

Telecoms Infotech Forum

Brief papers

Telecoms and SARS: two brief papers from TIF and Telecomasia.net

July 2003

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Telecoms InfoTechnology Forum

TIF is an industrial and policy forum run by the Telecommunications Research Project (TRP) at the University of Hong Kong. Associate Professor John Ure is director of the TIF and TRP. The TRP provides background briefing papers for each TIF and posts these, together with presentations and proceedings papers, on the website <http://www.trp.hku.hk/tif>. Sponsorship of TIF is the source of funding of the TRP.

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and by Bloomberg who generously offer their splendid auditorium at the Cheung Kong Center for the forums.

The objective of TIF is to stimulate informed interest in the policy and regulatory aspects of information and communications technologies (ICTs), to foster greater transparency and a better understanding of the commercial and technological dynamics of the sector, its economic, social welfare and policy implications.

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SARS and Telecoms

In times of crisis the importance of infrastructure is second only to the skill and inventiveness with which people use it. Telecoms and IT provide a lifeline to people in need and a support to people and organizations as they try to cope with emergency situations. The following articles briefly record some of the telecoms and IT-related issues that arose during the outbreak of SARS. In sum those issues include

1. The role of telecoms and IT in the fight against SARS: this includes scientific collaboration in tracking down the causes and cure of the disease, its spread and containment, the help given to frontline medical staff to treat their patients and the support offered to keep patients in touch with their family and friends.
2. The role of telecoms and IT in keeping the community informed: this includes individual and collective initiatives by the community, such as the use of Web sites, as well as the role of telecoms and IT by the media, by network operators and by public and Government organizations.
3. The role of telecoms and IT in keeping things going: this includes the use of Web-based e-learning by schools and colleges, the use of teleworking and tele-commuting by offices, the level of technical redundancy capability in the networks, and the corresponding level of HR redundancy in organizations as they re-deploy their resources.

A. SARS and Telecoms

In May it scuppered China Netcom's telecommunications joint venture with IDG and Softbank, the first such Sino-foreign JV since joining the WTO. It pushed up the purchase of videophones in Taiwan by as much as 30 per cent. In April when Sunday Communications launched a service identifying buildings infected by it they received over 10,000 inquiries in the first two days. Because of it, Internet traffic in Hong Kong jumped by 20 per cent during the nighttime and by 100 per cent during the daytime as school pupils carried on their studies from home. News of it, and rumour of it, was spread by SMS north and south of the Hong Kong border. 'The ISD announced at 3pm today (Apr 1) that the Director of Health, Dr Margaret Chan, had clarified that there was no plan to declare HK as an infested area.' This SMS was transmitted 3 hours and 32 minutes later in an attempt to stop a general buying panic that followed a teenager's spoof webpage suggesting Hong Kong was to be declared a closed harbour. In Mainland China reaction to rumour spreading caused Shanghai Mobile to monitor any subscriber sending more than 100 SMS an hour.

But early on the lack of reliable information gave portals a newfound function as on 31 March when four Hong Kong IT engineers launched www.sosick.org to spread information about SARS to the community - in Chinese the website name sounds like the Song dynasty poet Su Shi. Only after this action had prompted the Hong Kong Government to start posting details of SARS-infected buildings from 11 April did they close the site. Internet portals on the Mainland reported SARS-related information inquiries as the number one search among China's 60 million registered Internet users,

with search engine Baidu experiencing a 9 per cent daily increase. Under the watchful eye of the China Securities Regulatory Commission, securities companies posted up SARS-related financial analysis as online trading and phone-trading showed the first signs of takeoff.

