Why the silo effect makes us stupid

Gillian Tett, (AFR, Week-endFin, August 29 - 30, 2015)

The fate of Sony's digital Walkman was an early parable for the age of silo thinking at work: a trend that has led to a string of other corporate disasters. But, argues Gillian Tett, there's another way.


Why are we captured by silo thinking? Journalist and author Gillian Tett gives the answer in a provocative new book in which she argues that silos are what get in the way of innovation and thinking that produces solutions.

The mood in the vast, majestic Venetian ballroom in the Sands Expo and Convention Centre in Las Vegas was hushed and excited. Hundreds of technology journalists and electronics experts sat before a huge video screen, suspended on a stage between ornate pillars and red velvet curtains.

The lights went down and a giant animated mouse appeared on the screen, whiskers twitching; it was a character from *Stuart Little*, a hit children's film of 1999.

With a squeaky voice, the mouse announced some of the recent creative triumphs of Sony, the Japanese electronics and media group. "But you don't just want to hear from me! Oh no! I gotta get out of the way for Nobuyuki Idei—Ideeeeiiiiii," the mouse squeaked, as he leapt around a cartoon kitchen. "The CEO of Sony, Soniiiiiiii!"

A tall, solemn, distinguished Japanese man stood up. The laughter died away. Once a year in November, the titans of the computing and electronic world gathered in Las Vegas for the Comdex trade fair for the computing industry. Just the day before, on November 13, 1999, Bill Gates, the legendary founder of Microsoft, had declared in a speech that the world was on the verge of an Innovation Revolution 3.
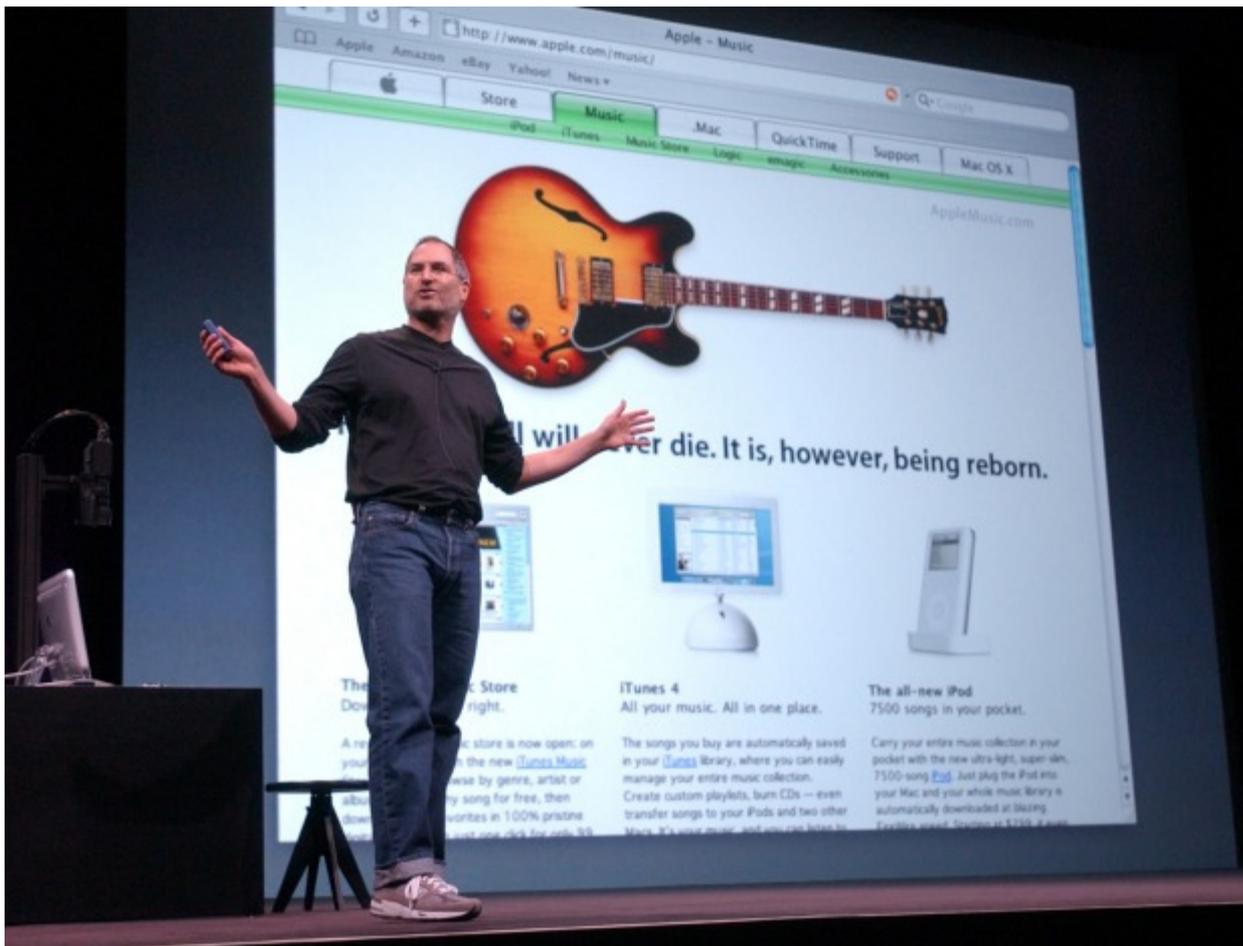
In late April, 2003, Apple chief executive Steve Jobs launched the company's new online "Music Store" and new iPod in San Francisco. The two inventions, which changed audio history, were a direct result of Jobs' refusal to allow silos to flourish inside Apple. And so, unlike Sony, Apple thrived instead, writes Gillian Tett in her new book.

