digital form/format for quick information access/decision making. But we should separate this need from preservation requirement.



### Therefore...

 Archives not as "permanent records" but as "records of enduring value".

### Implication:

Once the enduring value stopped enduring, the permanence of records ends

- Although this could also mean a very long time for few records - documentation on radio-active waste sites (it may take at least 10,000 years for such materials to decay)
- How long can archives kept in digital form survive?

### TO DO OR NOT TO DO IT OURSELVES, THAT IS THE QUESTION!

"We can understand that from time to time, some work has to be outsourced because of insufficient capacity in house. But the reality is that it's difficult to maintain the quality of work done outside your sphere of control."

Steven Re, Technical Adviser, Australian Licensed Aircraft Engineers Association Straits Times: 'Qantas A-380 engines served in Singapore', 10 Nov 2010

## **Outsourcing/Best Sourcing**

- The price issue: really价低者得? What will the hidden cost that we may end up paying? What you see may not be what you are going to get)
- The peanut issue: pays peanuts and get monkeys. Concept of VFM (value for money)
- Ask not what you can do, but what you can do/deliver that matches the needs of the organisation. (Need to ask the right questions)
- Moving towards "performance-based" delivery specifications.

When comparing cost, do not forget the cost of correcting mistakes, re-checking, reprocessing etc

It may appear cheap now, but will it cost too much eventually?

### Be careful in making assumptions...

A young executive was leaving the office late one evening when he found the CEO standing in front of a shredder with a piece of paper in his hand.

"Listen," said the CEO, "this is a very sensitive and important document here, and my secretary has gone for the night. Can you make this thing work?"

"Certainly," said the young executive. He turned the machine on, inserted the paper, and pressed the start button.

"Excellent, excellent!" said the CEO as his paper disappeared inside the machine. "I just need one copy."

### Monitoring (QC) and Continuous Improvements

- Staff Suggestion (review procedures)
- Work Improvement Team (system reengineering)
- Standards & Best Practices
- ISO certification (not for showing off!)

### Drawing lessons from ISO certification & recertification

- Timing
- Documentation (on paper vs real opertaion)
- Staff Buy-in
- Spreading workload (the world does not stop because of you going ISO)
- Long term commitment of resources
- The reward? Build to last a learning organisation that can better withstand turnover of staff.

## Access and Service mindset

- Archives Advocacies
- Access now or planning for long term access?
- What does service really mean?

#### ne | Commentary | Delivering an infant business is in the details - Mozilla Firefox

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#### Delivering an infant business is in the details

It is not just about the first day but getting it right all day, every day

#### by Richard Branson

05:55 AM Dec 30, 2010

So you have an idea for a business - one that you believe has the potential to alter the industry. You have put together a simple, straightforward proposition that potential customers find easy to understand. You have raised the necessary capital, gathered a team and publicised your new venture by every means available. What happens next?

It's time to deliver on your promises. And the only difference between merely satisfactory delivery and great delivery is attention to detail.

Anyone who aspires to lead a company must develop a habit of taking notes. I carry a notebook everywhere I go. Most of my entries are like this one, from a Virgin Atlantic flight years ago: "Dirty carpets. Fluff. Areas around bow dirty. Equipment: Stainless steel, grotty. Choice of menu disappointing - back from Miami, prawns then lobster (as a main course) in Upper Class. Chicken curry very bland. Chicken should be cut in chunks. Rice pretty dry. No Stilton available on cheeseboard."

What's most revealing is this final note: "Staff desperate for someone to listen. Make sure flight staff reports are actioned IMMEDIATELY."

I'm pleased to say that they now are. This is the real key to getting all the other items on the list done - employees are better able to report problems and get them fixed before I come along with my notebook.

And as you decide how best to deliver your product or service, keep in mind the company's core business values, the medium-term strategic considerations and where the industry is headed in the long term. Make your decisions on the micro level in light of that bigger picture, and your business should be



Art by Faizal

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\*If you foster a corporate culture of waiting for someone else to solve problems, the company will suffer the consequences.