Once the scale of the threat was widely understood many large companies and organizations placed their staff on weekly shift working from home. To help companies set up teleworking and mobile work environments, the Hong Kong Computer Society and Microsoft Hong Kong set up a Work@Home programme. Business customers of Jardine OneSolution (JOS) received faxes telling them 'Work At Home solutions leverage a suite of IP telephony technologies to extend the coverage of LAN & office telephone features and functions to remote offices and home workers.' Business at the front end also saw the effects. Yahoo! Hong Kong experienced over 100 per cent increases in transactions and revenues. Sa Sa International, a cosmetics company, saw online sales surge 25%, especially of SARS-related products such as masks and hand moisturizers. HSBC's Internet banking transactions rose 40 per cent. On the downside, revenues from mobile roaming were down 30 per cent in Hong Kong. In China, all Internet cafes and places of entertainment such as games arcades were closed. Tom.com saw sports related business drop 10 per cent. Hotel occupancy rates fell to single digits, and with them traffic revenues.

For SARS patients, those in quarantine and their relatives, communications by phone was often the only way. On the other hand, monitoring of quarantine cases by electronic tags and webcams was the Singapore way. Despite these measures visitors from the East were not welcomed in the West, but a recent email gave an equally strong travel warning against going to Europe and America where, it was said, there had been a nasty outbreak of SLOPS, a Severe Loss Of Perspective Syndrome.

(TIF Brief)

B: The SARS Files

Asia's advanced telecom networks prevented a complete shutdown of the region's economy during the crisis of the last three months. Cellphones and videoconferencing allowed quarantined patients and medical workers to keep in touch with their families, while the number of teleworkers soared. But telcos had pressing problems of their own, as they fought to keep their operations running in the face of rising infections.

April 1, 2003: Panic seizes Hong Kong after the Ming Pao Web site reports the city has been declared an infected port, chief executive Tung Chee-hwa has resigned and the Hang Seng index has collapsed. Shoppers rush supermarkets and thousands look for a fast passage out of the city before the report is discovered to be false, placed on a Web site allegedly tricked out by a 14-year-old boy. The Hong Kong government sends an unprecedented mass SMS to 6 million cellular users to reassure them that the port has not been closed.

The telecom industry has not escaped the impact of SARS, which has cut a swathe through China and southeast Asia in the past three months. Motorola was forced to close a mainland Chinese plant, hundreds of telco staff went into quarantine, travel bans were imposed and major industry events were delayed or canceled. Yet the recurring theme in the region's battle against the killer virus is the role of modern communications technologies and Asia's telcos. It is only through the availability of broadband Internet, email, corporate VPNs and cellular mobile that the region has been able to continue functioning. Pre-Internet, Asia's economies would have all but come to a standstill.

The Net and the mobile phone have played critical roles in the unfolding drama. Medical researchers are using the Internet in the largest ever online collaboration to track down a disease. Quarantined patients and hospital workers have kept in touch with their families through mobile phones and video conferencing. A Hong Kong online forum, www.sosick.org, set up by locals to identify the location and spread of SARS, attracted 100,000 visitors in a couple of days, forcing the Health Department to follow suit. Cellco Sunday established a location-based service identifying nearby SARS-infected buildings.

Users in the stricken areas turned to the Internet in a big way. According to Nielsen NetRatings, the number of new Hong Kong Internet users increased by 13% in April - the first double digit increase in more than two years. For carriers, the SARS crisis period meant a steep rise in the use of video- and audioconferencing, broadband and IDD. It also saw a fall in demand for mobile. But the impact wasn't just economic. As one of the biggest employers, and with the largest customer-facing operations of any industry, telcos were in the frontline of dealing with the human side of the disease.

PCCW saw four confirmed SARS cases and sent home 12% of its workforce, while China Netcom in Beijing had to quarantine off one of its paging centers (see story "The battle within", p.19). The SARS crisis today appears to be under control. But the uncertainty and scale of the crisis put Asia's corporate leaders under massive stress.

As infections mounted and increasing numbers of staff were quarantined, telcos were no different. Says PCCW COO Mike Butcher: "If we could have got more information, more quickly more accurately, at least I could have felt that we knew what we were doing."

