

## Interview transcription

Date: 17<sup>th</sup> July 2014 (3pm – about 4pm : 68 min.)

Interview Instrument: skype

Interviewee: VL, Interaction Designer at US based 'M' tech company

### 1. How long have you worked for MS so far?

I've been hear about a year. So...and I was in Skype link in 2005 when I was doing in ebay.

Dynamics in digital ecosystem –M&A

So, it's interesting research you are doing. I mean, yes, I think the point that I want to tell you about is say thing...I don't know about whether I am a good candidate to ...kind of back it up , to be honest

Organization culture differences between E & W is intrigued

Personal perception is reflected through multiple experience

### 2. No, you are already good enough to be my candidate, when I saw your profile. Whatever you have some idea about the Eastern and the Western organization, even just your own project, you can tell me about what you have done....so...

So, I think...when I worked in Sony, this was really big thing. I think what you' re doing is very...it's ...I cannot understand where it comes from ...it's ...you know...Sony is very big element to understand between the Western Society and the Eastern society, especially, focus on consumer development, right?

Sony as big element to study cultural differences between the East & West

Reflecting geo-difference in a large organization – between East and West

digital consumer electronics development can represent the complexity of large organization

But what I want to say is firstly, my experience is the way...the definition of culture is based on methodology or kind of process. I don't think that there is that much difference based on geographical difference.

Culture refined as methodology and process in work practices of organization

Geo-differences can be diluted in work practices

And...for me...I think there is a level where I had in beginning I think...there is ...Asian in this way...you know...for instance, both Japan and China very aggressive and they are kind of like resource heavy, so you have people spend a lot of time to do this.

Asian work practices- China, Japan- in organizations differ from the Western

Aggressive attitude in project

Resource centric : cost to be spent

More time consumption : quantity of work is valued

There is lots of culture of duty...there...so people commit 9 o'clock in the morning and even myself staying past 12 o'clock and engineers you know...say..."I have to finish this...."and you know...work through extra hours. And they focus on people kind of pushing forward from duty aspect you know...

Japan : shown commitment to works: duty valued

Extra hours working is commonplace

Heavily time consumed for project- e.g. engineers

Pushing towards commitment

Interaction designer heavily working with multiple professional bodies – e.g. engineering

China is also similar in that way...you know...it's kind of like ...how to explain this...it's...they feel like through pushing that resources...they kind of achieve anything. We have more people on this project...you know...we have more...you know...people feel like we need to finish off and then push themselves lot more etc...etc..." we can resolve this...we can make better product..."

Chinese organization shown similar patterns – commitment(duty based); resources is heavily valued

More resource is meant for more humans

Completion of a project itself is more valued :

Pushing forwards individuals : sacrificed – The more pushing the better outcomes can come out

well...I think ...in the...Nokia, for instance, ...in the American culture, it's very different in terms of...you can make 7o'clock in the morning and you have meeting , you tell people how progress what you work on...how progress you working...how progress some promotion...and you off at 4o'clock

Western- Nokia : quality work valued : less working time – extra working time is not often

Work progress carried out like agency between individuals – meeting and reporting

Individuals are less dutiful

**It seems very flexible in terms of working hour?**

Yeah, the reason that I mentioned is...you know...American...Western society ....I think...we are more ...I am trying to make this about geographical elements too...kind of difference between the East and the West in my experience....obviously, in terms of the West...it's very kind of 'Hedonistic' approach...like ....(inaudible)...so...when you work within...

Cultural differences distinguished in mentality

Western – hedonistic approach based in organization

I think...it's very much about...what it is for me, what I get about...in ...Japan is obviously geographically Shin-to based culture. So ...you know notion of respecting...notion of trying to be considerate dutiful...so, that has kind of types of approaches. I don't know this is about ...this can be helpful for you or not?!

Asian organization based on collectivist & larger power distance

Japan: Shin-to based : respecting is common but duty is more heavy

### **3. What do you think about platform you have worked on – Sony TV, Nokia IoT project, MS projects-? Because platform projects seem to have long term visionary aspects for doing so. Do you find any differences between the Eastern and the Western? For instance, for me...Sony platform...is...seems to be...**

Yes!! Sony platform is not fantastic platform.

Sony lacks of organizational capability of setting long-term visionary platform

I think...this is my...I think...as I mentioned to you, I am an interaction designer...so interesting aspect...of...Sony is...a hardware company.

Sony regarded as heavy hardware company

Interaction design shown challenges in hardware – centric company

Nokia...Nokia and Sony tend to operate very similar. Now when you consider that industrial design facility? When you consider that design language and brand? When you consider that color material...library? That top! top! Companies in the world. If you want an industrial product ...yeah... If you got Nokia design team and Sony design team, I guarantee you get the very best. You have A-class master surface, you have the best facility for the product...now...when it comes to production... it's different world, right?

Hardware-centric company heavily invested the infrastructure for hardware design(Nokia& Sony)

Design language, branding – tangible asset

Color material, surface & the library – resource for tangible product outcomes

And then...their approach they took to software is also be very hardware oriented. In organizational based...the project where I worked in but I started off not as a kind of...OK!! Sony makes TV, right? ...now Google TV comes out. Sony, "oh my god, this is the next system, we are...Sony makes a partnership with Google, and they say "we are going to make partnership, secretly between in sizable companies. We are going to be...partner...3 years, then we are going to find own system.

For hardware manufacturers, software is additional value for hardware- Sony

Seeking software partners- Google- for Google TV

Taking time to find proper partner(3 years) due to lack of capability of software platform

Partnership for setting digital ecosystem shown as contract- agents

The contract is made between capable companies

lack of capability to view long term – e.g. integrated digital product between software and hardware

lack of considering holistic platform

The owner of the project, the general manager is that hardware owner for the (inaudible).