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Art by Faizal

\*Problem-solving process should not be limited to the launch. Owners and leaders of established companies should sample their business products as often as possible. Many bosses regularly speak to staff at all levels, but often they do not follow up on problems they uncover. This means that their employees never learn what importance the CEO places on getting the details right, or see just how necessary and possible it is to address the everyday problems that come up.

"Delivery is not just limited to the company's first day: Employees across the business should be focusing on getting it right all day, every day."

'Business Stripped Bare' by Sir Richard Branson, founder of the Virgin Group and companies - Virgin Atlantic, Virgin America, Virgin Mobile and Virgin Active.





- Think customers not just operational efficiency (adding WOW to VOW)
  CX vs SQ
  - Announcement on turning-on hand-phones
  - Seafood porridge served on plane (willingness to take calculated risk)







### In service...

- Customers are not always right
- Returned customers are usually better customers
- Educate and correct expectations are essential – take is why archives advocacy must not be reduced to only making known contents

## **Part I: My Views on Archives**

### PART 2:WHAT I LEARNT ABOUT MANAGING RESOURCES

## "Management is efficiency in climbing the ladder of success....Leadership determines whether the ladder is leaning against the right wall."

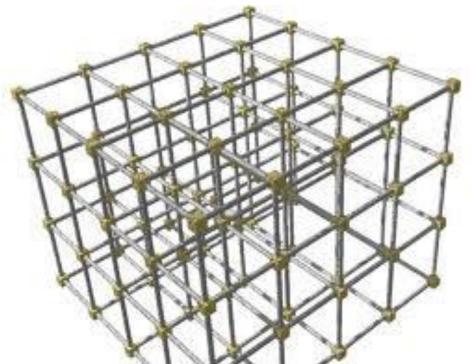
Stephen Covey, The Seven Habits of Highly Effective People

# 我听见我忘记; 我看见我记住; 我做我了解.

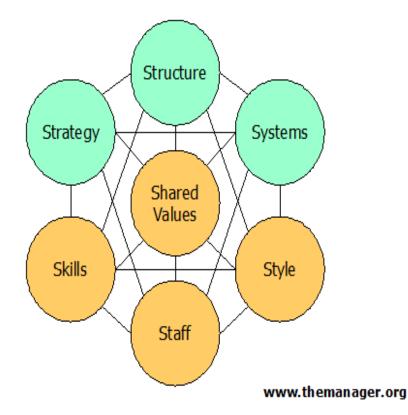
我的座右铭

### HAVING (ADOPTING) A GOOD BASIC FRAMEWORK HELPS TO GUIDE US IN MANAGING RESOURCES

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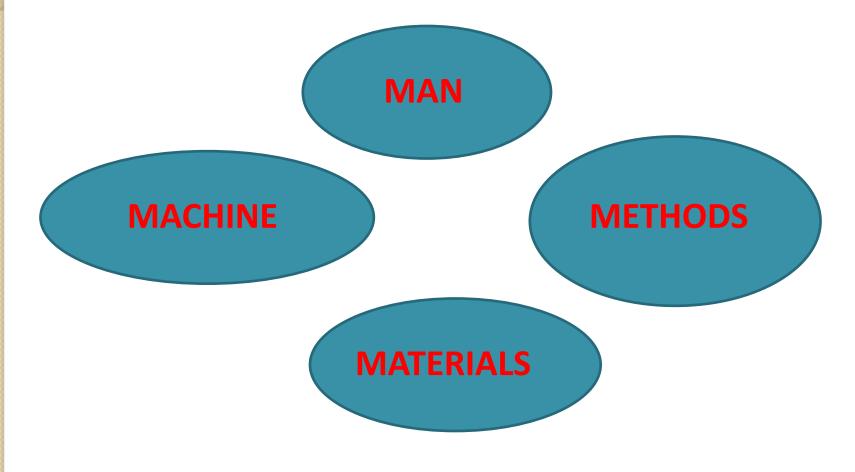
# McKinsey 7-S: simple but comprehensive framework



Three Hard Ss (green) and four soft Ss (yellow).