Now Idei was due to make the second big keynote. The audience was eager to hear how Sony would respond to this upheaval.

Twenty years earlier, the Japanese group had earned extraordinary success by launching the popular Sony Walkman. The device had changed how millions of consumers listened to music, and earned Sony a reputation for being a hotbed of innovation.

In the 1960s and 1970s it had produced radios and televisions, in the 1980s there were camcorders, digital cameras, and video recorders, and in the 1990s Sony had jumped into computers and developed a vast music and film empire based out of America, generating hits such as *Star Wars* and *Stuart Little*.

But could this successful corporation adapt to the internet? Could it produce another hit like the Walkman? Idei knew that expectations for his speech were sky-high. He was determined not to disappoint.

In 1999, Fumiko Kagaya, an employee of Sony Marketing, displayed MS Walkman, Sony's new generation digital Walkman weighing only 69 grams. It should have made Sony's fortunes but internal contests doomed it. *Chiaki Tsukumo*

"The internet and high-speed connection networks are both a threat and opportunity for us all," he solemnly told the audience, likening the digital revolution to "the giant meteor that destroyed the dinosaurs" many millennia ago, in terms of its potential impact on traditional companies. "What we are and will be is a broadband entertainment company," he added in careful, precise English.

Next to Idei, on the Venetian ballroom stage, sat George Lucas, the film director. "I am playing hooky from writing *Star Wars Episode 2*!" he declared, sparking laughter across the ballroom, before explaining that Sony's new products were transforming how *Star Wars* and other films were made.

"Whatever I can imagine, I know I can put on the screen somehow. This is it. This is the revolution, and I'm in the middle of it. It's a great time to be alive."

The 2010 explosion on a BP rig in the Gulf of Mexico caused massive damage - and provoked fury amongst those affected. Investigators later discovered BP was a company beset by numerous bureaucratic silos. *Larry Downing*

Sony seemed poised to dominate ...

The excitement in the hall mounted. The Sony executives unveiled more gadgets, such as a new PlayStation console. Then Steve Vai, a wild-haired guitar virtuoso, appeared on stage. He cut a sharp contrast to the impeccably neat, white-shirted Japanese executives. But Idei turned to Vai and asked him to play something. Chords ripped through the hall from his guitar.

Then Vai casually pulled out a little device, the size of a packet of chewing gum, and revealed that this was yet another Sony invention: a digital music player called the Memory Stick Walkman.

Howard Stringer, a British man with a cherubic face, who was running Sony's operations in America, stood up and took the device. "Listen!" he said, speaking with the clipped, upper-crust British accent sometimes dubbed "BBC English". The device was tiny. However, the chords were crystal clear. The audience applauded.

