

User Experience Design in “Internet Plus” Era

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Abstract. As the internet plus strategy stated by Chinese government, more and more internet companies, and traditional companies are taking actions to adopt internet as an engine to boost development or even revolutions on various domains. Industry focus and resource concentration set unprecedented opportunity for internet plus business. At the same time, user experience design is under high expectation in this new form of business trend. This article will use real design cases in Baidu, such as Baidu Stock project, Baidu Education project, Baidu Lottery project, and etc. to share experience of designing for internet plus business, and to conclude some design rules for user experience professionals in internet plus era.

Keywords: User experience design · Internet plus · Big data · China

1 Introduction

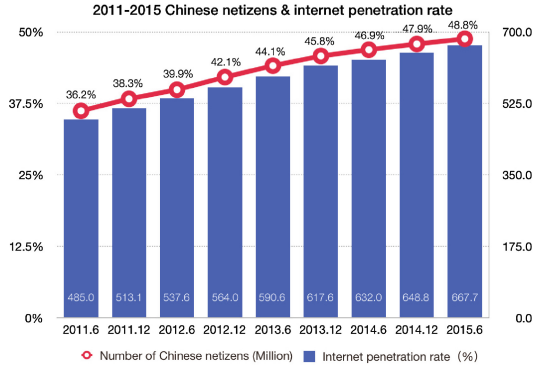
2015-3-5, in government work report, Chinese Prime Minister Li Keqiang released national strategy of “internet plus” action. In the report, He said Chinese government would implement policy benefits, resource concentration, and etc. to support the combination of internet service (mobile internet, cloud computing, big data, and etc.) and tradition business (manufacture business, education, healthcare, finance, and etc.).

Hence, the year of 2015 is also regarded as first year for Chinese internet plusera.

2 Why Internet Plus

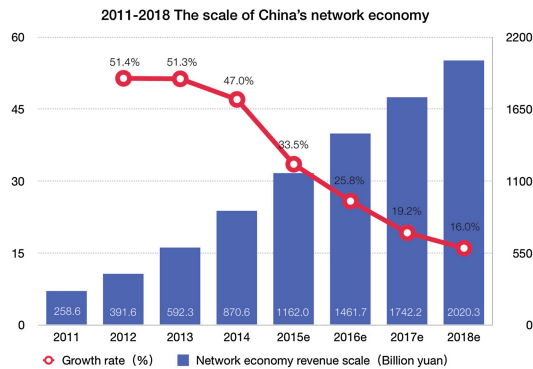
According to our research and understanding, this strategy is beneficial for both internet business and traditional business in China.

We can first take a look at internet business. The following chart shows internet users was increasing rapidly from 2011 to 2014, and was expected to keep increasing, which shows a huge market potential for internet service in upcoming years.



China internet user scale [1]

However, there are still blemish behind these shining figures. Along with the upper chart, government also released another chart as the following.



China network economy trend [2]

This chart report is done in the year 2014, before internet plus strategy was formed. From the chart we can see that even though internet users were increasing sharply, network economy was not increasing in the same proportion. And network economy increase rate was expected to slow down from year 2014. The major reason for this is that internet service was connected to traditional business in a superficial way. In other words, internet only connect people with information before year 2014, and internet can do much more if it can connect people with service in internet plus era.

After looking at internet service, we can take a look at traditional business now. Pain points for it are also obvious, such as high operation cost, high logistic cost, information asymmetry, and etc. Luckily, the advantage of internet service is a decent supplement for these drawbacks for traditional business.