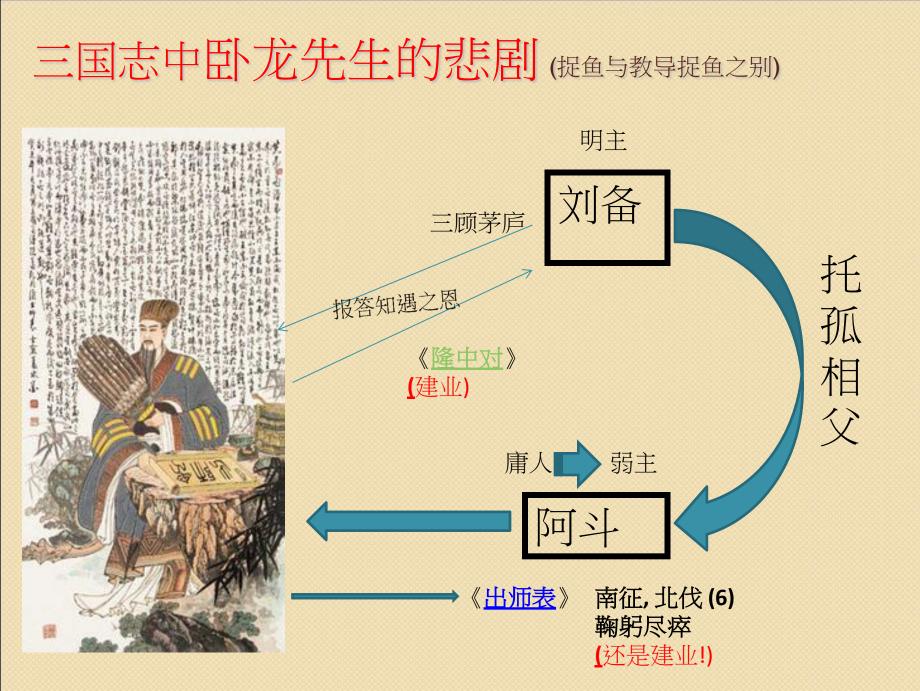
The soft Ss may not be easily visible (and are evolving all the time) but critical as they shape the hard Ss.

In my 28 years of working, I spent a great deal of time managing and developing the four soft Ss. 4Ms in managing archives holistically as they are interconnected and interlocked

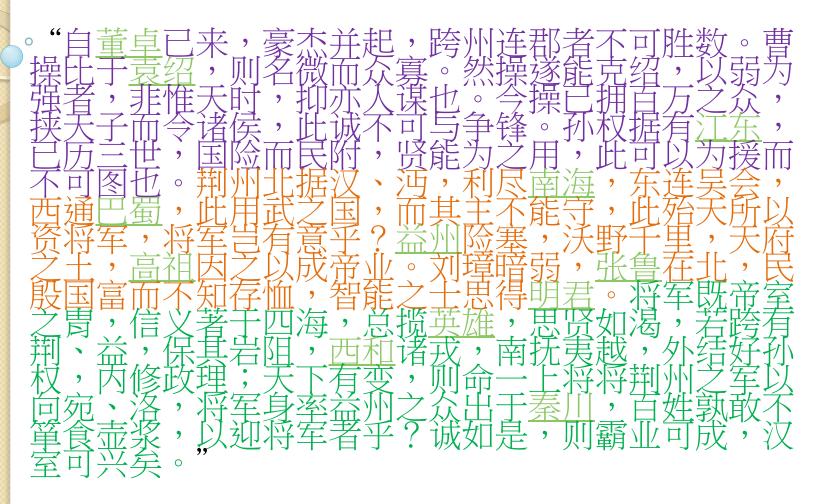


## I. Human Resource

- Capacity growing through opportunity creation, job rotation, networking and nurturing.
  - One lesson from the story of "Three Kingdoms".



#### What is missing? 独欠培训接班人



《草庐对》《<u>陈寿</u>三国志·蜀志·诸葛亮传》

## 2. Problem Solving

- It is about reducing risks, rather than fire fighting.
- History always repeats itself or taking lessons from history?

