

# Mobile NFC – what’s all the hype about

## *NFC in mobile services*

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Mobile Near Field Communication (NFC) has been discussed intensively over the past 24 months. Various players have geared up to enter the payment market, the loyalty and couponing market, the advertising market and other adjacent markets. Billions of dollars are at stake, but the winners are not yet in sight.

In this article, incorporating the results of a recent ADL global survey comprising 70 interviews, we try to shed light on this often-discussed and highly controversial topic.

In theory NFC is nothing more than another technology enabling short-range communication between two devices. Already today passive NFC chips are widely deployed in contactless cards, but for this article we are referring to NFC embedded in mobile devices, which widens the possibilities of NFC considerably:

1. **Mobile NFC offers additional use cases:** Contactless cards can only be used in the “card emulation” mode, meaning the information stored on the chip can be read. Mobile NFC also offers “tag reading” mode, i.e. scanning and reading of information, and “P2P” mode, i.e. sharing of information between two NFC devices.
2. **Mobile NFC offers opportunities for real-time management of multiple applications:** Whereas the card is “dumb” in that applications can only be loaded once (i.e. when handing out the card), mobile NFC provides the benefit of being able to manage multiple applications over-the-air, meaning applications can be added, removed, extended or renewed at any time.

During our interviews we discussed the potential winners and losers in mobile NFC, key success factors and time-to-market. While there is no universal truth, there is widespread agreement on four

			
<p>1号店 5折</p> <p>OLAY玉兰油美肌护肤沐浴露 (原美白莹润型)720ml/瓶</p> <p>¥31.90</p>	<p>1号店 5折</p> <p>滴露衣物除菌露 (柠檬香型)1750ml/瓶</p> <p>¥12.90</p>	<p>1号店 5折</p> <p>雷达电热蚊香液 +40晚+2超值装(无香)1个</p> <p>¥19.90</p>	<p>1号店 5折</p> <p>清风200抽多丽 抽取式面纸3包</p> <p>¥9.90</p>

	
<p>1号店 5折</p> <p>多芬深层滋润滋养美肤 沐浴露1000ml/瓶</p> <p>¥40.00</p>	<p>1号店 5折</p> <p>威露士消毒液洗衣液 清新香气(3kg+1kg)瓶</p> <p>¥9.50</p>

	
<p>1号店 5折</p> <p>Cetaphil 培芙美洗面奶 200ml/瓶</p> <p>¥71.90</p>	<p>1号店 5折</p> <p>洁霸除菌洗衣液 2kg送800g/瓶</p> <p>¥35.90</p>

	
<p>1号店 5折</p> <p>六神花露水(普通装) 195ml/瓶</p> <p>¥9.50</p>	<p>1号店 5折</p> <p>丽山白金... 促销装17g</p> <p>¥19.80</p>



key parameters that need to be considered carefully by players in the market:

1. NFC has major impact and potential, although with high risk and uncertainty.
2. NFC is much more than payment.
3. NFC requires an ecosystem to be built.
4. Positions need to be taken in the near future but financial benefits are three to five years away.

### **i. NFC has major impact and potential, although with high risk and uncertainty**

This is not the first time that NFC has been considered a hype technology, but this time the players' sincerity and the ecosystem's readiness make us strongly believe that the hype is justified. Currently there are more than 200 NFC initiatives globally ongoing and already more than ten solutions have been commercially launched. Most of the critical standards are set, more than 100 NFC-enabled handsets are available and upgrades of terminal infrastructure are on their way in many markets.

These factors, and the sheer opportunities NFC opens, make us believe that NFC will have a major impact on how we shop in the future by enabling next-generation shopping experiences and linking in real time the physical with the digital world. We believe that NFC will lead to further industry convergence by forcing players to collaborate and, last but definitely not least, will lead to fundamental changes in the payment industry. Considering that retail giants like Walmart, which had to pay a substantial amount of its total \$443.9 billion in sales in 2011 to handle electronic transactions, have recently announced that they will enter the game, it is hard to believe that we are not entering turbulent times.