Now, software general manager report to consider the hardware general manager ...so...it's to do with the fact that 'cost' things within the company, hardware –based...because tooling is obviously very expensive, you know...they are more expensive than infrastructure of the some service stuff...so, ultimately I think, financial point of view, I don't know why everything seems to be with hardware. And the other aspect is who face with...you know the organization...design was based ...Sony...like 'Cost' we called it. It's native(?) model, but we don't make any profit by far to my painful time.

Different attitudes towards integrated digital product platform- Sony

Sony project manager(general manager) for TV project

All project to be reported to hardware manager

Heavily valued 'cost' based on hardware mindset by considering production – e.g tooling

building service –only relevant project spent less cost than hardware

So...when the project starts off, for instance, I have to go...and say..."who is going to pay for my time? So...Bravia goes "we've signed 5 million for this project for face what...and the budget holder will be engineering ...always engineering! Because engineering has the highest cost. So when you are going to be tooling anything resource wise...(I feel) engineering full maintain ...budget. It happens a group from like...CEO group ...they are "OK! It's passed. It's budget for development...it's sort by engineering site.

Sony- concerning about expected budget is priority in early phase

budget holders was engineering

engineering controlling budget for production line

top level heavily valued production – budget to be spent

hardware oriented DNA found

So what happens this is process to development product from more kind of centric user pointed of view, even when ...like I mentioned to you...design in Sony and Nokia is...lead it...Even MS...is ...I would say another good example, but problems is when the product reach maturity and deployment always issues...probably what your friends and other interviewee say...problem is that there is restrain for execution handled by engineering.

Engineering- centricity restrains in execution phase

Engineering DNA causing complication of execution in deployment due to concerned resource

That...restraints for...like ...one example is...when I was in Vaio and...I was making an advertising bar launcher ...and...with that ...a Chinese company says...you...soft...building it and I had an argument, because within the company engineers...a bridging engineer is a Sony engineer. I would say " we want to create a library for animation...so...execution can be smooth and then more playful..."

Sony

Interaction design as heavily collaborative project with other bodies – engineering and clients

Execution of a tiny action of a product – e.g. animation- requiring multiple permissions from a engineer

different approaches in language to objects: designer vs. engineers

This gives a cost, two to three weeks to add the project. and this was very tough discussion for me to validate. What I would like to use tools to create and invest a library is to make better.

Different action for execution requiring considering about validation

Validation for the expected cost

Asked harsh validation process for intangible value for interaction design – making better animated library

Because they wanted to...well...design tools for Photoshop now is...you know design knowledge based...now we will make it...we don't really hardly care to say what kind of product is...so, it's dutiful but also it's kind of ...very...it's not about ...how good you ...you know ...you are a part of process...it's not about how good or product is.

Sony: Quality for intangible service- e.g. better and delightful AD library – hardly validated

Graphic design tool – e.g. photoshop- as a tool to present ideas

- Design job is based on intangible knowledge
- Dutiful work is addressed – matter of resources of the company
- Quality outcomes- product – is less significant than resource

Steve Jobs in Apple ...Jonathan Ive, you will say, “you will say a designer, engineering team is bad...I am sorry, I didn’t really good job, engineering is shit. It’s that . it’s wrong , obviously. The reason is ...because it’s up to...you as a designer who makes sure and you work with engineering and execute it.

Apple as design centric organization

Design as coordinator/ associator/ centerpiece/ key decision makers between relevant groups

Apple success undertaken by strong leader’s vision

Leader’s vision towards future

Organizational sympathy with visionary leader leads consumer – centric product

And ...problem is ..Sony and maybe other Asian ...I don’t want to speak to generalize by Asian, because ...my experience is only in Japan...is the....hierarchy is very...you know....one person in the head ...and everybody impose to it and everybody who is doing that job.

Heavy hierarchical orders in Asian organization – Japan

One top followed by subordinates

Responsibility / authority of the top is heavy

They are kind of go wrong because the person who is in head takes blame for everything. Because he is a leader. You know ?...i didn’t know it’s seen that . It’s experience. One...you know...good experience, ‘Chubachi([Ryoji Chubachi](#))’ stepped down as a from...subsidiary CEO of ...other ones...you see...traditional image of ...Toyota...when they failed customers...you know...CEO...stepped down. It’s not his fault!! But he tried to protect people in below!! It’s very kind of hierarchical world...

Organizational failure is the leader’s fault

Heavy responsibility of a leader

A fault causing blaming to the leader

The leader more heavily representing the organization itself : the leader as the organization

Talented leader’s vision hardly inherited towards innovation

Pitfall of a leader can cause subsequent organizational pitfall in making new product

While I think...in Western company. It’s more less...it’s more group centric...it’s more like selves...one example is...you would like to do one secret project ...in US, you have a small team and you do it. And you bring it up to level ...and you would say “ this is an amazing project!” “OK! It’s great! Let’s go for it!” And Google, it’s exiting this. Google persons are...20% of their time to say...”do whatever they want and come up to us!” and list it.

Western – more group centric work

Less demanding to risks (secret project)

Decision is made with more practical attributes, rather than relation

So...you know...from that sense product development is very different where people feel like that they are more responsible for their project. Because they are closer, rather than Sony and other

Western – Google: Group taking responsibility is more significant

A project carried out by team(group) taking responsibility

A project is focused on ‘the soft’

Hardware oriented company...you can get feel like you are a part of process a little bit you kind of ...” I’ve done Photoshop! Or I’ve done the 3D render...or done this...I’ve done that strategy like my boss questioned on strategy and then my boss goes “ I don’t need specialist in strategy, because my boss all take...!!” and then that could be difficult...

