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# Open for Business in Russia: Payments with Nikolay Zhmurenko's 2can

This case was written by Tomas Casas i Klett (Assistant Professor at the Research Institute for International Management at the University of St. Gallen, FIM-HSG). The case is exclusively intended as the basis for class discussion rather than to illustrate either the effective or ineffective handling of a business situation. The case was compiled from interviews, internal documents, and publicly available sources. The case was developed without external funding.

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**Abstract**

By the end of 2013, Nikolay Zhmurenko's mobile credit card payment venture Smartfin – also known as *2can* for its iconic brand – had a critical mass of 4,000 users,[1] and was already leading the field in Russia. But Zhmurenko, the co-founder and CEO, still had much bigger ambitions: he planned by 2017 to increase by almost 100-fold the network of merchants accepting credit cards on smart mobile devices enabled by 2can card readers.

Fully 300,000 users on smart mobile devices would be enabled by 2can card readers to accept credit card payments. As a former top executive in Russia's telecom industry for nearly a decade, Nikolay was no stranger to very high growth rates. Yet the multitude of entrepreneurial challenges and uncertainties facing his nearly two-year-old venture was like nothing he had ever experienced. Monetization and business model choices, banking relationships, technology tradeoffs, closing a much needed $6 million USD Series B funding round – all required accurate readings of the fast moving Russian business landscape. Foreign business models and market leaders such as Square, PayPal Here or Roam Data were but a distant reference at best. Nikolay sought ideas, relevant networks and the backing of key institutions in Russia. He was going to cut deals with some of the country's most powerful players, and he was poised to take creative and unprecedented decisions.

[1] Each merchant averaged 2.25 users. Just like most traditional retailers had multiple checkout counters, the businesses enabled by 2can had multiple card-readers (manned by *users*) tasked to accept card payments. For instance, there were two shop assistants at a given grocery store, and half a dozen couriers delivering and taking credit card payments for a given e-commerce outlet.

**Part I: An Entrepreneur in Search of a Venture**

At age 35 and already with over 15 years' executive experience, Nikolay had everything he could have dreamed of growing up in the fading decade of the Soviet empire. In 2010 he enjoyed his family life and a stimulating professional career in a fast-moving, high-tech business. The business afforded him important responsibilities as well as excellent remuneration. Not insignificant either were the perks of life in Moscow during President Vladimir Putin's economic renaissance, the high-growth years at the onset of the 21st century. Between 2000 and 2013, Russia's GDP had expanded by a factor of 10, from around $200 billion to over $2 trillion USD.

In Moscow's tight market for top talent Nikolay had enjoyed the privilege of changing jobs (7 times in 15 years) and experimenting with new challenges. For instance, he had worked from 2007-2010 as the CFO of Sistema Telekom, Russia's largest telecommunications group. With over 100 million subscribers, the telecom group was also the crown jewel of billionaire Vladimir Yevtushenkov's Sistema conglomerate. Yet for all its dynamism and comforts, he found himself becoming bored of his CFO life. Nikolay started to ponder about a switch more radical than just moving to the next large corporation. He longed for a "change in lifestyle." By 2010, he had concluded that transitioning from the C-suite to launching a venture was the way forward.

But what venture?

Many ideas crossed his mind. As a follower of Jack Dorsey (of Twitter fame), Nikolay had become intrigued by Square (https://squareup.com/), the mobile payments company the billionaire had launched in 2009. This firm founded by the 2012 *Wall Street Journal* "Innovator of the Year Award" would 'take on' banks by letting "anyone accept credit cards".[2] Upon further research, Nikolay concluded that a mobile card processing venture necessitated a fascinating combination of skills and experience. Such a venture was at the intersection of three fields dear to his heart:

i. Mobile telephony: After over a decade in Russia's telecom industry, he understood its fundamentals very well.
ii. Banking cards: While not a credit card expert, his CFO tenure meant that the intricacies of Russia's finance system were his home turf.
iii. Software: His true passion as a teenager was software. In 1986 Nikolay had gained acceptance to the Experimental School No. 710 of the Academy of Pedagogical Sciences, one of a handful Soviet elite schools specializing, among other subjects, in teaching software engineering. But upon graduation in 1991, he changed focus to study economics and accounting at the prestigious Moscow State University of Railway Engineering (Московский государственный университет путей сообщения), also known as MIIT.