But the market's immaturity and the complexity of the ecosystem impose a high risk of market failure and subsequent lost investments. The complexity of the market leads to a high level of uncertainty in defining the future market size of NFC. To break down the complexity we focus on two exemplary markets (the US and Germany) and on the "value at stake" in 2018 (this should not be mistaken for the market volume in 2018, but is instead the overall addressable market volume in 2018).

The following graph (Table 1) shows on the x-axis the percentage of new revenues to be added to the respective industry and on the y-axis the threat level represented by the likelihood of value redistribution for each of these segments:

- **Low redistribution** relates to fights primarily between today's market players. New players are playing only a minor role.



BARCODE  
SCAN

- **Medium redistribution** relates to fights across industry borders and new players finding several inroads to attack existing players' revenues.
- **High redistribution** relates to heavy fights across all industry borders.

The bubble size itself relates to the segment size (Note: We have only considered revenues being addressed by mobile NFC). When building the sum for the US and Germany, the order of magnitude of NFC becomes clearly visible. The value at stake in the US equals close to \$250 billion, while the value for Germany equals close to \$20 billion. Differences in the order of magnitude are primarily based on the significantly further advanced electronic payment market, as well as the advertising market, in the US.

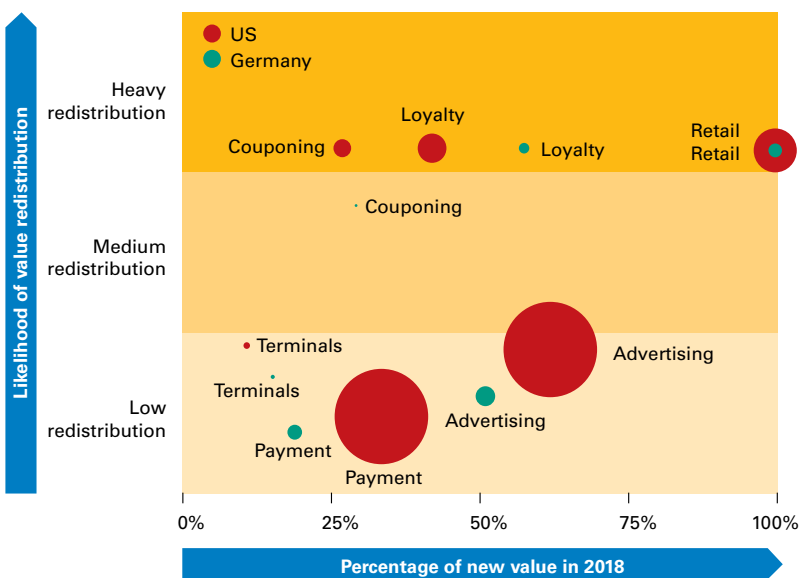


Table 1  
**Several industries will face significant redistribution in the next 3-6 years**  
Source: Arthur D. Little analysis

## 2. NFC is much more than payment

NFC has been limited for a long time to the payment industry, as NFC at its core provides a faster, more convenient and also secure payment experience. However, limiting NFC to payments results in challenges in making the business case attractive. More players today are offering essentially the same service, but customers are not willing to pay a premium for the same service.

To increase the revenue pie, NFC needs to be understood in a broader sense (see Table 2). In principle many players have incorporated this already, but in practice there are very few promising solutions. These can be found in South Korea and Japan. The concept of Cityzi in France also goes in this direction. Many other initiatives incorporate elements, but the concept in its entirety hardly exists.