Design project is carried out like departmentalization

- Specialization with departmentalization principles like administrative jobs
- Individuals (actors) take less responsibilities
- A boss of the project taking all responsibility with little specialty of each job done
- Less holistic approaches to view a project

So when tablet came to life...Sony...didn't list table into...much later...and the reason for that is ...I think ...everybody thought ...another division is doing it! Sony Ericson ...are thought..." oh, no! Vios is doing it! " Vios ..." no...no...Sony Ericsson is doing it!!! " you know. Everybody presumes they are doing something... But, well...

Hardly integrated into as a whole –e.g. Sony Tablet PC launching

- Multiple serial hierarchy of overall corporation shown
- Multiple subsidiaries taking different roles shown
- Less tendency to integrate for the one – product
- Each subsidiary acted as a department for one's own speciality
- Territory issues come out – politics issues between subsidiaries
- Heavy value for the one's own subsidiary (subsidiary)'s project, but not integrated as a whole

#### 4. But, you used to work at Sony in the UK office and work in Japan, as a foreigner. I think you supposed to be a more independent or...the office seems to be independent on HQ. But you say...it's hierarchical...could explain about it?

So...structure is...overseas studios ...get budget ...30% local division...so Europe...Sony Europe 30% budget, other 30 % come from ...creative center...creative Centre is the head design organization in Tokyo. So...design Centre is referred to...like a module of overseas...so design centers are a kind of 50:50...like half brothers. One is belonging to Tokyo? The other is belonging to local. Local divisions like...for instance...in the UK ...Bravia? And also in ...in the Spain, when I used to work, we also have...B2B division for Sony Video camera...etc...etc...we will get a project from them. But we need to verify with Creative Centre...because Sony process to release a product...from designer's point of view...design is always validated by four stages of level... One is...local? Which is (non) director? One is group? , which is ...you know...Vaio art director or chief art director? Finally, head of design in GM, so they would say, "We can release this design. We are happy." This finally goes on ahead. The process of Sony, you can not release the product without that authentication. Otherwise, it's not Sony product! So, Sony that kind of...design with brand with authentication has to be stand by the creative centre. So even though I've worked with a lot of stuff in Europe I still had to fly a lot of time to Tokyo to show my project to get final authentication.

Overseas office hardly independent from HQ –Sony

- Structure of overseas offices: Tokyo- Europe- the UK
- Design studios operated like modules under HQ
- Allocation of budget for design studios limited by HQ

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Decision made by HQ's authentication

- managed by hierarchical orders between offices under HQ: director – group director – product group director(Chief art director)- HQ(GM)
- HQ design studio holding authority to make final decision – e.g. Vaio
- Authentication for validation of a design project is carried out by HQ
- HQ (creative centre in Tokyo) heavily control
- Individuals in charge with a project required contacting with HQ regularly for decision making

#### 5. Oh, interesting! But you are now working at kind of MS overseas office in the UK. But what's the difference between working at Eastern based...no...between MS (Overseas office) or Nokia and Sony. All of those seem to be same context- i.e. overseas office?

Ok. Sony is very difficult. Overseas offices are almost like playful things. They are not really like satisfied business. I personally believe for Sony, one of the key strategy for growing their designers...Because in Japan ...you obviously graduated ...maybe you go to , which is very

nice private ...you know...Ivy league design school... and then your professor says..." OK, you go to Mitsubishi...you go to Sony...and that's your salary man life...sort of...the other is...training with ...for you to go abroad. And if you succeed they will send you to overseas offices.

Hierarchy between overseas offices and HQ: Sony

Overseas office – design studio – regarded as playful place for Japanese employee

Prestigious human resource management strategy

So...for past 15 years, Sony office, all be led by Japanese senior manager and then local hired and...some of them, mixed...it's almost like training ground to A) 'understand culture and learn half small ability of management techniques'. Then they would be successful, they will be repatriated...in a way. I mean...there is re function (?) the reason that there is requirement...to be honest, if Sony design from overseas offices are shut down, it wouldn't be much different from them. Like their purposes...are more " yes, we can deliver local information, like training, understanding...we can support local...our subsidiary like Bravia...office whatever...Vaio...but mainly we can from people...Sony...it's really important for training.

Overseas office operated by talented senior Japanese

Overseas office as training place for talented employees – education background

understanding local culture and management technique

delivering local information to HQ

Overseas design studio as sub(extended arm) – somehow meaningless for major decision making of design project

Even...when we...team works...you have ...When I was in Japan, I had a junior designer under me, as a teacher. It's not just like...that taking a very serious...it's not just about somebody just help me to do my product? It's about " I have to teach her, how to grow up for the first year, which start it. She can...kind of...no dependent responsibility. So she is only being there (for) learning...what I am doing...trip...understanding...

Training for new employee is valued – learning

Taking more time

During training job is less relevant to actual work – learning & only understanding

While Nokia is...slightly different...Nokia had an issue ...a...for designer at least...obviously a lot of stuff in China...for production...head quarter is in Finland and they need...a key ...kind of segment area...but key market like the UK...to actually have... A) a marketing office, obviously...

Nokia: Overseas offices – design studio, production – operated in systematic bureaucratic departmentalization manner

From now on...what they have found ...I don't know, Nokia where they are in Espoo, very small town, and very small city...and their mind on designers is...quality designers. It's very small. It's not many designers who you can input there. Nokia had development house in the UK Farnborough. I don't know Farnborough is further outside of London. It's a little bit like Sony like Weybridge. But they accept to move to the central London (Soho) because they couldn't hire good quality designers. Because good quality designers didn't want to work in far outside. So the way that they proceeded was a lot of key structure of staff is on Finland. But the work group around 50 % are set up in London office. So...integration between London and Finland is quite heavy. Maybe some people like...maybe every other week from Finland.

Smaller groups for design project – Nokia

Focused on quality designers, rather than quantity

Changed location – London, Soho from Farnborough

Key structure for decision making is balanced between London and Finland - 50:50 – often human contacts

Roles of offices is nearly integrated

6. I think this seems to be matter of geographical distances between Finland and the UK, which is much closer than ...(Japan) and organizational structure, which is much flatter than Japanese, as I think?