"以铜为鉴,可正衣 寇;以古为鉴,可 知兴替;以人为鉴, 可明得失。" 《宋·欧阳修、宋祁·新唐书·卷 ——零·列传第二十二魏徵》



THE STORY OF "刻舟求剑" (MAKING A NOTCH ON THE SIDE OF A BOAT TO LOCATE A SWORD DROPPED OVERBOARD)



 楚人有涉江者,其剑自舟中坠于水 遽契其舟,曰:"是吾剑之所从 坠。"舟止,从其所契者入水求之。
舟已行矣,而剑不行,求剑若此, 不亦惑乎?以此故法为其国,与此 同。时已徙矣,而法不徙,以此为 治,岂不难哉?

《吕氏春秋·慎大览·察今》

 The moral of the story? Using the same old approach on the changed situation will not work.

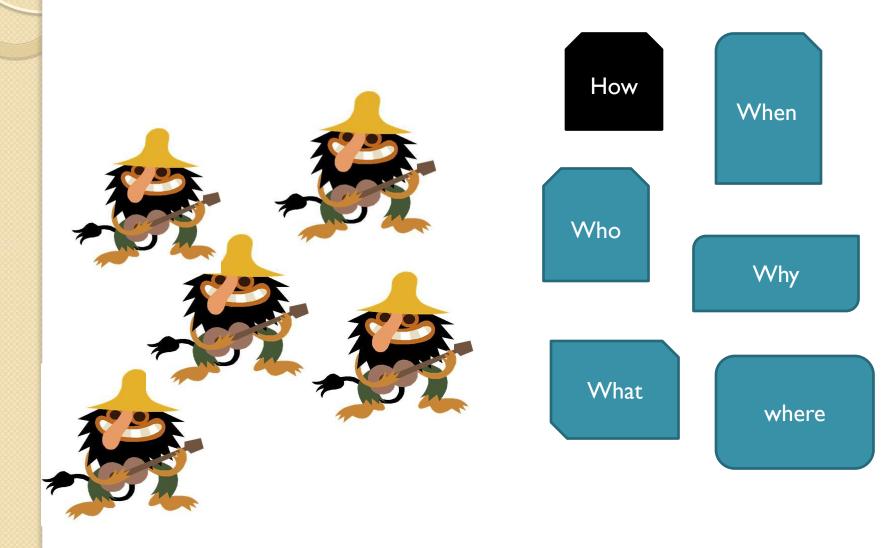
http://history.cultural-china.com

#### 刻舟求剑新编

© 2008 by:乖乖



## The five wise men with a hat



## Asking the right questions

- 5Ws concept from Quality Circle one needs to ask WHY, WHY, WHY, WHY and WHY, five times, in order to understand an issue comprehensively:
  - Why was the output below projection? (because the scanner broke down)
  - Why did the scanner broke down? (motherboard failed and for one week before it was repaired)
  - Why did the mother board failed ? (because there was a power surge)
  - Why was it so? (because some one plug in a faulty vacuum clearer)
  - Why it took so long to repair? (because the vendor did not keep this essential part)



### Example on monitoring RH in repository

- Why was the reading not a straight line (consistency in RH)
  - Because RH rises at certain time of the day that causes the dehumidifier system cut in and out)
- Why was the RH level raises at 10am every Friday?
  - The cleaner was inside between 9 and 10am
- Why did he contribute to the RH increase?
  - He was mobbing floor and introducing water to the room!



What corrective actions do you think were immediately introduced to resolve the issues?

#### Think of 4Ms.

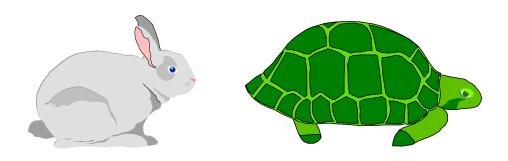
# Back to the water making photographs online

- What does control really mean desired vs reality check.
- Beginning with subscription to digimac invible water mark (web spider reporting)
- Ending with simple water mark superimposed on images viewed online
- What is the message? From wanting to control to wanting to be seen putting in place a procedure to make know copyright information.