Tele-Aid

"Let's unite in the fight against SARS: wear masks, wash hands. Don't worry, be happy"

It's not the snappiest message, but the meaning of this canned SMS, offered by mobile operator SmarTone, is clear. Likewise, all Hong Kongers recognize Ah Chong ("The Worm"), the semi-mythical symbol of courage in adversity. An Ah Chong downloadable MMS (right) was one of a series of supportive MMS also offered by Smartone. The company donated 10% of the revenue from each SMS and MMS to the Hospital Authority Charity Fund.

The Hong Kong operator was not on its own. Around the region, telecom companies joined the community effort to help hospitals, health workers and patients. In Hong Kong, Hutchison Global provided free video phones for patients and their families at two hospitals and supported a free helpline for medical advice to its sister company, drugstore chain Watsons. PCCW offered videoconferencing at four hospitals, and set up free IDD, fax, Wi-Fi and Internet services at quarantine camps. It even set up a free storyline for children, who had been sent home from school, to call.

In Singapore, SingTel raised S\$750,000 (\$435,00) for the Courage Fund, which provides relief to those affected by the disease, and provided S\$20,000 worth of mobile phones and SIM cards. StarHub also gave to the Courage Fund, committing 1% of IDD revenue in May, and donated 1,200 mobile phones and 1,200 S\$18 prepaid SIM cards to hospitals.

China Netcom in Beijing supported the local Sino-Japanese Friendship Hospital with videoconference equipment, while 30,000 middle and primary school students in Beijing, Shanxi and Shanghai signed up for its free online courses. China Unicom kicked in 5 million yuan (\$605,000) in videoconferencing gear, 1 million yuan in IP phone cards and 300 CDMA phones. It also worked with basketball star Yao Ming, who promotes Unicom's CDMA service, for a telethon.

It wasn't just telcos who dug deep. Alcatel and China Mobile gave more than 1,000 mobile phones and SIM cards worth \$200,000 to Beijing hospitals and staff, along with ISDN video phones. Motorola president and COO Mike Zafirovski flew to Beijing to give away \$1.4 million in equipment and employee donations on behalf of the company.

Managing the loads

As any network load manager can tell you, there are two occasions on which traffic soars: one is special events like Chinese New Year or Mother's Day; the other is crises. SARS has been one long-drawn out crisis with the added element that it forces people not to see each other face to face. The result, as Asia Netcom COO Bill Barney puts it, is that SARS "actually was good for the industry, because when people don't travel they use the telephone."

Operators in the most stricken areas have seen increases in voice, IDD and Internet traffic. Audio- and videoconferencing services have also skyrocketed. Chunghwa Telecom's videoconferencing business in April grew 4.3 times over March and six times over February. StarHub's audioconferencing grew 50% in April. At peak times networks have carried massive extra loads. Chunghwa, Taiwan's biggest mobile provider, saw base station traffic soar 70% during the Hoping Hospital crisis in early May. In Hong Kong, 40% of all of PCCW's Internet customers were online at one time in April, according to company figures. This is translating into short-term revenue. In China, the country worst-hit by the SARS outbreak, this could mean a revenue increase of up to 9.5 billion yuan (\$1.15 billion) or 2%. That's under a worst-case scenario, in which SARS is not brought under control until the end of the year, according to MII's Institute of Communications Policy. Even under the best-case scenario, which sees the SARS crisis ending by June 30,

the institute forecasts an extra 4 billion yuan (\$438 million) in revenue, the South China Morning Post reported.

Shanghai Telecom signed up 25,000 new subscribers to its broadband services within a two-week period from late April to mid-May, the Shanghai Youth Daily reported. This compares with 7,000 or so who signed up each week in March. Research group Gartner sees a short-term boost to fixed line and broadband operators, and some temporary pain to cellcos as they lose roaming revenue. The SARS crisis has stimulated demand for broadband and videoconferencing in Hong Kong, China and Singapore, Gartner says. "Beyond that, SARS will legitimize teleworking and help convince businesses to support technologies that require broadband connections," said a Gartner research note.