Yes, I think that is good assumption! Nokia is a little more flatter. But ironically classification(or qualification) ...so Nokia is over exaggerated(?) so... if you for instance have a senior designer in Sony, you need to spend 15 years to be quoted as a quality designer or otherwise you are very kind of...very , very early process. So a senior designer means really title, and so...and in the Nokia, a senior designer means that you just graduate from a good school. So...in terms of it it's desperate.

Organization structure is flatter than Sony , but shown unfair

Classification of designers overeggerated

Senior design meant for good school graduates vs. Senior designer as long experienced one :Sony

So...Microsoft is a little bit different. Skype? I think it's very different situation. Because skype is so important for Microsoft. They need to maintain their HQ in the UK. So, predominantly everything is happening within London office, even CEO, and everybody , a lot of people from America came here. So we are still the HQ for our group. So we are very different from ...feeling to say Nokia or Sony.

Microsoft (Skype) : balanced between HQ and overseas office – London & America

Overseas office(London) operated as another HQ

Key decision makers often commuted from HQ

So, Sony ....has very small office, central office has 300 designers, in the creative center.

Sony – smaller overseas office

Less powerful than HQ(more designer working at HQ: 300 designers)

You know...while Nokia office is more split and more equally. I think altogether around 400 designers? I don't know...makes between...60:40 ...something like that 60 in Finland, 40 here (UK).

Nokia : structures – role- split more equally, flatter

Operated large number of designers

While majority of Skype ...in HQ in CEO. Our office is everywhere like Palo Alto...and etc...Radma(?)...etc. office 15 or 20 people...designers.

Skype (MS) : structure and role split equally but more less designers (15-20)

## 7. Do you think that the number of designers can influence new design project? Because those kind of platform design should be very agile. I mean...the number of designer in office. Do you think that it can or be able to affect new design?

Yes, it can. I think more designers can be negative impact. Obviously, I am about to start contract...you know...it's about balance and skills that we bring to...project. So what we need to do is...to have not more designers. We need to have one expert.

More designer causing negative effect in design project

Designers managed with contract :agent

Significance of balancing for optimizing best expertise

Less experts embracing all project is vital

And that expert could be in design project management or management owner? Engineering, maybe, even marketing. Where we working at the moment ...we are called it as release vehicle. So you know...in agile...we have each component which we have team, it could be application, API...whatever....it is...Data...we have like steering committee, but steering that project.

A design expert as multi-disciplinary project manager – engineering, marketing, software design etc.

Agile design making is important within complexity

Design project group as steering committee for a design project

Because of four leaps of each section. So if we have same discussion with two or three designers, it is not possible element into it. Because I think, what you are talking about is, it's about taking and making quick and rational decision as spoke to questioning. You know...Skype has issues about...we always ask the thing we've done and review...

Agility of design project led by quick and ration decision making

More experts for causing repeated disourses

A knowledge and quality designer helping quick decision with rational decision

One project goes seven months because I've done one design, and something else. So if we...we design and redesign something...redesign something, so what we need to do is we need to have kind of half people where placed in make quick and tactical and multiple decisions.

A design project carried out in limited time frame

A design project(interaction design) shown as iterative and repeated process

Quick and tactical decision for agility

Multiple decisions for iterative process

I think that what kind of makes product better, that's kind ...what we make educated, understanding that ...you know...design ..can provide experience and technology, that can make sure execute of that experience. It's like what you have been ...as spoke to something else. You know. When marketing we can make sure message, practical position, and standing of that process is also...understood...so...

Design requiring multidisciplinary elements for creating human experience

Design creating human experience

Technology back up the ideas for execution

Marketing for delivering message for selling

**8. It's quite interesting. But let me give you an example. For example, MS that you work for is also a sort of IT technology company. But nowadays, such IT technology can help organization to be more flexible within their organization, in terms of communication, such as SAP, ORACLE, and so on. What do you think of it?**

I think that...the systems are really bad...I don't think that useful. There is element where organization has to certain level. I think it requires certain deployment.

Use of IT system for transferring information as a tool only – not dedicate things

Communication for knowledge transferring) requiring more in-depth approach

I think SAP is good example, also HR tools!! Because maintenance what organization have more become difficult because of geo difference, there are many people, you cannot keep employment people maintained. So answer to yours that technology is very easy to say..."Oh! Now payment are on, you know...ORACLE, SAP...whatever...etc....etc....but those tools are kind of B2B...kind of not as a single solution, not as dedicate solution.

IT system – SAP – for managing , rather than communicating

Human resource management - e.g. payment

Overcoming geo-distances between offices due to size of organization

Technology supporting linear communication

For example, good company, which is amazing. I am...If you get a chance to try to find some body there, it's now...PIXAR. PIXAR has so development...to make a own tools. So they have division of engineers to make tools for animators.

Tool development for own design project- Pixar animation

So one guy who specialized ..." I am going to up to 2 years that makes animation for hair for natural." All investments for the technology that...lucky. There are not saying, "Oh. What kind of tool is out there or what kind of company can provide service to make all our hair animation?" don't say.

All supporting technology for relising certain visualization

Investment heavy for design

Less tendency to ask for validation process for supporting technology

I think that s one of the reason why I personally feel that systems don't work very well, very lubricant. They don't take into account what the requirement for the organization because they've been deployed as a kind of...as...a basic...firms....to make sure ...

IT system provided less customized for organization

IT system as a basic deployment for common demands of all organization



You know...this will decrease cost ours because we don't have to have many staff members as far as think value of that tool ,an half way to go...