## The Thinking Workers

- Three stories of the "Rabbit & Turtle Race"
  - the original: the complacent rabbit
  - the sequel: the awakened rabbit
  - the final: the strategic thinking turtle



### <u>Two</u> perspectives of looking at things

- Eyes for details vs the Big Picture
  - Bolts and nuts vs chassis
- 瞎子摸象



### Learning from my own (former) boss

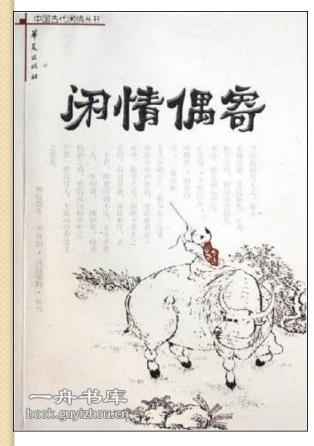
- The Invitation Card as another communication tool - more than just inviting people to attend events.
- Benefits of attending training courses - things that count are not necessary countable.
- "Time will take its course"



### The stories of "拔苗助长" & "水到渠成"



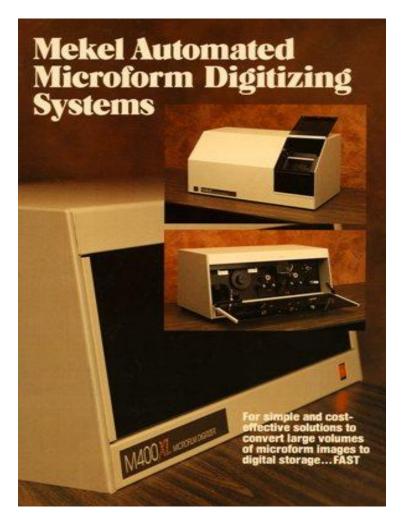
《<u>孟子</u>·公孙丑》:<u>"宋人有闵其苗之不长而揠</u> <u>之者</u>,芒芒然归,谓其人曰:'今日病矣!予 助苗长矣!'其子趋而往视之,苗则槁矣。天 下之不助苗长者寡矣。以为无益而舍之者,不 耘苗者也;助之长者,揠苗者也,非徒无益, 而又害之。"



#### 清·李渔《闲情偶寄·词曲部:科诨第五 -大收煞》

全本收场,名为"大收煞"。此折之难,在无 包括之痕,而有团圆之趣。如一部之内,要紧 脚色共有五人,其先东西南北各自分开,至此 必须会合。此理谁不知之?但其会合之故,须 要自然而然,水到渠成,非由车戽.

## The story of two microfilm scanners (1994 vs 2010)





#### 22 Aug 1994: S\$109,890

#### Mar 2011: S\$105,000

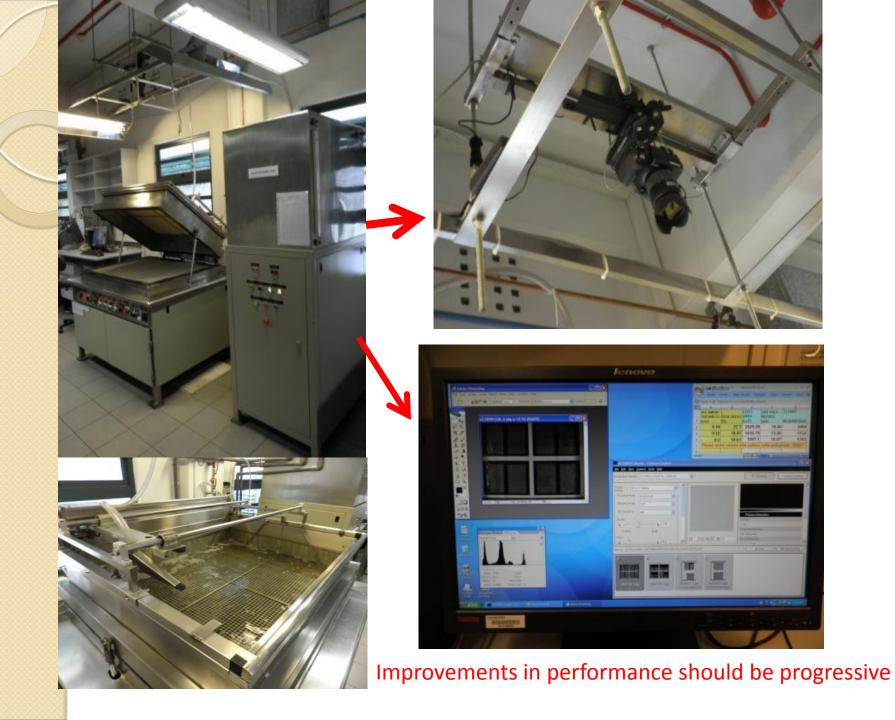
3. Money is always not enough. But what is "cost"?