The watching journalists and technical experts suddenly understood what was going on: the same company that had changed how the world listened to music back in 1979 by launching the Walkman was attempting to repeat the same trick. This time, however, it was producing a digital version of the Walkman, suitable for the internet age.

The Great Financial Crisis was helped along by the great fragmentation of the financial system which made it impossible, writes author Gillian Tett, for anyone to take an interconnected view of how risks were developing. *Vincent Yu*

Would it work? On that exuberant day in the Venetian Ballroom in November 1999, most observers would have said "yes!" After all, Sony seemed to have absolutely everything that a company might need to build a 21st century successor to the Walkman: creative consumer electronics engineers, slick designers, a

computing division, expertise with video games, and it owned a music label bursting with famous artists such as Michael Jackson and Vai.

No other company had so many advantages under one roof: not Samsung, Microsoft, Panasonic, or Steve Jobs's Apple. Sony seemed poised to dominate the next stage of portable music.

But as the audience sat, gazing in awe, something peculiar occurred. Idei stepped forward and waved a second device. It was a Vaio MusicClip, a pen-size digital audio player. He explained that this device had also recorded the guitar music. The chords from Vai's guitar pierced the hall again. Sony had just produced not one – but two – digital Walkmans.

By the standards of normal corporate strategy, this was profoundly odd. When consumer companies unveil new products, they tend to keep the presentation simple, to avoid confusing customers (or their own salespeople).

Typically, they only offer one technology at a time in each specific niche. That was what Sony had done with the original, iconic Walkman. But now Sony was unveiling two different digital Walkman products, each of which used different proprietary technology. (And soon after the company produced a third offering, known as the "Network Walkman".)

A sign of coming disaster

To the audience sitting in that Las Vegas hall in 1999, the risks of that strategy were not immediately clear. The plethora of devices was taken as a sign of the company's eclectic, creative genius. But years later, when some of Sony's own leaders looked back on that day, they realised that it had been a watershed; or, more accurately, a sign that a once-successful company was sliding towards disaster.

The reason Sony unveiled not one, but two different digital Walkman devices in 1999 was that it was beset with silos: different departments of the giant Sony empire had each developed their own, different digital music devices.

None of these departments, or silos, was able to collaborate with each other, or agree on a single product approach. The different digital walkman products thus competed with each other, and cannibalised each other. That, in turn, made the products far weaker than anything Sony had produced before: they had none of the dazzle or confidence sense of dominance that the original Walkman had displayed.

Indeed, the products were so weak that within a couple of years they had disappeared. Sony, which had once appeared so utterly dominant in the world of portable music with its Walkman, had completely failed to move into the digital Walkman age.

That was embarrassing. But what was worse was that the problems which were besetting the digital Walkman reflected a much bigger trend: right across Sony, different teams were competing with each other, creating a widespread sense of decline. And the only thing that was more startling than the presence of these silos at the time was that so few people inside Sony could see just how dangerous the situation was.

Some of the managers and staff were worried. Indeed, in the year after the digital Walkman disaster, Stringer, the British man running the Sony American operations, threw himself into the task of fighting the silos, with sometimes comical results.

"What went wrong at Sony? Silos were a big part of it all," Stringer later observed.

However, at the time that Sony launched its digital Walkman, most of the employees were so used to the silos, that they barely noticed them at all or questioned why Sony was launching two, not one, products. They were filled with a sense of wild success – and so used to their company's own bureaucratic structures – that they could not see risks developing under their own nose. Or, more accurately, on their ears and in their pockets, in the form of the clever gadgets that were emanating from Sony's great rival, Apple.

A 21st century paradox

So why were the staff at Sony seemingly so stupid? Why did the company lose the battle to create a digital Walkman – when it seemed so natural for them to win?

There is a big cautionary tale here, and not just for company executives in the electronics field, but almost any public and private sector field. For if you look around our modern world, it is clear that the story of Sony is not at all unusual; on the contrary, it is alarmingly commonplace. For our 21st century society is marked by a striking paradox.

In some senses, we live in an age where the globe is more interlinked, as a common system, than ever before. The forces of Greatisation and technological change mean that news can flash across the planet at lightning speed. Digital supply chains link companies, consumers, and economies across the globe. Ideas – good and bad – spread easily. So do people, pandemics, and panics.