Effective tool can reduce cost in long term perspectives

Effective tool leading better product development with less members

9. You have done many interesting projects such as IoT, in Nokia and Sony...etc...but nowadays, a lot of discussion on open innovation in software. What do you think about open innovation between software and hardware? What do think about open innovation in hardware? Because as you said, this types of project, hardware, seems to be engaged by a lot of engineers. What do you think about it?

I think one of the fantastic things is that with application-based we have deployment. You know, we...like market...iOS market, for instance so...having that deployment help fundamentally for us to create innovative ideas in its applications to have deploy throughout which helps more people to get what return for them as much as quicker for them.

Open innovation occurs in deployment level

Application-based enabling deployment with more people's participation

I think if you look into start up at the moment, as you mentioned, things( IoT) or wearable ...are super hot area now.

Wearable and IoT getting popular among start- up business

It's that...area...where lots of companies like...Nokia, for instance, it's very excited with no understanding of what it means.

A large company showing interest with less recognition of the nature of open innovation

So it's trend for ...ecosystem. But I think reason meaning in it, but... where to innovative ...but it's not...by apple network responds to trans...they make equal decisions based on their portfolio...to execute something.

Building ecosystem for open innovation

Competiveness of the digital industry causing imitation and benchmarking model – e.g. Apple – Nokia

For those reasons, it's quite difficult and it's free sources through...hot...you know...innovation in that area... you know...raspberry Pi has helped and piped in ...you know...it's opening up.

Digital ecosystem led by financial interest

Hardly building perfect free- open source

Hardware open source is in beginning level – Raspberry Pi

But you know...when you compare it up with interaction design is...rather software development is...like co-application?... you know...even my tools like SDQ tools for apple and for android , that's so removed ...so ...still one guy tinkering and ...that...you know...listen...In order for us to meet quick ...it's really bad tool of what we have...you know...imagine how let me take design interface within an illustrator and... software packages...and something for industrial design. If we don't have CAD, and if we make it by hand it is slower, right? For that same reason...I think reasons...here isn't as much as open innovation...although there is quite a bit but it's not moving as fast as ...because actual deployment is very very difficult...what could it make is...occurrence...of the goggles. It's 's fantastic.

Actual deployment phase makes hard to realize OI

In interaction design – software developed by co-application tools: e.g. SDQ, illustrator, photoshop,

3D tools for product making harder

limited extends can be possible - Goggles

If you think about it...OK, I will give you an example, Even if ...Nokia...they would make a small watch type thing basically ...any application you have in Window, you can ping to it like Google, almost now. And the prototype we've written this is pipe and code. We had Bluetooth engineering team to integrate it into windows phone. Fundamentally, what we want to do this is , I knew that the tiny screen is higher resolution to get...you know. We can get it... you know...by going Samsung or other areas...

Difficulty in watch project in Nokia

compatibility of applications in Window – pipe and code

compatibility between watch and mobile phone with Bluetooth

Screen resolution in limited size screen

Supplier issues – e.g. Samsung

We knew looking for this. But such a long process... you know. For me to get for a few months for sample... if I am lucky that I am existed it would be minimum 3 to 4 months, you got sign in NDA, you got a meeting ...you are going to say purpose...etc...etc...you know...if we will look at e- paper, now it in process in Taiwan. I went through. Now it's like ...I need to have tools to implement, to communicate ...and then now I said this is ready? Now I need to speak how many units I have, how we can optimize that production...lack of this is...I think pushing that behind. When we create modules...and screens and so on are modular, right? You know...before Raspberry Pi... you know...before all those kind of elements. It's very, very difficult for you to get that level....

Difficult in deployment – component supply in creating module, internal decision making , geographic distance between supplier and vendor

e-paper supplier in Taiwan, as module (component)

internal decision making for supplier

authorized by multiple relevant units for production

So I think ...you...That is one element!! You know... The other element is market growth!! Do you know Wi-?? , new Qualcomm chip that, that small Wi-Fi. Bluetooth is really terrible. So and then...Bluetooth, you don't understand...it's not...it's not meant to be connectivity. When you are trying to use it, now it's basically proximity. One device come closer and then does something else. Then devices sense each other. So you have any three setting and has very slow refresh rate and it's very good for them. So we have like Wi-Fi chip at same power usage, and same size as blue tooth chip. Qualcomm making new, which is on a basis for internet....Then we can start like do a lot of things.

Complication of digital module(component) technology for compatibility in deployment

Proximity of Qualcomm chip for WiFi for compatibility with other devices

Considering for replacement of previous modules for compatibility : Power usage, same size as Bluetooth chip :

One example is...if I have a mobile phone and that chip, another chip, I can use those things another triangulate it, which was phone it to it. So if I have that phase, if I am going to point it to TV, it automatically connect TV. But in order to do that, in order to deploy it we need to talk to people from Samsung and Sony, and say “can you integrate the your chip set, please?” They are happy to do that! But like automotive and TV, they move slowly lag. There people buy TV set every ten years. TV business is slowing down anyway.

Complication of market matter between hardware devices

Different product cycle between compatible products – TV(10 years) Smartphone( less than 1 year)

Different interests of hardware manufacturers - Sony , Samsung....

You know... for them it's very difficult...to...So with hardware stuff you do need network, you do need tools. Eventually, it's too slow to respond to. I think that's the reason why it's still little bit slow, and little bit difficult.

Complication of OI between large manufactures/ between digital products

Multiple and complicated requirement for deployment – e.g. tools, network

I think that the fact that we quick start –up. We have funding and VC approaches. It is opening up. It makes it easier. But, still you know, hardware start-up and software start-up...software ...always...Yes, it's not just about process, it's about dependency. Hardware has a lot of process and dependencies.

Hardware open innovation: matter of depency, rather than process

Smaller start-up business is easier/agile - VC (funding) – financial matter

Digital product requiring integration between software and hardware

Hardware more relying on 'dependencies' due to the nature of hardware – component/ module

But I am saying, I will give you an example. A friend of mine in Nokia, he is making zone (?) - clock. He is a hardware engineer, programmer and building the module ...for the clock himself. You ordered that he need to bet 5000 pound for FCC approval (*Federal Communications Commission*).