PCCW said the most sustained change in demand is for business continuity services. It offers a package for corporates that enables 300 lines to be switched over in as little as 45 minutes, plus webcasting and conferencing solutions. But the slowdown in the economy and the sharp decline in roaming revenue is hitting the bottom line of mobile companies. China Mobile gained only 1.7 million new customers in April - well down from its average monthly of 2 million adds. China Unicom numbers were down 3% to 1.74 million for the month. CLSA Emerging Markets warned that the "full impact of SARS" on subscriber growth would not be seen until the May figures were issued. Still, the company maintained its forecast for China Mobile's customers to expand to 143 million in 2003. Hong Kong's Peoples Telephone said its roaming revenue was down 30% in April. Ziggy Switkowski, CEO of CSL's parent Telstra, said SARS would help put "downward pressure on CSL revenues, and I expect we will see the consequences of that in the fourth-quarter numbers."

The battle within: dealing with SARS at work

Telcos are often accused, with some justification, of being too big and too technology-centric to be able to deal sensitively with customers and employees. But the SARS crisis has meant carriers in Taiwan, Hong Kong, Singapore and the Chinese mainland have had to put the well-being of staff and customers before all else.

The outbreak took PCCW, Hong Kong's biggest carrier, almost to the brink. At the height of the crisis, with 317 staff in quarantine, senior executives began wondering whether the company would be able to continue its operations. "It got slightly panicky for about a week," admits chief operating officer Mike Butcher. The level of infections and quarantine at the telco were higher than the community at large. Between late March and mid-May, PCCW sent home 1,400 out of a workforce of 11,600. That included four confirmed SARS infections and 60 pregnant women (the SARS drugs have a severe effect on embryos) as well as hundreds of staff suspected of being infected or being in contact with an infected person. At that time, in mid-April, said Butcher: "We were thinking, this is not slowing down. We started looking at other implementation strategies."

Accustomed to creating redundancy in its network, PCCW had to make its entire business processes redundant. All work functions were split into two locations - from billing call

centers to lawyers. The company adopted a "zero-risk" policy. If a staff member were suspected of having atypical pneumonia, he or she and all their fellow colleagues would be quarantined. In one incident 80 staff were sent home as a result of a single suspected case.

Lack of information

Butcher's prime concern became the number of staff who were taking accrued leave. What if they finished their leave and were still unwilling to come back to work? "If we say OK, take unpaid leave, suddenly we have 2,000 to 3,000 people off work. We thought, if this keeps going the way it is going, we face some tough decisions in the next two months" Fortunately, the outbreak stabilized and people in the community had confidence it was coming under control.

But Butcher said one of the biggest frustrations was a lack of information. "It was impossible to get 'clear and concise information' about basic aspects. Just what was the disease? What was the transmission mode: What were the major things to watch out for? "We were dealing with something where there was not a lot of factual information around." In the early stages the company relied on a slide presentation put together by medical staff from another corporation.

The only other carrier to see the quarantining of staff was China Netcom, which runs the incumbent carrier in badly-hit Beijing. It had to quarantine 66 employees from its paging center from May 2, the company said. Broadly, Asian carriers adopted similar measures in response to SARS. They disinfected offices and switching centers, required the wearing of masks in customer service centers and on outcalls, reduced face-to-face customer contact and banned non-essential travel. But there were regional differences. CNC employed "mass campaign" tactics commonly used in communist China, adopting the slogan "use science to defeat SARS" coined by CEO Edward Tian.

SingTel required visitors to its premises to sign a health declaration, as is the rule for all buildings in the republic. All staff were issued with their own thermometer and were required to take their temperature daily. Staff and customers entering Chunghwa Telecom buildings in Taiwan were also required to have their temperature taken. In China, the Ministry of Information Industry (MII) stressed the need to "carry out the spirit of the important Three Representative Theory and of the 16th Party Congress" in combating the virus.