- Cost is not about counting \$\$\$
- It is also not just the one-off investment of infrastructural & resources (manpower, supplies, equipment)
- Do not forget "recurrent" cost (it is about sustainability)
- What could really be difficult to measure: "opportunity" cost – what was delayed and other missed opportunities

## 4. Continuous Improvement

Change is Constant, but it could happen differently...

- \*Progressive -one small step at a time (case of ACL)
- \*\*Doing the same things but differently (case of IPL)
- \*\*\* Doing different things (case of AVA & Education Outreach)



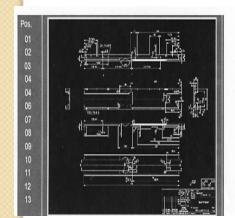


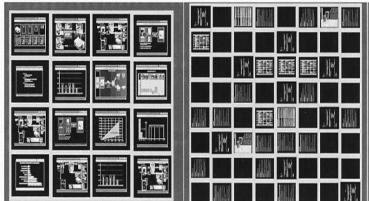


Technological transformation is unavoidable but fundamentals must not be thrown out, if they are still valid...











### **Doing new thing: developing**

games

6



### Adopt Evident-based Management

- Management = Control
- Control = setting expectations/standards + monitoring + documentation + certification (if possible)
- Monitoring What? Output & Outcome
- It is about Quantity (Volume) & Quality
- Dealing with Derivations (not necessarily always negative or bad)
  - Adjustments, refinement, change course of direction

## "Be an Optimist and a Realist..."

"My view is that in today's market, while it is impossible to have all the answers, a leader must be a visionary, an optimist while also being a realist, and a person that absolutely tells the truth."

- Bill Coleman, Chairman and CEO of BEA Systems on dotcom bloom in July 2000. Extract from http://Business2.com (8/8/2001)



### The stories of 愚公 and 齐宣王

- Was it a mission impossible - "挾太 山以超北海" or "為 長者折枝" (孟子 梁惠王 上》?
  - •不能 or 不為?
- Then, Now and how about Future (in due

course, when time is right)?





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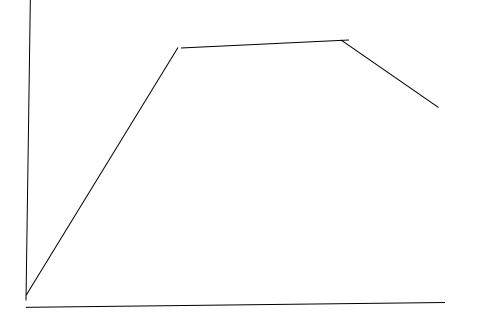


Level of perfection

\*When to say stop?

\*What level of risk balancing is appropriate?

\*Can you afford the trade-off?



Positive outcome/output



# The story of a donkey and his decision making

There was this donkey that used to be fed one pile of dry grass a day by his old master.

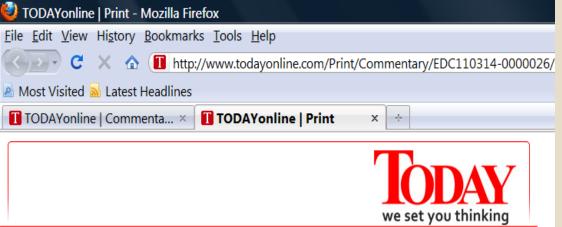
When the old master died, he was sold to another farmer.

This farmer told the donkey: there are two piles of grass for you to choose - the first pile is grass of high quality but the amount is small; and the second pile is grass of poorer quality but the amount is much more than the first. You can only choose one of them.

The donkey could not decide and in the end he was starved to death.

# What is the moral of the story?

- The Chinese word "得 失" (gain and loss) suggests that success and failure are always related.
- When making decision, one must balance the two.
- More importantly, indecision is not often possible.