Tight authorization process for building electronic modules for hardware: authentication process globally

FCC approval

Fee for approval

That makes sure that module does self fire(?). you know...every aspect of hardware, like for 5000 pound in Russia or China...I can get a good developer from extinguishing...within 3 weeks, hop it the US. He is costing ultimately higher than...because he needs to check electricity. The electric, that has to be in a process. It makes sure that's not grey market component....etc...etc...So, it just hardware does have much more dependencies. I think that it is naturally much more complicated. It doesn't allow as quick as movement...

Highly shown complicated due to dependencies – regulations and component

Different regulations depending on regions – e.g. Russia, China and America

Different amounts of cost depending on regions – cheaper labour cost in Russia and China

Time for authorization and development depending on regions

Complicated between universal roles and regional rules in hardware

Electricity - universal

#### **10. But unfortunately, many Asian companies like Samsung and Sony try to make own hardware platform like Smartphone and smart TV etc...But for me, I think they seem to be like closed platform. What do you think about it?**

I think there is ultimately legacy issue. You know...Sony is coming from...a point of view...a kind of...it was the king! You know? And then everything was closed I don't know if you know about the story:

Asian manufacturers pursuing closed platform – Sony

Legacy issues : successful achievement in past in technology

Steve Jobs based company on the founder of the Sony. When he created iPod, he came to Sony and he wanted to use Sony software, and say..."I made this product. I wanted to apply your...that network?" And Sony says..." hmmm...Steve, forget it!" things like that! So that's that Steve created iTunes. So...you know their approaches from back in the 1960s, 1970s Sony could control everything from Blue Ray ...that final version. You know? Blue ray is closed system, right? It's licensing view for them. So if they make closed system, that obviously it is much more better for them to control everything, licensing...in terms of money...etc...etc...

Arrogance of Sony – limitation of arrogant closed platform model and opportunity

Denying to use Sony software causing to create iTunes of Apple

Best technology causing arrogance – Sony in 60s and 70s

Closed platform with licensing to make financial benefit : e.g. Blue ray

And Steve Jobs maintained that like same thing. Apple is closed system, right? So there is reason for that why they do it, in terms of creating own network. I think Sony is so confused because when Sony created the new music services, they thought multi created music service is very important and Spotify does very well. And they thought, one of the ways, Why do we create music service? It's not to be a business like music service! But also differentiated for hardware!

Same closed approaches but different value/ visions

Sony music service for differentiating for hardware: Music service for another business

Apple closed system for music service

Spotify for music service

**The point of view is a bit different. Sony is more focusing on hardware itself?**

That's why you can never succeed; because you know...when it says...when make service, not for cross platform, when makes make services (it's) for hardware that is limiting the market, right? While Steve Jobs...or whoever, Spotify can ...I don't know...2 billions a month! But you can only have maximum 20 million, because they can only produce 20 million units! Right the elements of that, that's why hardware has a bit difficulty. They have no idea of how to execute software and how to have a strategy to enable it. Because they are still in archaic hardware world!

Service platform for providing better service leading unexpected potential profit

Service for differentiating of hardware only resulted in limited profit from hardware sets

Sony limited within hardware centric

They can never...I don't know your experiences...But like I said, Sony designers are excellent! Sony engineering is also very good in terms of TV, in terms of etc...etc...hardware is very good. In terms of the ways experiences and services to execute? Are...extremely poor! You know, technical aspects of making screen more colorful? OK! In terms of plan to integrate features and other networks are...poor...very very poor!

Sony

Good at making better hardware product – technical aspects :e.g.colourful screen

Poor at integration between the soft and the hard

Networking and creating experience

# 11. It's quite interesting. When I had interviews with people from Samsung and LG, which is focusing on hardware in Asia? They also have same points as yours

And again!! I disagree with Asians! And hardware is true! And Nokia has exactly has same problem!! It's also like...one of the reasons why they are better for them to do Microsoft deal...yeah? Because their own software has not so good quality.

Challenges of hardware centric organization in digital product : Nokia

Limitation to integrate software into given hardware product

Especially, if you look at the lower range end, what called feature phone set...etc...etc...you know the whole reason why they, Microsoft, why they happened to pull out was because they couldn't be able to have more and more platform that could...they could never integrated into iPhone. You could say..."this is S40 engine(symbian OS) , created by ourselves, just as good as iPhone!" you know...we have animation stock, we have capability our capture all run...so they are still very much hardware. They couldn't understand that element software.

Hardware – centric company hardly understands integration of software

Function of software is the best for hardware manufacturers – Nokia S40: animation stock & capability for running

I think the reason why I disagree with Asian is...because hardware industry primarily based on Asia is...I think...in terms of costing. Like if you go back for 50s or 60s Japan was the cheapest manufacturers. Then, that moves into Taiwan and China. Japan is not that cheapest, because of controlling in effect. It has an issue.

Hardware manufacturing based on cost centric approaches

Lower labour cost for manufacturing is vital – Japan, China, Taiwan

Lower cost for easier controlling

You know? Vaio? One the my project, we had to use Japanese factory they actually go out business within given project. So I wanted Chinese, because they have better infrastructure and better quality and better production, but had to use Japanese old factory because it would...actually been closed down. People would be fired.

Complicated production line issues in hardware manufacturers

Sony : concerned about domestic factory issues, along with cost : to secure own labours' status

Designer concerning about multidisciplinary issues : production line

So...you know, I think interesting thing for me ...was...what happens to after China. At this moment what I would say is empirical; China is like 1980's Japan. It's raised good level, and has really good factory. It's still approach based on when we were set in the beginning!! Human resources. It's cheaper in Taiwan, especially, across north...whatever...Within that aspect, you can just throw people and just get more out.