When trades turn sour in a tiny corner of the financial markets, the global banking system can go topsy-turvy. "The world has become a hum of interconnected voices and a hive of interlinked lives," as Christine Lagarde, head of the International Monetary Fund, observes. "[This is a] breakneck pattern of integration and interconnectedness that defines our time."

But while the world is increasingly interlinked as a system, our lives and minds remain fragmented. Many large organisations are divided, and then subdivided into numerous different departments, which often fail to talk to each other – let alone collaborate.

People often live in separate mental and social "ghettos", talking and coexisting only with "people like us". In many countries, politics is polarised. Professions seem increasingly specialised, understood by a tiny pool of experts. Silos proliferate; or at least they do if you take the word to mean the presence of self-standing independent entities that seem semi-detached from the wider system.

It is not difficult to work out why these patterns exist: we live in such a complex world that we need to create structure to handle this complexity. Moreover, as the flood of data grows, alongside the scale of our organisations and complexity of technology the need for organisation is growing apace.

The simplest way to create a sense of order is to put ideas, people, and data into separate spatial, social, and mental boxes. Silos help us to tidy up the world, classify and arrange our lives, economies, and institutions. They encourage accountability.

But silos can also sometimes cause damage. People who are organised into specialist teams can end up fighting with each other, wasting resources. Isolated departments, or teams of experts, may fail to communicate, and thus overlook dangerous and costly risks. Fragmentation can create information bottlenecks and stifle innovation.

Above all else, silos can create tunnel vision, or mental blindness, which causes people to do stupid things.

The world around us is littered with examples of this. I first started thinking about silos, for example, when I was running the markets department for the *Financial Times* in 2008.

When geeks don't talk to each other

When the Great Financial Crisis erupted many people blamed this on banker folly or greed. But there was another crucial problem too: the financial system was so fragmented that it was almost impossible for anyone to take an interconnected view of how risks were developing in the markets and banking world.

Gigantic financial companies were split into so many different departments, or silos, the leaders who were supposed to be running the groups did not understand what their own traders were doing. UBS was a case in point: although the Swiss bank prided itself on being ultra conservative and risk averse, it ended up running terrible risks with sub-prime mortgage portfolios because the traders in New York did not know what the traders in London were doing – and vice versa.

But this is not just a problem affecting banks. In 2010, BP revealed that one of its rigs had suffered an explosion in the Gulf of Mexico. As oil spurted out into the sea, causing terrible pollution, recriminations flew around. Then, as investigators dug into the issues, a familiar pattern started to emerge: BP was a company beset by numerous bureaucratic silos, with technocratic geeks scurrying around in specialised fields.

Similarly, when investigators dug into the reasons that the CIA and other intelligence services failed to foresee the threat posed by al Qaeda in 2001, they found a pattern where individual departments hoarded data and did not share it across the group.

When reporters in Britain investigated why the National Health Service had made so many disastrous decisions over the procurement of IT systems between 2008 and 2011, it emerged – once again – that the managers who were ordering IT systems in one department had not consulted anyone else.

When there was an outcry over the computing glitches that dogged the launch of healthcare.gov, the insurance website that the administration of President Barack Obama launched in late 2013, a similar pattern emerged.

It was the same tale in the spring of 2014 when General Motors admitted that some of its compact cars, such as the Chevrolet Cobalt and Pontiac G5, had been fitted with a faulty ignition switch that could flip from the "run" position to the "accessory" position while driving, cutting the engine power and disabling the airbags.

The company admitted that some engineers had been aware of this fault since 2001 and had known that it would have cost a mere 90¢ per car to fix it. However, they had not changed the switch, even as people died in car crashes, because the information about the switches sat in one tiny, bureaucratic silo. Worse still, the engineers who handled the switches had minimal contact with the legal team that was worrying about reputational risk.

"We have to find a way to break these silos down," Mary Barra, the newly appointed CEO, lamented to staff.

How to be a silo-buster

So is there any way to break these silos down, as executives such as Barra would like? If you look around the corporate and public sector world, there are certainly some steps that institutions have taken in recent years.

Take Facebook, for example. In recent years it has tried to learn lessons from Sony's decline and introduced a host of policies to fight silos: it constantly moves computer programmers between different teams to ensure that they take a joined up view of the company as a whole, forces people to collaborate with each other and creates venues to ensure that employees collide.