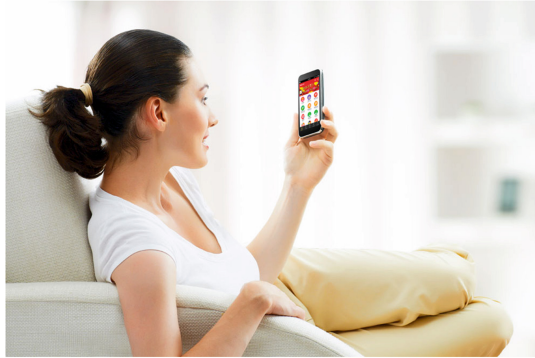
We can take a closer look at the power of combining internet service and traditional business from the real case in lottery domain in China. In the year of 2014, the total sale of lottery in China was 382.378 billion RMB (or 58.1979 billion US dollars), which was 23.6 % of increase from year 2013. [3] Within this total sale, lottery sale over internet contributed 85 billion RMB (or 12.937 billion US dollars). [4] This number not only means that lottery sale through internet takes over 20 % of the total sale of lottery, but also means that lottery sale through internet increased 104 % from it was in 2013. [4] This result shows that internet is a powerful engine in lottery domain.

As user experience professionals, how should we interpret these numbers? Before internet started serving lottery domain, the major way for lottery users to buy lottery, to check result, to communicate with each other was at lottery booth. The following picture is a typical environment of lottery booth in China.



Therefore, this messy, crowded, and uncomfortable environment stops so many potential users from entering into lottery booth. And running a lottery booth requires pretty high fix cost. Lottery service through internet means that users can enjoy time flexibility and space flexibility neatly.

From UX design's perspective, internet is not only a new channel for lottery, but also introduces numerous lottery potential user cases. Taking Baidu lottery service as an example, you can buy lottery, check result, chat with lottery friends, read lottery news and etc. in Baidu lottery mobile application. With mobile application, users can fully take advantage of any small time fractions, such as in the metro, in the elevator, short break time and etc. to pull out their mobile phone and do something about lottery whenever they think about it in their minds.



On the other hand, dating back to two years ago, when internet did not closely collaborate with lottery domain, users can only search for previous lottery result. Other lottery related services were not available at that point.

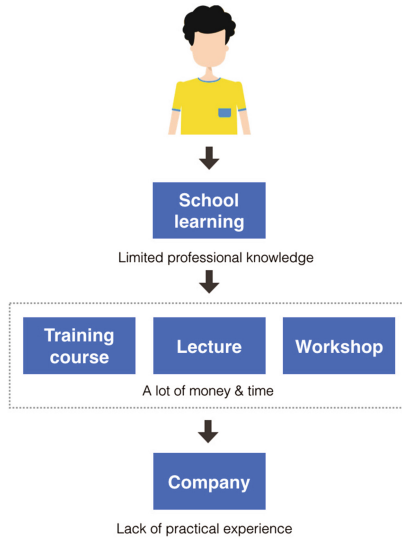
This Baidu lottery case shows that the significance of internet plus strategy is to develop internet service from “linking people with information” to “linking people with service”. With this development, on one hand traditional business can take advantage of internet specialty to provide concrete service through internet. On the other hand, internet service can step forward from being superficial information communication connector to service providing channel.

3 How Internet Plus Serves Traditional Business

These years, traditional business has encountered many problems in information acquisition, processing, analysis and etc. At the same time it brings much inconvenience to users. This is exactly what internet plus service is good at and very likely to bring in to improve user experience, so as to boost traditional business’ development.

3.1 Information Acquisition

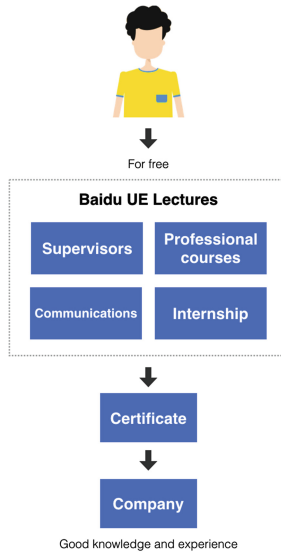
In traditional business, information acquisition often comes together with high time cost and high money cost for users, because traditional business model use this information asymmetry to make money. Taking user experience designers’ education and training as an example in China, a college student wants to be an entry level designer at work. Right now user experience design is a fast blooming domain in China, but education-wise it is still in its early stage. Because not over 20 % of universities provides systemic UX design program to students, most of them are providing industry design, environmental design, graphic design, and other design programs that are not targeting user experience design industry directly. Therefore, students still have to take extra courses after graduation which costs extra time and money, before they can finally become a competent UX designer. This following chart shows this dilemma:



Under the trend of internet plus strategy, Baidu is providing “UX lecture” education both online and offline to teach students systemic UX design knowledge and design experience that Baidu learnt from real internet design projects. In this new model, we are trying to create a win-win balance to both companies and students. For students, they can learn real hands-on knowledge from designers in big internet companies; even communicate with these experienced designers directly. For companies, students who received these trainings carry good skills and are ready to join companies to start work.

This projects’ significance is even more notable under internet plus era in China. Internet plus era requires more designers to design more services and products. Therefore, in our Baidu “UX lecture” service, Baidu does not only provide knowledge to students, but also contributes designer levels and evaluation system to these students. Along learning from Baidu “UX lecture” students can also test for certificates which can represent their design capability.

The certificate provided by Baidu UX lecture, is not a certificate with no standards. Baidu adopts designer evaluation levels which have accumulated in Baidu for over 10 years. Hundreds and thousands of designers are evaluated or used to be evaluated under this evaluation levels. What is more, this evaluation levels and standards are not only valid in Baidu, but also cross checked by many internet companies’ UX design department, such as Tencent, Alibaba, and etc. Therefore, students holding this certificate are more likely to join companies to start UX career smoothly. At the same time, companies like Baidu can save significant amount of time in interviewing candidate designers, since the certificate speaks for itself. This model can be extracted in the following chart.



In conclusion, when internet plus works together with traditional industry, UX designers are supposed to streamline users’ pain points caused by information asymmetry, and tried to solve this problem in real user cases in all domains.

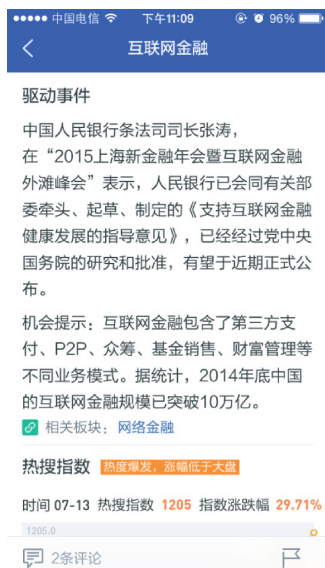
3.2 Information Processing and Analysis

The second way of improving user experience for traditional business is to apply internet’s information processing capability. We can take stock market as an example. The goal of stock investors is monetary payback. Therefore, in traditional stock market, these investors would delve into variety of data, such as buying “premium” services from securities traders, reading news in front of television screen, and then trying to make sense of all information from different channels in order to come up with their best transaction decision.

How can internet plus help these investors in this use case? Theoretically, all the before mentioned analysis can be done through big data analysis. And this is for sure a big advantage of internet service. Baidu as an internet company is delivering this service in its mobile stock application. Baidu utilizes big data capability to extract transaction suggestions to investors from analyzing news, companies’ achievements, governments’ strategy and etc. which are primary influence factors in Chinese stock market. For doing this, Baidu stock application helps users in two ways. First, it collects related data into sense making topics for users. Second, it gives users a way to deliberate reasons behind big data’s suggestions.

However, this is much easier said than done. What does big data look like? It is very unlikely for users to understand big data format from our machine learning research. As user experience designers, we have to translate machine-readable information into human-readable information to our users.

If users want to see what the stories behind these concepts are, what transaction should be done at this point, and which stocks should pay attention to. Users can click on one concept they are interested in, and application will navigate users to detailed page as the following.



Concept detail page first screen



Concept detail page second screen

In the detail page, it shows users the background story, why this concept is enlisted as a hot concept for today, the hotness trend of this concept during the last several days, and which stocks are related to this hot concept for users to delve into. With this information and suggestions, we are happy to see that investors can reach right transaction decision easier than before.