[2] http://www.wired.co.uk/magazine/archive/2012/08/features/jack-dorsey

The first step towards becoming an entrepreneur was to quit his job. Nikolay had been working for Alexei and Dmitriy Ananiev, two Russian billionaires and proprietors of Synterra, Promsvyazbank, Technoserv, Media3 and a range of other firms.[3] When in 2010 the brothers decided to sell Synterra they offered Nikolay the CFO position in another top company of their portfolio, Media3. Media3, a fixed-line operator possessing the third biggest fiber-optic backbone network in Russia, was eventually sold off in June of 2010 ($745 million USD) to MegaFon (МегаФон), which then went on to become the country's second mobile phone operator.[4]

It was in July of 2011 that Nikolay resigned from his CFO post at Media3. From that time on he was able to devote all his time and energy to plan the launch of his mobile card processor venture, including half a year of intense research and network building. He had to identify partners and quickly fill knowledge gaps, including figuring out how Russia credit card processing ecosystem worked. His approach: endless rounds of interviews with industry experts and friends.

Nikolay also knew that he would need strong colleagues to bring such a complex business and technology project to fruition. Dr. Yury Vladimirov was an old and very close friend, in whom Nikolay had long confided his entrepreneurial dreams. The two had met at MIIT and had worked together at Svyaznoy (Связной), the country's second largest independent mobile phone chain, as well as at Synterra. In April of 2012 Nikolay and Yury incorporated JSC "Smartfin" (ЗАО «Смартфин») in Moscow with a start-up capital of about Rubles 10,000,000 (approx. $300,000 USD). The product brand "2can" was created over the summer. A new venture, totaling four executives, came to life in Moscow.

Nikolay owned a controlling stake and was the CEO. Yury, who held a Ph.D. in Economics from State University of Management (Государственный университет управления, or SUM) and had been an Assistant Professor at the prominent National Research University's "Higher School of Economics" (Национальный исследовательский университет "Высшая школа экономики", or HSE), became the COO. The two founders were joined by a CCO (recently replaced by a Commercial Director with a "huge banking background"), and the CTO, Konstantin Yan, who brought 10-years of experience in bankcard processing.

The beginning involved a lot of guesswork: "we made *something like* a business plan," says Nikolay, "because it is hard to make a business plan for a start-up." Moreover, he noted, from inception "we have been changing our financial model and our business plan continuously, step by step." Nonetheless, "even if the roadmap was admittedly shaky" to start, the vision for www.2can.ru was clear: "to

[3] For more information on Nikolay's former bosses, the Ananiev brothers, check out; http://www.forbes.com/profile/alexei-ananyev/, http://www.forbes.com/lists/2008/10/billionaires08_Alexei-Ananyev_WH0E.html, http://www.forbes.com/profile/dmitry-ananyev/

[4] http://english.corp.megafon.ru/news/20101129-1620.html and http://www.bloomberg.com/news/2010-07-09/megafon-ceo-soldatenkov-seeks-two-acquisitions-this-year-after-synterra.html

become Russia's leading mobile card payments firm." The founders seemed keenly aware that they were engaging a business gamble for which they were not properly equipped.

Sizing the market: Russia's immensity

Russia had a population of about 143 million inhabitants and more than 4 million 'sales points' handling retail transactions. Of these, about 3 million checkout points had cash registers, and about 500,000 were equipped with advanced electronic POS (point of sale) terminals. That meant that about 3.5 million Russian sales points took just cash. These figures, obtained from Nikolay's research, pointed to an impressive opportunity: did a vast under-serviced merchant segment constitute the addressable market for 2can?