#### Has Japan's elite learnt from the past?

Despite world-beating record in safety technology, Japan's handling of domestic disasters does not inspire confidence

04:46 AM Mar 14, 2011

#### by William Horsley

With Friday's devastating earthquake, Japan has truly felt the consequence of living at a flashpoint on the Ring of Fire, the network of deep seismic fault lines that circle the Pacific Ocean.

Suddenly the country which, for most of the past 50 years has been the proud leader of Asia's modern rebirth, itself became a victim on a massive scale. The most technologicallyadvanced country in the Asia-Pacific region, the main mastermind of many humanitarian aid operations across the wider region and beyond, has accepted emergency aid and support from the United States navy and other foreign countries.

But beside that spectacle of Japan's extreme vulnerability to natural disasters, another remarkable feature of Japanese society has been on display too: The extraordinary degree of social order - as well as trust in official authority - shown by the population in the face of terrible loss of life and severe disruption for millions.

The apparent faith of the Japanese in their government and emergency services is in some ways surprising, given that before the earthquake the administration of Prime Minister Naoto Kan, had - like all previous national governments in the past two "lost decades" - been seriously unpopular. Some are concerned that this faith may be misplaced.

Despite Japan's world-beating record in safety technology and advanced engineering, the record of the country's handling of domestic disasters, both natural and man-made, cannot inspire complete confidence.

SWIFT, SOBER RESPONSE

Japan has a troubled history of safety failures at its nuclear plants....In each of these cases - as with the Kobe earthquake investigators and critics later suggested that overly rigid management systems and a lack of any real culture of accountability were behind the costly and highly embarrassing failures.

Cover-ups have been much too common in the past...thanks to a pervasive "culture of shame" in Japan, which drives responsible officials, including elected politicians, to deny responsibility for failures until such time as they have lost face to the point where they realise that they must step down.





#### ine | Commentary | Nuclear crisis: Where did Japan go wrong? - Mozilla Firefox

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#### Nuclear crisis: Where did Japan go wrong?

Some say officials reacted too slowly, others question whether safety measures in place were enough

#### by Norimitsu Onishi, Henry Fountain and Tom Zeller Jr 04:46 AM Mar 14, 2011

sensitive to the ravages of nuclear destruction.

The official announcement that two reactors at an earthquakedamaged nuclear plant could be suffering meltdowns underscores the Japanese nuclear industry's troubled history, and years of grassroots objections from a people uniquely

Critics of nuclear energy have long guestioned the viability of nuclear power in earthquake-prone regions like Japan. Reactors have been designed with such concerns in mind, but preliminary assessments of the Fukushima Daiichi accidents suggested that too little attention was paid to the threat of tsunami.

It appeared that the reactors withstood the powerful earthquake, but the ocean waves damaged generators and backup systems, harming the ability to cool the reactors.

It was not until Sunday that the increasingly dangerous nature of the problems at the 40-year-old Daiichi plant became clear. While Japan may try to point to the safety of its newer facilities, concerns may run too deep, said Mr James Acton of the Carnegie Endowment for International Peace.

Decades ago, after the Chernobyl and Three Mile Island accidents, the nuclear industry tried to argue that newer reactors incorporated much better safety features. "That made very little difference to the public," he said.

Japan's status as the only target of nuclear attack, in Hiroshima and Nagasaki in 1945, adds to the public's sensitivity.



Q enlarge this photo

A hospital worker being checked for radiation exposure in Fukushima, AP

Fear among Japanese regulators over public reaction to such small releases may have delayed plant operators from acting as quickly as they might have, he said - a problem arising in part from the country's larger nuclear regulatory culture.

Q

4:05 PM

"They would rather wait and do things in a perfect manner instead of doing it as good as it needs to be now," Mr Diaz said. "And this search for perfection has often led to people sometimes hiding things or waiting too long to do things."