Other institutions, such as Cleveland Clinic, a gigantic hospital in Ohio, try to break down silos by trying to reimagine the classification systems in its activities: instead of dividing medicine into doctor specialisms (such as "surgeon" or "physician") Cleveland organises itself according to body parts (or how patients, not doctors divide the world).

Institutions can use the incentive structure to break down silos: BlueMountain Capital, a hedge fund in New York, for example, pays its staff according to how they perform collectively, rather than on individual profits, to encourage its traders to take a joined-up view of the markets.

Technology can also sometimes help: not only can powerful computers enable staff to communicate with each other, but computers can be used to rearrange the data we have about the world. In New York City Hall, for example, some pioneering bureaucrats have made government work better by breaking down the silos in the city's data base – and combining information in unusual ways.

However, another way to tackle silos is to get a wider sense of vision. And one tool that can help in this respect is the discipline of anthropology.

This is not a field that normally springs to mind when people think about silos; indeed, anthropology is not widely known out of the corridors of universities. However, silos are fundamentally a cultural phenomenon which arise because social groups and organisations have particular conventions about how to classify the world.

Why we can't help classifying

And anthropology is a discipline which tends to think a lot about classification systems. That is because anthropologists know that the process of classification is fundamental to human culture.

"Anthropologists are culture-vultures; but not in the way this phrase is usually used," as Stephen Hugh-Jones, a British anthropologist, explains. "For anthropologists 'culture' is not a matter of refinement of tastes or the intellectual side of civilisation; it is the commonly-held ideas, beliefs and practices of any society of any kind."

Anthropologists are thus good at putting classification systems – and silos – in perspective. They also know that there is always more than one way to organise the world. We might think that our cultural practices are inevitable, but they are not: if we are willing to step back from our culture and look at how we classify the world with new eyes – perhaps by comparing it to something else – we can escape the type of tunnel vision that beset a company such as Sony.

You certainly do not need to be an anthropologist to get this wider perspective.

But the key point is this: the real trick to mastering silos lies in having the ability to question boundaries, challenge classification systems, and try to reimagine the world.

Silo-busters are not just blind creatures of their own cultural environment, but are able to imagine alternatives. And the more that some people – and institutions – are damaged by silos, the more opportunity this can create for people who can silo bust.

Unconnected skills; later success

Steve Jobs did not ever call himself a "silo-buster" in any explicit sense. Nor did he view himself as an anthropologist. But throughout his career he had an innate way of jumping across boundaries and challenging the rigidities he saw.

When he was at university, at Reed College in Portland, Oregon, he dropped out of his formal studies. However, he continued to hang around the campus and dipped into creative classes, including a course on Japanese calligraphy.

At the time, it seemed to lack immediate benefit. But years later, when he was creating his designs for Apple computers, Jobs realised that he had created his winning designs by blending his training in information technology with the seemingly unconnected skills he had learned with Japanese brushstrokes.

"If I had never dropped in on that single calligraphy course in college, the Mac would never have had multiple typefaces or proportionally spaced font," Jobs later told students at Stanford University. "You can't connect the dots looking forward; you can only connect them looking backwards."

Music was another case in point. Around the same time that teams at Sony starting exploring ideas about a digital Walkman in 1999, Steve Jobs, the CEO of Apple, sat down with a team of engineers to try to create his own digital music experiment.

However, Jobs did not let the Apple engineers do that in separate departments. Jobs ran Apple with an autocratic style, and was opposed to the idea of creating silos in the company, since he feared that these just created incentives for managers to protect existing product ideas and past successes, rather than trying to jump into the future.

He believed that Apple should only ever produce a tiny collection of items, meaning that products which were becoming outdated should be killed off to make space for new ideas.

One P&L

"Jobs did not organise Apple into semiautonomous divisions; he closely controlled all of his teams and pushed them to work as one cohesive and flexible company, with one profit-and-loss bottom line," Walter Isaacson wrote in his 2011 biography of Jobs. Or as Tim Cook, Jobs's successor, later said: "We don't have 'divisions' with their own P&L. We run one P&L for the company."

So when the Apple engineers pondered the future of digital music, they brainstormed a series of ideas across different product categories.

Swapping ideas across different boundaries at Apple turned out to be fruitful.