To help answer this question, the founders looked at the positioning of US and EU mobile payments firms and start-ups in that space. Their services enabled businesses that had never enjoyed the possibility of accepting credit cards to begin to do so; they were also replacing traditional card readers with a convenient new technology solution. While there were 19 to 20 POS terminals per 1,000 people in the West, Nikolay's research showed that the figure in Russia was a ratio of just 3 to 4 per 1000. Moreover, the CAGR of credit card turnover for Russia was forecast to be 19% between 2010 and 2017. Russia's large informal retail sector mostly lacked legacy credit card payment infrastructure, meaning that mobile payments might grow to become a larger proportion of the overall payments market than in developed Western countries. But the absence of infrastructure also entailed difficulties. Did the corner restaurant with delivery services understand the need to offer credit card payment facilities to its clientele? What about the neighborhood vegetable stall with its significant number of daily micro-transactions?

Targeting the low-hanging fruit was essential for Nikolay as he considered the initial merchant acquisition strategy. In his original assessment it appeared that the early adopters ought to be e-commerce SMEs and food delivery vendors, areas where the cash-on-delivery model reigned. In Russia, shoppers liked to see (and touch!), the goods before paying. A delivery person armed with a 2can card reader and a smart phone (see picture 01 in Exhibit I) expanded the range and number of potential clients. That held for offline and online merchants alike.

Nikolay's 'jump into the ocean' was first and foremost associated with 2can's commercial strategy to recruit merchants. The deeper he got into the particularities of the local mobile payments processing market, the more obvious it became that Russia had challenges well beyond copy-and-pasting Mr. Dorsey's concept from the United States. While in Western investment circles it had been said that 2can was a Square "clone"[5] (Nikolay did not mind the comparison), and admittedly the American firm might have been an initial source of inspiration, the

[5] http://thenextweb.com/insider/2012/12/18/russian-square-clone-2can-lands-a-400k-funding-round-from-almaz-capital-partners/

study of foreign business models provided 2can with very limited guidance given the scope of market differences.

For instance, after February 2014 dual magnetic stripe and 'chip readers' (also known as 'Chip and PIN' or EMV smart card payment systems)[6] would become the prescribed hardware standard in Russia. In the US the initial migration plans of the card industry from magnetic stripe to the safer chip had failed, and in 2014 there was still uncertainty and 'halfway' implementation (no PIN required) measures, despite rampant fraud (The Nilson Report expected card fraud to cost the US card payments industry $10 billion USD by 2015) and evidence of positive results in early-adopter nations like the UK.[7] Others differences were the contract structures with local merchants, payments ecosystem entities and financial institutions that had to comply with Russia's regulations. Most importantly, to scale client acquisition Nikolay and Yury would have to devise a unique Russian marketing, sales and support approach.

As the different facets of the business model were being mulled over there was a pressing concern: to build the product. That meant a piece of hardware, the credit card reader, which worked with the software payments system that merchants used to accept transactions.

Technical capabilities: Hardware and software

Magnetic stripe dongles were mostly produced in China, but with the looming new dual reader requirements and the complexity associated with higher security, 2can had to go beyond outsourcing and get a strong grip on the technology. Dual magnetic stripe and chip readers were generally produced in Europe, as European credit card issuers initiated the global migration to this safer technology in 2011. Nikolay wished to identify a partner in Russia who could co-develop and produce the new standard dual reader for 2can. Korund-M (http://www.korund-m.ru/) was a local manufacturer of complex electronic components whose clients were government organizations. In late 2012 Nikolay met Mr. Stavitckiy, the boss of Korund-M, and joint R&D efforts were soon launched for the new generation of dual card readers. By the beginning of 2014 Visa's certification for 2can's dual reader (see picture 01 in Exhibit II) was awaiting final approval.

This development was no small achievement and would build on an earlier breakthrough. In September 20th 2012, 2can became the first mobile payments firm in Russia to be accepted by Visa. The quality of the magnetic stripe technical solution had been key and 2can's marketing collateral emphasized that its terminal (terminal = dongle + software) saw success in 9 out of 10 card swipes (vs. 4 or 5 out of 10, for most competitors). After the introduction of the dual reader in

[6] Further details on chip card technology in payment transactions is available at: http://ingenico.us/wp-content/uploads/2012/07/Ingenico-EMV-FAQ-07052012.pdf

[7] http://www.firstdata.com/downloads/thought-leadership/EMV_US.pdf citing The Nilson Report, #951, June 2010 and http://www.stltoday.com/business/columns/jim-gallagher/chip-security-is-coming-for-credit-cards/article_3780432f-a893-5298-aa3c-61c8c6d869a6.html

Western Europe, it became clear that Russian firms would need more time, and Visa gave 2can and a few other selected projects a waiver. This showed how much 2can mattered to Visa.