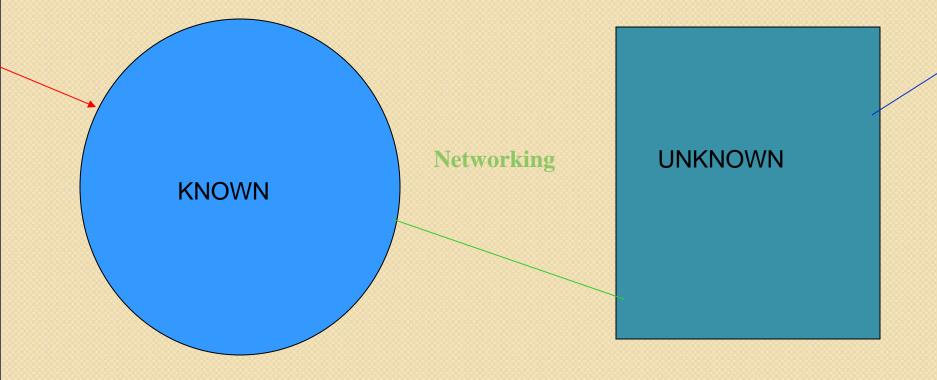


### "THERE'S ONLY ONE CORNER OF THE UNIVERSE YOU CAN BE CERTAIN OF " IMPROVING, AND THAT'S YOUR OWN SELF."



Aldous Huxley [1894 - 1963] English critic & novelist From Perfecting the Known to Imperfectly seizing the Unknown:

#### Perfecting the "Known"



Imperfectly seizing the "Unknown"

Perfecting the Known: The wisdom of Deng Xiang Xi, a Singaporean settled in New Syonan (Endau, Malaysia)



- How his son has mastered the mechanics of tractors without attending vocational training or being an apprentice to car workshop.
- How did he do it?
- "Mastering the invention (the known) cannot be more difficult than inventing it (the unknown)."
- Factors of time, learning curve (the traditional way of teaching) and cost (of investing in one such framing machinery).







# 5. Being Green

- Why the need to cut waste?
- From 4M to 4R Management
- Examples

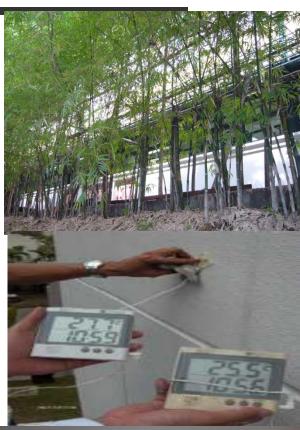


- Reduce: reduction in volume or frequency, increase in output (also volume or frequency due to less rejects), leading to cost saving or higher value.
- Re-use: More or less "cut & paste" without much changes or incurring cost, but new value created
- Recycle: Transformation of form and shape and even properties of object, usually require some investment of cost, may lead to new and higher value
- Recover: cut waste and create new value, the process may or may not need investment



### Reduce (Cut utility bills):

- Planting bamboos to screen excessive sunlight to Technical Block
- Painting external wall of repository block with nano-tech paint to reduce surface temp of repository walls
- Replacing halogen lights with LED lights in NAS lobby gallery
- Rooftop garden to insulate direct heat











### Re-use of water from Sprinkler Tanks (during annual cleaning/maintenance)



Draining of water to rainwater harvesting system for irrigation purpose before discharging to sewage system

# **Recycling of decommissioned museum exhibition** showcase



### Recover (and reduce as well)

- Rainwater through rainwater harvesting system for landscape use (NAS/RBC/MOFF)
- Use Solar power for exhibition lighting





Concluding Remarks

### **BACK TO SHARING...**



# **Sharing Apples**

"If you have an apple and I have an apple and we exchange apples then you and I will still each have one apple...."





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# **Sharing Ideas**

- "...But if you have an idea and I have an idea and we exchange these ideas, then each of us will have two ideas."
- Irish Playwright George Bernard Shaw

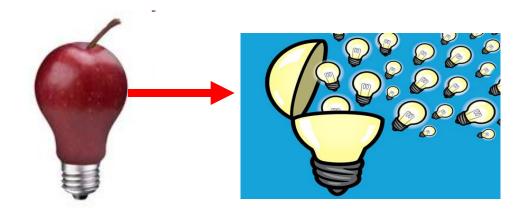


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# My Thoughts

 George Shaw may have underestimated the impact of sharing ideas. Sharing ideas often end up having many many more ideas especially in a forum like this.



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# I hope we have many apples after this.

0