Occurrence of manufacturing cycle amongst Asian countries – Japan, China, Taiwan

Lower laboring cost

Economic growth intervals between Asian countries

I think Taiwanese... I don't know just my personal feeling. Maybe, it's just dutiful...just burn through it. Just hard work! It's not work. Do more! Not thinking better! Just do it! And the interesting thing is China...and even India...become those new places become new Taiwan!

Different values to work – Taiwan, China

Work for work- duty based

Seeking new place for lower labor cost

Hardware moved because of hardware's dependency. It's new countries with lower wage package like BRIC countries. Because that's why Asia is being a kind of concerned, because hardware factory has cyclone pattern to move. But I don't know. That's my personal opinion.

Hardware manufacturing affected by mechanism of production line – labour (cost)

Dependency issues highly shown in hardware

**12. Let's back to the Sony story. Don't you have any feeling about some political issues within the organization between engineering and design dept.? Because those hardware-focused companies perhaps was already dominated by engineering dept., in terms of human resources in my assumption. Have you ever felt about it?**

Oh...man...Sony is really funny. It's ...like I said...I said super hierarchical, super...it's not like an army. You think army has general, captain, lieutenant...you sort of like machine, right? WRONG!!

Politics in Japanese hardware manufacturers

Different conception of hierarchy : most single hierarchical organization with different shape of the hierarchy

In Sony it's hierarchical but politics in that...based on...teams are created based on understanding and mutual respect. So I had been a project planner. I was working with...for three or four years. We really kind of work hard together. We respect each other. So then, whenever we had a different project or even non-my own area, we always say "I would like to request to 'Ra-san'. Because he trusted me because he makes sure his boss. The boss authorize me! It's then like sub-hierarchy. So I wouldn't necessarily report. I obviously report to the creative center. But within that, because of cost system-based, he would say...as a general manager, "I want that guy, looking well!" it's weird mechanism...it's not like army, where one orders like a machine; very political...very group oriented element.

Relationship-based single hierarchy- Sony

Working group –team- based on a relationship : mutual respect & understanding

Created sub hierarchy : The decision maker is not necessarily meant for the actual boss

Shown not actual scientific machinery mechanism in hierarchy – complication of hierarchy

Ultimately, everything under one had and one house. So the reason definitely the big component to do that...When engineering also, you know...engineering is very difficult! Especially, engineering is one thing right? A bridge engineer is a bit different. I don't know if you know about this. So...you had similar experience. But...(sigh)...a bridge engineer would be somebody who takes a kind of expert, who understands it. That he has to give engineering team to China to execute it. With him, it's fine! If they are actually doing it, they try to a kind of mitigate their mind of work to execute, so that frustration comes in. Because we try to a kind of mitigate their mind of work execution, so that frustration comes in. Because we try to make better product. And they try to kind of mitigate process for execution. So it can create lots of sometimes frustration in one way we have done it run...

Tension from engineering causing demotivation

Bridge engineer attempting to mitigate for execution – as a gate keeper (resource-centricity)

Designer attempting to make better(quality) product

(The reason) why we, design center, has engineering experiences ourselves so what we do is we use...tool called unity, unity 3D is gaming engine. But it wouldn't allow very quickly to deploy this transition of this experience for 20 devices...mobile phone...and X box,

whatever...When we go engineering team you would say "you can do this!!" show them what we've done...running of devices. It's very difficult for them ...that...."we could do it...??!?!?"

Less trust between designer and engineer due to lack of understanding of each territory

So there is element within that. I think it's always happened...in Nokia. Sony didn't have the prototype division in design. (really?!?!)  
yes...so very very small division, one or two...people are nothing really strong...like flash proto...something like that.

Organizational configuration and structure for design

Little power and lack of understanding of prototype department – Sony

Prototyping is less considered or meaningless

Nokia has design team...technology guys who are...really...really (full long). One guy who specialize in mathematics and virtual or...3D virtualization in organization...so like a real math genius. They also had hardware engineers who specialize in VT stock; how to connect Bluetooth etc., pison(?) hardware engineer, including 3D printer...and building and so on...components...etc...etc... So they said within design when we worked...we actually not want prototype. We actually work first veto of product. And then distribution goes up to differencing.

Nokia: Stronger in prototyping in design dept. with experts specializing in techniques

Prototyping for sorting out for differentiating in distribution

Take all saying, that...what we try to do this, this line could be different because ...localized , because this is different to build it and customize it to launch it. So that's really great working. That kind of makes sure that friction between politics of engineering team and the other work...what else is...was...managed....

Multiple prototyping process enabling smooth customization and localization for market

Politics to be alleviated through frequent contacts : helping to understand different discipline

Because sometimes...you know...engineering team sometimes...sometimes...you know...engineering team sometimes does not try to spoil your fun, right? What ...this like... "you are taking , shit!! You are talking bad on that. I am going to make it!!! If I don't make it I will look bad!". They are trying to make sure "what are you talking specific?! Show me!" So you know...I think, culturally, if you understand that I think you can mitigate the rubbish.

Prototyping process with close contacts amongst different disciplines

Try to ensure own professions with close discourses for better understanding

Close contacts between relevant disciplines helping improve better communication - hardware

I mean obviously politically why it's organizational issue, Sony, especially engineering has money. It's very difficult. We want switcher(?) turn on budget! I don't know something like that...there was difficult. I understand that.

Sony- heavily resource based

Budget holder has more power- politic-led : engineering

Design project associated with concerns about authorization for budgets

Budget subject leading overall direction

### 13. As an interaction designer who can deal with software, hardware and engineering, what is the key thing to become a future designer who can deal with future digital product design?