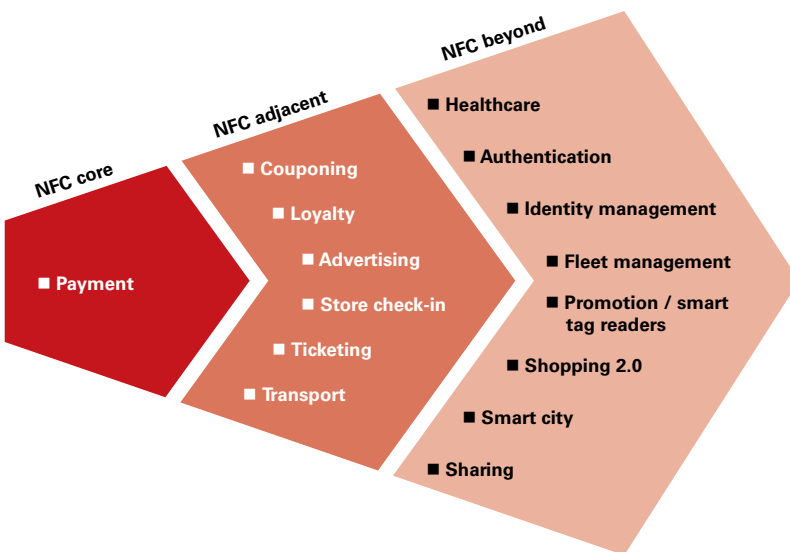


Table 2  
**The real value of NFC comes when looking at it from a broader perspective**

Source: Arthur D. Little analysis

Still, payment remains the key enabler of the NFC ecosystem for two reasons: firstly, payment is the single most important service in driving scale and user adoption; and secondly there is significant inherent value in payment data. Leveraging the payment data and combining this with targeted couponing or advertising or geo-location-based data is the reason justifying the hype.

## NFC business logic for retailers

Physical retailers today are in a very uncomfortable position. More and more consumers are using their smartphones to compare prices in-store (called “showrooming”) or are staying at home to shop online and not visiting a physical store at all any more. The physical electronics retailers have been hit particularly hard. In addition, highly popular concepts à la Groupon worsen the situation of retailers even more.

NFC offers opportunities to counteract the threat of the digital markets through the first real-time linkage between the physical and the digital world. NFC could support retailers in steering consumers in a much more targeted fashion when in-store or even towards a retail location. Combining the historical purchase data with geo-location data while offering an immediate one-to-one communication channel can provide significant value to retailers.

In stores NFC could support retailers in overcoming the problem of the lack of personalization of consumers’ shopping experience. The current shopping process is entirely detached from who the consumer is and retailers cannot play the game, on a par with Amazon, of making targeted offers to consumers when they “enter their store.” NFC offers the opportunity to provide check-in/check-out systems or additional benefits such as tap-for-information, tap-to-add-to-baskets or tap-for-coupons concepts.

Retailers like the French Casino group are already testing and partly deploying NFC concepts, but the dominant group of retailers is at best only exploring (or about to explore) the mobile as a key channel. Other retailers are experimenting with barcode solutions. Starbucks, for example, has launched a highly successful app, which can be considered one of the single most successful mobile payment applications in a developed payment market handling 1 million transactions per week.



This is also the reason why companies like Google and Apple and established payment giants like Visa and MasterCard are heavily engaged in everything linked to mobile payments in the mid-term. The value (and profitability) of targeted couponing and advertising will quickly outgrow the value of the payment markets. More established players have realized this, as American Express did when it acquired Loyalty Partners for more than \$500 million in 2011.

### **3. NFC requires an ecosystem to be built**

The NFC ecosystem today is enormously crowded. Individual stakeholder approaches and strategies differ strongly between stakeholder groups, within stakeholder groups and by country. France, Canada, Singapore and the Czech Republic follow a rather collaborative approach with various stakeholders and stakeholder groups and selectively even with the government involved. Germany, Hungary and South Korea focus on setting standards in a wide industry collaboration, while in the US and Belgium the mobile operators have joined forces to enable NFC payments as the driving forces. There are also front runners trying to drive the ecosystem as the key player, most prominently Google in the US.

Generally speaking, financial players can be said to be primarily focused on securing their claims. In particular, issuing banks tend to act in a very uninspired way. They therefore face the biggest threats of becoming second-tier players, behind the mobile wallet (which will be a Google Wallet and not a bank wallet) and new players offering additional services beyond pure payments (Google has already launched a financial division offering business loans and Amazon is expected to do so shortly). Payment scheme giants like MasterCard and Visa are doing their homework and focusing on their enabling role, making it hard for anyone not to play by their rules. Telcos still believe that they are a key enabler just because of the tag "mobile," and seem to have learned close to nothing from the negative app store experience. New players like Google, PayPal or LevelUp are acting in the most promising way, but still have a very long way to go.

