INTERVIEW WITH ERIC TSAI, CHIEF TECHNOLOGY OFFICER OF KKCOMPANY TECHNOLOGIES

Eric Tsai

Eric Tsai, the Chief Technology Officer of KKCompany, holds the honor of being the first employee and has been with the company since 1999. Over the past 20 years, you have held many positions; what are your reflections on your career so far?

I joined the company early on as its first employee when it was founded in 1999. The following year, our company launched KKMAN, which had a 22% market share of Taiwan's web browsers. Later, in response to the rise of mobile devices, we created a second growth momentum by developing applications such as mobile ringtones and games. In 2005, following the development of broadband and the rise of digital music, we invested in multimedia services and launched KKBOX, the world's first legal music streaming platform, and then expanded into markets overseas, including Hong Kong, Singapore, Malaysia, and Japan. In 2016, the company became an enterprise group and developed multiple service brands such as KKTV and KKStream, as I started to serve as the President until 2022, when I returned to KKCompany Technologies (KKCompany) as the CTO.

Over the years, I have held various positions within KKCompany: KKBOX, KKTV, and KKStream; from R&D to business management, and my

mindset has developed along this journey. I think the biggest realization is that "technology development excellence does not equal commercial success." We have to stand in the customer's shoes in order to resolve problems.

With my technology-based background, I used to assume that as long as the application and system were well-designed, the product would sell well. But this is not the case at all. If you promote the wrong information and story to the market, you will not succeed even if you have the best technology.

The first time I realized this was during a presentation with a customer. After listening to the presentation, the customer still didn't understand the highlights of the technology and why they should apply our solutions. After a few trials and errors, I gradually learned to put myself in others' shoes, which is not a trait all engineers possess. Until now, I still constantly remind myself that I have to balance the scale from time to time. Every experience is an interesting and challenging one that keeps opening up new horizons for me.

Since its establishment, KKCompany has achieved technological advances such as music streaming, multimedia technology, and even cloud intelligence; how do you see the changes and opportunities from the company's perspective?

Over the past 20 years, we have seen many trendy technology buzzwords that we all thought were transformative at first eventually fade into oblivion. Only one out of every ten technology buzzwords ends up making an impact on the market trend.

In the early days, when we saw a trending technology term, we rushed to activate product research and development. However, once we realized we were headed in the wrong direction, it became challenging to change course. Like the popular Generative AI, there are indeed many applications that can be explored, but perhaps five years later, when we look back at the development of AI, we will realize that the current AIs are still at a preliminary stage; our norms five years later may seem impossible to us right now. I am also not convinced that everything will be overturned by a single technology altogether.

Therefore, we encourage teams to try out new technologies by being nimble and smart: experimenting daringly with agile development processes and researching technologies from a multi-dimensional perspective, such as organizing hackathon competitions to challenge technologies in different fields and opening up to proposals from everyone to stimulate innovation in software applications.

How does KKCompany innovate as new technologies and markets emerge? What is the process?

We adopt various strategies for internal innovation. In the early days, it was more often a "top-down" approach. In the past few years, our colleagues have become well-trained, and the ideas they propose are mature enough that they do not differ much from reality in the market in terms of feasibility. The most important aspect to think about is the business and profit model behind the proposal. Therefore, after each idea has taken shape, we have to survey different units within the group to ensure that we can eventually produce a solid business plan.

To develop a new feature, you need to determine what you want to achieve in the end; you cannot just rely on intuition to make decisions, for example:

When KKBOX first ventured into music streaming services, the music would play within a second after pressing the play button in a good network environment (the office). So the team wanted to challenge the Hi-Resolution audio function right from the nascent stages of the development.

One day, a colleague went home to listen to music using a dial-up network but discovered that it took a long time for the music to start playing, resulting in an awful user experience.

This — users' bad experience of the Hi-Res

audio function — is something that the developers could not have imagined in the office environment, and without verification from different angles, KKBOX may no longer exist today.

Similar experiences also helped me to think about things from different aspects when I was in charge of the company's operation later on. If you think one step ahead of others, you can potentially spend less effort later on.