Nikolay was proud of the outcome of the joint R&D process, especially as he thought that the Russian hardware manufacturer had upgraded its product development capabilities in part thanks to 2can's software engineers. He even thought about Korund-M becoming a future 2can shareholder. The new 2can proprietary dual card reader device was to become a key competitive advantage, not least because of its ability to work with a variety of different Android devices. Nikolay had also studied Square's negative experience with its original non-encrypted reader, which had sparked quite a debate about card skimming in America.[8] Hence 2can offered encrypted dongles from day one. On the card reader hardware set-up, Nikolay saw 2can's leading position as attributable to a mix of three elements:

i. A high-performing development and engineering team
ii. Top quality card reader dongles
iii. Higher product development speeds

Of the 25-30 people employed at 2can at the beginning of 2014, a team of 10 worked for the technical division. To make hardware work, software capabilities were critical. Merchants who signed up with 2can and got the 2can card reader dongle had to download the 2can merchant App, either from the Apple App Store or Google Play. They then plugged the card reader to their smart phones, which would connect them to 2can's mobile payments software platform in the cloud. The Russian merchants' mobile devices would then be enabled to accept payments. 2can had invested in 100% coverage of iOS devices (iPads and iPhones) and 80% of Android devices.

2can's 'software platform' was the back-end that made it all happen. The platform was hosted in the cloud. Using Amazon's cloud services was not possible as data centers had to be specified and approved by the credit card industry and adhere to Visa, Master Card security rules. Only three data centers in Russia met these standards, one of them being the 2can supplier, DataLine (www.dataline.ru). All technologies came together in a cloud service. The solution ranked first in a comprehensive survey by Habrahabr (Хабрахабр) one of Russian's leading IT and Internet blog sites:

> "First place ranking is for 2can's service. Second place is rightly shared by LifePay, Sum Up and Pay Me. The third and worthy place is for iPay and iBox. Simple Pay, RBKCard, Termite and Paybyway are currently rated as outsiders. However, as time goes on the situation might change, so we would not write any of them off."[9]

Nikolay was adamant that the firm would have to scale up the technical division. An increasing amount of functionality and ideas had to be implemented for 2can to

[8] http://www.pymnts.com/commentary/pymnts-voice/roam-data-ceo-responds-to-verifone-s-open-letter-about-square/
[9] http://habrahabr.ru/post/191196/ (translation from Russian)

remain the industry leader in terms of services and innovation. QR-code reading capabilities, geo-location and data tracking services, as well as merchant statistics reporting and CRM functionality, were all on the to-do list. In the future the main technical challenges related to product development might not be the hardware devices themselves, or the software platform that processed the mobile payment transactions. 2can's competitive advantages might rather accrue from designing – for merchants and for partner banks - a suite of value added services surrounding the payment process.

**Part II: The Business Model**

2can's core business model at start-up had been the 'own brand' (i.e. 2can label) model. Yet Nikolay also implemented early on the "opposite strategy" of a 'white label' (or OEM) model. Both of these models were derived from standard card payments industry business models and fit neatly in the industry's ecosystem, but most players chose one or the other. Was a dual approach wise or a fatal split?

Nikolay admitted to a bias for experimenting. Moreover, he was even mulling additional and alternative approaches to revenue generation. He reckoned that big data models, value added merchant services, banking software platform services or eWallet initiatives might all one day become key parts of 2can's revenue stream mix.

Card payments: Players and the ecosystem

The 20th of September of 2012 the 2can payments infrastructure had been set up and the firm was ready for its debut. A press conference was held with Visa and Promsvyazbank (Промсвязьбанк, www.psbank.ru). The bank was instrumental in the event and it was 2can's first **acquiring bank**. The role of an acquiring bank was to manage the card processing services for the merchants that 2can would eventually sign up (in the US, Square's acquiring bank was JP Morgan Chase, NYSE: JPM).