Initially, the Apple engineers tried to create a gadget that was broadly similar to a Walkman but with internet connectivity, namely a "one-step" digital music player, which would enable users to download songs from the internet, and then play these wherever they chose.

But they quickly realised this one-step approach had a big drawback: the technology of the time demanded so much computing power to store and edit music that any portable one-step device could only hold a limited selection of songs. Worse still, if they used a proprietary technology to store music in a compressed form, this would not be compatible with most music libraries.

So the Apple engineers debated the issue and eventually decided to use an innovative two-step solution. The first step required consumers to download music from the internet on a computer such as an Apple Mac. They could then edit their selection of songs into a playlist. Then, in the second step, consumers could transfer the music to a small portable listening device, that enabled consumers to enjoy the music lists they had assembled.

The beauty of this two-step process was that a device that just enabled consumers to listen to music did not need much computing power, unlike a device that edits or downloads songs. So Apple could keep the gadget very small.

The art of deep collaboration

As a side benefit, this two-step process also encouraged consumers to use another Apple product, the Apple Mac computer.

"The phrases [Jobs] used were "deep collaboration" and "concurrent engineering," Isaacson observed. "Instead of a development process in which a product would be passed sequentially from engineering to design to manufacturing to marketing and distribution, these various departments collaborated simultaneously."

Then the Apple engineers blurred the product lines further to deliver more innovation. The Apple engineers knew that the music companies had no incentive to help consumers download music over the internet, because they feared that people would listen to music for free. So Jobs and his colleagues hunted for a way to combat this piracy and bring the music groups on board.

Eventually they hit on the idea of creating an "iTunes store", a website where music companies could sell songs to consumers for a nominal fee of 99¢. This produced far less revenue than CD or record sales. But it did at least provide music groups with some royalties, and gave them more incentive to cooperate.

And to boost sales, the Apple engineers designed the platform so it could be accessed by anybody, using any technology, not just Apple products. At Sony, by contrast, digital music systems relied on proprietary technologies.

So in 2001, Apple launched its own portable digital music device, the iPod. This gadget was so tiny and elegant it could fit into a shirt pocket, and it could store such a vast array of songs that it was marketed under the tagline "1000 songs in your pocket".

It became a huge hit. Within a few months the word "iPod" had not only become a powerful brand in its own right, but defined an entire product category, in much the same way the original Sony Walkman had done. Eventually Sony conceded defeat and withdrew its inferior, competing offerings from the market.

Silos had destroyed the dream of creating a "digital Walkman"; but silo-busting had created the iPod.

It is a stark warning to any gigantic company that seems flush with success today, or any other big bureaucracy; but it is also a source of inspiration for anyone in the business world who wishes to compete – and who is willing to start by thinking about how silos shape our world.

The making of an author: Gillian Tett's story

I have spent the last two decades working as a financial journalist, and that background makes me fascinated by the way that seemingly bright people in big institutions can sometimes do stupid things because of silos. This book draws on that background, by telling the tales of the problems that silos can pose.

But I have a rather odd background to work as a journalist: in the early part of my life I did a PhD in the field of cultural anthropology, or the study of human culture, at Cambridge University.

This led me first to Tibet, and then down on the southern rim of the former Soviet Union, in Soviet Tajikistan, where I partly lived between 1989 and 1991 in a small village. There I studied marriage practices and used these as a tool to understand how the Tajik had retained their Islamic identity in a (supposedly atheist) communist state.

For many years, as I worked as a financial journalist, I was wary about revealing my peculiar past. Knowing about the wedding customs of the Tajiks does not seem an obvious training for writing about banks; a degree in economics, finance or an MBA is more normal.

But these days I have come to realise that anthropology can be extremely useful. After all, we learnt during the Great Financial Crisis that finance and economics are not just about numbers. How we organise institutions, define social networks, and classify the world has a crucial impact on how the government, business, and economy function (or sometimes do not function, as in 2008).

Studying these cultural aspects is thus important. And the lens of anthropology is also useful if you want to make sense of silos. After all, silos are cultural phenomena, which arise out of the systems we use to classify and organise the world; and the best way to fight tribalism and tunnel vision is to notice that silos exist; and then try to imagine alternatives.

AFR Contributor