In conclusion, as user experience designers, we are supposed to translate advanced technology such as big data, cloud computing, semantic web, and etc. into designs that users can make sense of. This is an essential step to take advantage of internet information processing and analysis capability to help us in real time use case.

4 Warning for Internet Plus Design When Serving Traditional Business

Comparing to traditional business, internet plus business is for sure delivering more usability and convenience. But when it comes to merging these two, we should be careful from running into problems as well. The following are lessons that we learned and would like every designers to pay attention to when designing for internet plus business.

4.1 Respect Users' Cognition and Habits from Traditional Business Time

Internet plus can improve user experience for traditional business, but it does not mean creativity is necessary everywhere. Internet plus design should pay respect to traditional business rules, and users' cognition.

For example, before internet marched into lottery domain. Lottery buyers used tickets like the following to buy lottery for over 10 years. And they were familiar with picking numbers like this. Therefore, when we design it on internet interface, designers are supposed to design in continuation as a metaphor to offline lottery tickets.



Offline lottery ticket



Online lottery ticket

It is same story in designing for stock market. When designers in Baidu first encountered the chance to design Baidu Stock application, designers were excited and



wanted to revolute the traditional design in our first brainstorming session. One designer adopted purple as theme color for Baidu Stock, and also some fashion visual elements in interface design as the following.

However, in usability test result, most stock investors did not like this kind of innovation, and could not perceive much benefit from design like this. From our study, we found out that there were two reasons behind this test result. First, this design was far away from user’ expectation and different from their offline cognition, so they had to learn all over again about how to use this application. Second, color-wise it was too much. In stock market some color carries special meaning, such as red/green means rise/fall. Purple as theme color attracted too much attention and set a negative effect on users’ reading of interface contents.

4.2 Pay Special Attention to Internet Safety Related Design

These years, words as internet hacker, personal information leakage, and etc. sounded pretty rapidly around internet users. These problems might get more and more exaggerated in internet plus era, since internet plus business is connecting users to service, and payment is usually part of it. We can take a closer look at the following interface design.

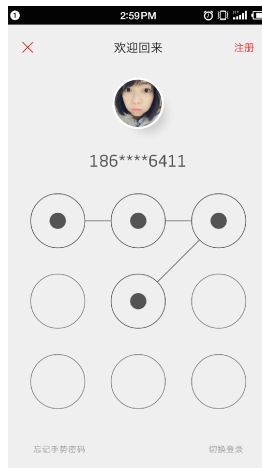


Some design from other mobile applications

With design like this, designers for them should be blamed for not delivering professional, and safety design.

Hence internet plus design should adopt various design skills to improve service safety cognition. In wording design, designer should use more clear-cut wordings to present your service’s professional spirit. In visual design, designers are supposed to use more stable and safe visual elements, such as extracting more shapes, colors, and styles from traditional business visual work. In interaction design, designers should

imbued more safety related interactions helping users to feel that they are in control of their service, personal information, and etc.



Example: finger gesture check before personal account page

And finally in branding design, designers should pay extra attention to create a unified visual identity throughout your service. From one hand, professional branding design will give your users more confidence to trust your service. On the other hand, unified style can help your users to remember your brand, and easier for your business to scale up.



Baidu Stock Visual Identity Design

5 Conclusion

2015 is internet plus strategy and implementation’s first year in China. More and more industry domains will collaborate with internet service to boost industry development. As user experience professions, it is our obligation to make use of our design skills, thinking, and strategies in the right way, so as to maximize internet services advantage.

References

1. [1] Data resource: Chine internet user scale by CNNIC. <http://cnnic.cn/hlwfzyj/hlwxzbg/hlwtjbg/201507/P020150723549500667087.pdf>
2. Data source: 2015 China network economy annual supervision report. <http://report.iresearch.cn/report/201506/2405.shtml>
3. Chinese Lottery Sale Report. <http://sports.qq.com/a/20150112/050028.html>
4. Chinese Internet Lottery Sale Report. <http://sports.qq.com/a/20150122/012251.htm>