I think key thing is...for interaction designer, I really like this quotation, ' BYOD, DIY' : Bring your own devices, and do it yourself. I think...I think...basically, there is a notion making a good product? If you think process, if you just think your paying window, you can never make a good product! So, if you are a designer, you should think about designer and engineer, and then product manager...

Interaction designer as a multidisciplinary professional

Requiring Holistic perspectives

Multidisciplinary specialist who can create own artefact

Product manager would think designer...etc...etc...If you ...you just take a responsibility, you know, do it yourself. And don't wait...on...organization can't do this(and) I can't do this. Just do it. Do it, maybe its small weight right? Change and do it yourself! Bring your own device. Be...bring your own dependencies. I have my own computer, my own software package...what I ...I can run it, I can build it. Do it myself, you know?

Creating own devices as a designer

Creating own artefacts with holistic sense of all relevant system: software/hardware/tools

Knowledge to deal with computer and software package

Building own prototype

Available to change an organization with own created devices

Prototyping capability

And I think one missing is at this moment is...some people who is specialist? You know, some people talk about T-shape? (many people talk about it). So...I think many people talk about...but many people forget about T-shape is not only within your own industry. So, if you have a chat between users, if you have a chat between technology and design? 'T' should be intersecting knows two!

More than T-shape types professional

T-shape only knows limited paradigm – technology and design for users

I should be able to know about user research paradigm, I should be able to know about what dedicated ...between embedded experiences.....how to push forward...you know...learning to call, learning to understand tools. I think fundamentally key for interaction designers, but product designers...well what act is...not product design, but industrial designer.

Requiring broader understanding of user paradigm with holistic thinking

User research paradigm

Learn experiences of human and understand

Knowledge more based on industrial design level

If you look at Facebook, Facebook approach is actually that model. Facebook and Google, both, employing design can actually do it. Especially, facebook! If you can make website you can make interaction design, you can get a job in Facebook. There definition of design is product designer. I think something I know. Product design we ill ...from digital point of view, as making a product like application whatever, meaning is that you can...

Facebook and Google pursuing multidisciplinary experts

Blurred boundaries between disciplines : creating website meant for understanding of interaction design and product vice versa

14. What should interaction designers or designer do for making a new product or new digital devices? Because...I think...it's kind of dilemma. Because designers want to be more like agile and more flexible? On the other hand, organization wants to be managing and controlling those designers? How can it be solved between the dilemmatic situations? How can it be soled between the dilemmatic situations and between organization and individual designer? I think it's big dilemma?

Yes, it is. I think problem is like ...if you are like a manager, right? It's easier for you to implement one system across. So you say, "your work is something to do, your turn to do this, your turn to do something..." you just believe your boss will be looking after that...Japanese. I think that's easier...easier to have SAP system. Because I've done my job . I don't need to do it.

Conventional organization focused on controlling with modular job distribution – departmentalization

Leader (boss) focused on assigning roles to members and controlling – Japanese company & SAP system's value

If you think about how to organize team to structure, yeah? I will focus on and look at ownership of two impacts they have done, as opposed to what I have done my job. It's not about: I've done my job, good enough. If I make my product, I am... company rewards me and company structure is in a way that it enables to remove dependency. So who 's an engineer? Give me a guy...we are actually small team, built product, yeah? We have responsibility on it?

Encouraging ownership with responsibility for a project

Expertise led project group for taking more ownership from a project Reward for works/ Organization structure

Dependency on an large organizational system reducing

We don't have to... company has to trust that we know the company's strategy to take it into that. But there is very difficult model because management is very high weighting concerns, very high intensity. Because as a manager, they all want to control this. Till company trust employee, I don't know it does at this moment...

Significance of trust between lower level and top

Nature of management: controlling

Depending on size of the company, if cannot move forward, right? So, I think ways to design is ...is to create team and the way within the team, you need to make sure that the team has a capacity to execute. And then, we can make judgment call. You know, Then, "this is shit! This is great!!" etc...etc...But I think that McKinsey and management schools types are really wrong with it today, early 90s...

Design as group(organization) activity

From creating team to execution

Trust organizational capacity, as a manager

Judgement placed in right moment

Tradintional management approach shown challenge in digital curcumstances

I mean you can actually...you know...what you think done that. Fundamentally, like I said to you in the beginning, I do not believe there is difference between the East and the West like ...when I came to Japan, when I work for Japanese company for a long time, in the beginning, I was like "Oh I am so alien...they do think very differently..."then layer of culture and history...once you get pass that, understand it, fundamentally, people are people!

Cultural differences can be diluted or blurred in individual level

The difference can be prominent in Socio/ organizational level

So one you can say, "in America, in Western society, much more...start up and so on...much more agile, much more interesting is great, yeah? But, I would say in Japan, equally, there are lots of big company, but there are a lot of great SME. You have a Skype here? Line is very doing well in Asia. Japanese company gain really good observation from Taiwan...and Singapore as well.

Innovative products can come out in SME level – e.g. network service : Line

Agility can be matter of size of organization : start- up business

I would say Japanese company's culture of creating product and style...are equally great. I would not say that it is divided between two. I think fundamentally people are fundamentally people.

Different cultures as variables for creating different artefact: a product

At the moment, economic level of that society is leveled up. For example, forget that geography, I take China, for example...just Brazil...after them...India. You try to make comparisons of what the process divided into development between the North countries, America and Europe versus...and so I think that's the big element.

Economic sizes are issues as a variable to result in different approaches to design

And then...that's the reason why...I said to you geographically, it would be you are right so nice...because...those guys are over there. They do things like that. And do it...and in...Sony...they wanted to say that. This is for this, this is for this market. This would be like this. Mine wants to create formula and simplified thing. It's natural thing. But in this case, this discussion doesn't work. Because to do with like industry. To do the fact that...what economic level of that, society is...etc...etc...

Mechanism of market/ industry causing controversial debates

Economic level/ social level/ industry maturity resulting in different approaches to making an object