You have transitioned from an IT person to a business manager. What advice would you give to workers who also have an engineering background and want to enter the technology industry from your past experience in terms of mindset change, career development, and management?

The most important thing is to have "empathy" when doing everything: we must remember to zoom backward and outward and gain perspective to observe aspects we might not have previously thought of. Furthermore, try not to think in a small silo — engage more with colleagues, discuss, and learn from others whenever you don't understand.

Of course, it is easier said than done, but it will naturally become a habit. Then, when planning things, the opportunity costs of doing one thing will naturally arise in your mind, and you will also consider whether there is an opportunity to integrate other great things and boost the results of each project.

After getting used to this model, when you encounter something you are not sure of, you can turn it into a set of implementation guidelines.

In my early career, I didn't like to do annual planning. My first reaction was always, "What's the point of planning when things are going to change anyway?". I'm sure many people with engineering backgrounds share this mentality.

Later on, I realized that planning is a concept, and the general direction can, of course, be modified, but if it is poles apart from the initial aim, it won't work in the end; without an outline at the beginning, the team will be like a headless chicken.

Therefore, I would advise those who want to enter the tech industry with an engineering background to set a clear orientation at the beginning and communicate with their team regularly to make sure that everyone's understanding is consistent. This is one of the most difficult things to do when leading engineers, and this is also what we are striving to improve on.

Technical people are good at solving specific problems; business people are good at finding operational balance.

The transition between the two identities is akin to frequent collisions. From the cases I have observed in the past, many people will pass the buck to other colleagues when they encounter a bottleneck, which is a pity because they miss an opportunity to hone their skills.

However, this doesn't imply that leaders should bear the burden of everything, but rather that they should broaden their perspective and develop the skills to lead people on a day-to-day basis in their work instead of waiting to develop leadership skills until they've already assumed the position as a leader.

To maximize value in the future, it is essential to foster cross-disciplinary collaboration and integrate diverse fields of study.

When I interview engineers, I often inquire about their career aspirations. Many express a desire to lead their teams. Then, I ask, 'Aside from earning more money, do you have any other motivation for the leadership position?' A lot of individuals are unable to answer this question.

Leadership involves complementing a team, amplifying its capabilities, and creating greater value. Although challenging, this prompts individuals to reflect on the competencies they must acquire and the trade-offs they may need to make.

KKCompany has been working closely with academic institutions since 2007; what was the initial opportunity, and what are the concrete results and cases of collaboration of the

present day? Has the company identified any applications that can be commercialized in practice?

The earliest collaboration came from campus recruitment in 2007, when the KKBOX brand was still not well-known yet. In order to recruit better talents, I started to hold sharing sessions on campus to foster linkages with academia. Through this, I discovered that many school labs were already doing research on machine learning, which led to "music emotion analysis" related applications.

A song can be classified according to various indicators, such as the music style, lyrics, and emotion. These categories can help streaming platforms provide more personalized song recommendations and curated playlists. In the past, we relied on manual tagging for classification. At that time, using AI for filtering and classification was considered advanced technology.

I think industry-academia collaboration is a good entry point so that the research done by the university is no longer just academic work to be delivered for graduation but also a profound contribution to the industry.

The first generation of KKBOX's recommendation engine was born in industry-academia cooperation with National Sun Yat-sen University. Since then, we have been cooperating with National Chengchi University, National Taiwan University, and Academia Sinica and have gradually worked out a model of cooperation between school and industry.

What are the areas where KKCompany would like to collaborate with academia in the future?

Our next objectives are video and music streaming, AI, and other multimedia applications. For instance, as more surveillance cameras are installed on public transportation, we need to enhance our image recognition and detection capabilities. Although this is not our core business today, we have a robust streaming system that can be integrated with cross-disciplinary applications.

In addition, there are potential applications for healthcare institutions where caregiving requires long-term video recording, and those data need to be stored properly. Our company is not an expert in the medical field, but we offer advanced streaming technology. This kind of endeavor of a cross-industry, experimental nature, or products in the POC (Proof of Concept) stage can be achieved the fastest through industry-academia cooperation.