When disaster strikes, branding counts

How should a business and its brand respond to a crisis such as SARS? When a disaster breaks, businesses tend to want to stay on the sidelines, but some brands have an important role to play, says Neil Cotton, Asia-Pacific strategy director for Bates advertising agency. Cotton, who has studied the 9/11 terrorist attacks and the SARS outbreak for his clients, says it depends on the nature of the crisis and a brand's relationship to it. "If it's a financial crash in Asia, and you are in the financial world, that puts you in a certain position of having some responsibility," he said. "If you are a cake shop or Gucci, you don't have any involvement."

At crisis time, brands fall into three categories, says Cotton. At one end is those who are directly involved - such as American Airlines and United Airlines in 9/11. At the other end are, say, fashion or fastfood chains, who have nothing to do with it. In the gray middle are those who might have a role to play. For example, GE ran a series of patriotic corporate ads shortly after 9/11. "GE could do that because it's a national institution," said Cotton. On the other hand, the Subway sandwich chain aired similar ads, but which didn't work because the company didn't have that kind of status. "I think the instinct of brand owners is to pull away, thinking 'people don't buy during a crisis, so don't advertise'. But in many ways advertising is not just about selling products."

The SARS outbreak is quite different from the World Trade Center attacks and the financial crisis. "9/11 was a traumatic event, and it happened and at the end of the day everyone knew it had happened and it didn't happen again. "SARS is fairly difficult because you don't really know when it is going to be over. It's such a protracted thing, and every week it is a little bit different."

Still, companies need to behave according to their relationship to the virus outbreak. Cotton says airline Cathay Pacific is a good example of a company responding in a public but appropriate way. As the Hong Kong flag carrier it has an iconic status for the badly-hit travel industry and for the city as a whole. "It is directly affected by the travel and tourism slump, but it has done a good job getting involved in charitable business like the 'I love Hong Kong' campaign. "They went out and gave a lot of information to people, and appear to be doing things."

Lent infrastructure

And telecom companies? Telcos tend to fit into the middle category. They are not directly involved but they have an important role to play. "They have lent their infrastructure and contributed in pretty smart ways, like donating equipment and giving free minutes. That makes sense," says Cotton. There isn't much of a public role for handset-makers and even less for infrastructure vendors - except to try to keep business going as usual. "It is bad when clients pull their money and run to the hills," says Cotton. Mobile phone leader Nokia is a good example for not pulling its ad budget, says Cotton. "They are trying to carry on and build sales as normal. That's the best thing they can do."

ANOTHER VIRUS

April 23: Anti-virus companies report a new mass-mailer worm, Coronex-A, which entices users by purporting to have urgent SARS-related information. It includes attachments with labels such as "Severe Acute Respiratory Syndrome", "SARS Virus" and "Hongkong.exe".

CANCELED

May 1: The giant CommunicAsia industry event, usually held in June, is called off. The CDMA 3G World Congress is transferred from Hong Kong in early June to Bangkok in November.

CRACKDOWN

May 13: Chinese officials crack down on SARS-related text messages, claiming SMS rumors are creating social instability. Monitoring through the China Mobile and Unicom gateways gives notice of a user sending more than 100 SMS in an hour. Twelve people are arrested for allegedly sending "rumors", such as claims that martial law was about to be imposed and that crop dusters were going to spray Beijing with disinfectant.

ONLINE RUSE

May 14: Average Hong Kong Web page views increased 44% in April, while the time online leapt from 15 hours 12 minutes to 22 hours 39 minutes, Nielsen/NetRatings reports. Traffic to health sites was up 114% and to education and banking sites are 36% and 27% higher respectively.

SARS TV

May 21: Singaporeans can now watch a dedicated SARS cable channel. The channel broadcasts 12 hours a day of news and government health messages on the disease. It is provided free by telco and cable company StarHub in partnership with MediaCorp and Singapore Press Holdings.

THE AMOY CONNECTION

March 31: PCCW's HR department independently determine a link between the SARS virus and the Amoy Gardens apartment complex, the biggest single site of infections. The company imposed a quarantine on the 28 staff who lived there, a week before the Hong Kong government imposed a quarantine on the building.

**(Robert Clark, Group Editor
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