To better cluster the activities we identify four key dimensions in line with the scope of NFC services mentioned above. In addition to the “payment dimension”, the “NFC payment adjacent dimension” and the “NFC beyond dimension”, we identify the “enabling dimension” as a highly critical dimension. This refers to the enabling of all prerequisites for NFC to function (standards and processes, software and hardware), and it also contains the role of enabling other players to be integrated in a mobile wallet. Activities are particularly high in the last part, as whoever manages to enable the ecosystem has the opportunity to take a kind of gatekeeper role, controlling the ecosystem.

Surprisingly, the core payment dimension lacks activity from outsiders to date. PayPal, for example, offers core payments, but still relies heavily on the credit card industry. Real innovation is low. NFC payment adjacent dimension is another hot spot. Players have realized that money is to be made here. This dimension also shows the highest share of outsiders entering the market. We believe the opportunities are biggest in this dimension. NFC beyond services are still widely untouched as the market is not yet ready, but innovations in the areas of health care, business applications and smart city concepts are becoming increasingly visible.

#### **4. Positions need to be taken in the near future but financial benefits are three to five years away**

Market readiness is one of the most discussed topics in the domain and also one of the areas of the biggest misperceptions. To be clear here:

- The terminal issue will be solved in the short term in most markets since a large share of terminals are already NFC-enabled and most of the terminal shipments are limited exclusively to NFC-enabled terminals.
- NFC-enabled handsets will remain a challenge in the short term, but all manufacturers except Apple have more or less committed to NFC. Still, when developing an NFC solution, you need to

consider alternative technologies in order to prevent a situation in which consumers are willing to use your service but are hindered by technical restrictions. Therefore all technologies should be on the table.

- Merchants' interest is high, as long as you do not increase transaction fees and do not require massive terminal integration.
- Consumer interest needs to be proven, but we strongly believe consumers will adopt as soon as there is a comprehensive solution. We do not trust any of the market surveys because consumers are unable to answer such complex questions, but we believe in the trust in mobiles expressed by users through their everyday usage of mobile devices.

We also asked the global experts when NFC will become significant, i.e. when it will represent at least 20 % of electronic payment volume. Despite the graph (Table 3) showing that we are still some time away, two factors need to be considered. Firstly, when we talk about 20 % of total electronic payment volume, we are talking about transaction value globally in the high double-digit billions of dollars. Secondly, adoption will significantly accelerate once 20 % of total payment transaction volume is reached.

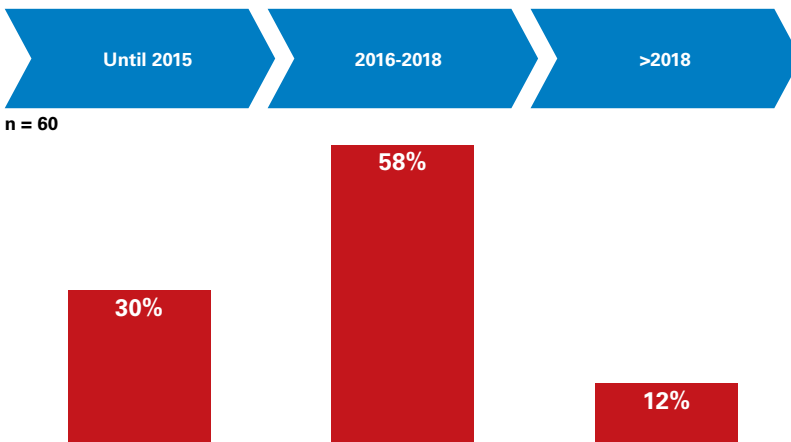


Table 3  
**How industry players see collaboration**  
Source: Arthur D. Little analysis

## How to remain or become relevant

This article has focused on the topic of NFC and how to leverage this new technology. Still, when considering entering this market, technology should not be the primary concern. We believe that the consumer/customer should be the focus of all thinking (be it a B2B or B2C relationship), and technology should follow.

Furthermore, solutions should be comprehensive. The nature of NFC limits its scope naturally to proximity payments. That said, we believe there is a strong rationale in thinking beyond pure proximity payments and offering a multitude of use cases.

### Stick to the obvious

Most interviewees mentioned that the solution needs to be user-friendly, convenient and safe and that there needs to be a positive business case. We disregarded these answers in the following graph (Table 4) as we consider them obvious (which is not to be mistaken for simple).

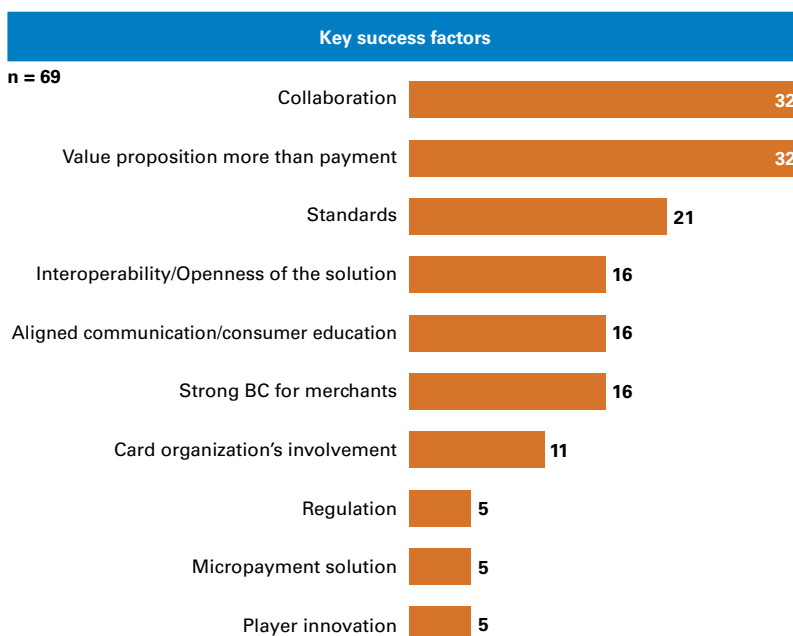


Table 4  
**Most industry players consider collaboration and a value proposition beyond just payment as most important**

Source: Expert interviews, Arthur D. Little analysis

The top answers, collaboration, standards, interoperability and aligned communication, all point to the fact that NFC is not a one-player market. But this should not be mistaken for one player not being able to drive the ecosystem individually.

## **Be bold or partner up**

One of the key questions discussed with the interviewees was the importance of a first-mover advantage. Yes, there can be one, but it is not as strong as with other opportunities. Enormous consumer education is required and usually the infrastructure is not proprietary, leaving the door open for the next player to enter – at least for a limited period of time.

In an ideal world, the key stakeholder groups would work together in figuring out the best way to set up the ecosystem by providing openness in the solution and agreeing on the minimum rules and regulations. As mentioned earlier, many countries are following this route, but the threat is that it takes too long, that agreements cannot be achieved and that at the end there will be no commercial launch.

We believe this opens a window of opportunity for players to take the lead and try to develop the market. Experiences won this way are invaluable and the partnerships concluded truly add value. Ultimately the first-mover advantage will belong to that first player having it done right.

## In conclusion

When we talk to our clients and discuss the implications of NFC, we often receive comments like “The infrastructure is not in place”, “Where is the sweet spot?” or “I am not interested in sharing my clients with other players”. Whereas all these remarks are relevant, we believe the level of knowledge is most often insufficient to make a final decision.

The digital revolution has already caught many players unawares, brought up new leaders and turned former winners into today’s losers. Still, the future of mobile NFC is far from clear. There are still many obstacles on the road to making the NFC ecosystem a reality. Nonetheless, expectations are set and activity is tremendously high. The “elephant” – the question of how to make a positive business case – is still in the room, but we believe it will be overcome by entrepreneurship, innovation and consumers’ demand for mobile services.

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