Promsvyazbank (PSB) was known for being innovative and had been expanding aggressively since being founded in 1995 by the Ananiev brothers. PSB's website boasted "1.2 million retail and over 93,000 corporate clients,"[10] including 73,000 SME customers.[11] The commercial bank possessed "BB" Standard & Poor's ratings as well as the "AA" mark from Russia's National Rating Agency.[12] 2can also partnered with a second entity, Master-Bank (Мастер-Банк, www.masterbank.ru). The private bank was founded in 1992 and was known for having state-of-the-art processing centers and running one of the country's largest ATM networks. However, in November of 2013 the Central Bank of Russia (CBR) revoked the bank's business license as part of newly appointed chairwoman's Elvira Nabiullina campaign against illegal banking activities.[13] Besides PSB, 2can was planning to sign-up a number of other banks.

In 2can's ecosystem, PSB was the entity that routed credit card information and transaction details through the Visa or Master Card networks, and electronically linked the acquiring and the issuing banks. A comparison with Chase Paymentech (www.chasepaymentech.com) would illustrate another characteristic that made the Russian payments model distinct from the US model. Chase Paymentech was the transaction processor for JPMorgan Chase and thus for Square. The US model

[10] http://www.psbank.ru/Bank/About/General
[11] http://www.psbank.ru/~/media/Files/Bank/News/Smi/volchenko.ashx
[12] http://www.psbank.ru/Bank/About/General
[13] http://rt.com/business/master-bank-license-revoke-021/

saw two distinct companies (an acquiring bank and a technical processor), while in Russia there was no such division between the banking and processing business (i.e., PSB = JPMorgan Chase + Chase Paymentech). PSB was also the entity that technically processed the transactions for 2can. Nonetheless, the two firms shared the transaction risks.

As an acquiring bank PSB processed the 'interchange fee' for the acceptance of 2can mobile payments card transactions. Customarily the interchange fee in Russia was approximately 1.5% of the transaction value. In the US a reference interchange fee normally would have been 1.15% but it also varied, as the fee structure was rather complex with fixed and variable elements.[14] It was set for each purchase on the basis of a multitude of variables such as the card type (credit, debit), category (cash back, etc.), origin (domestic, international card) the processing method (swipe, e-commerce, 'Chip and PIN') or the transaction characteristics (such as purchase deal size). The interchange fee was ultimately paid to the **issuing bank**, the bank that issued the credit card to the customer (that had transacted with the merchant). The interchange fee structure was non-negotiable; it was a fee structure collectively agreed by all issuing banks under the auspices of Visa and MasterCard.n[15]

In Russia, brands such as Visa or MasterCard received 0.05% for the series of **assessments** needed to clear the authorization request for each transaction. In America, by contrast, the assessment rates for Master Card and Visa were recently raised from 0.0925% plus a fixed $0.0195 to 0.11% plus $0.0195 per transaction.[16] This fee structure was also non-negotiable.

There was a third component, the processor margin or mark-up. The **processor** was a team composed of (i) the acquiring banks, (ii) the transaction processor (which in Russia were the banks themselves, and in the US were independent technical providers which played no business role in the mobile payments card ecosystem), and (iii) the sales and servicing agents (in this case 2can or Square). Note that Visa called these agents 'PSP' (payment service providers) and MasterCard identified them as 'payment facilitators.' In the payments ecosystem, 2can was a marketing, sales and service organization. For this category of firms, what was the business model? How did they obtain their mark-ups?

It was well known that the interchange fee structure and the mark-ups had in many countries been deemed excessive. As a result they had been the subject of antitrust litigation, regulation, US Senate banking committee hearings, and they were even exempted from the EC Treaty forbidding price-fixing and anti-competitive practices.[17] Master Card noted that the Reserve Bank of Australia

[14] http://usa.visa.com/download/merchants/visa-usa-interchange-reimbursement-fees-april2013.pdf
[15] http://www.cardfellow.com/content/credit-card-processing-guide.php#MoneyGo
[16] https://www.burlingtonbankcard.com/interchange-plus-pricing/interchange-plus-credit-card-processing-faqs/can-interchange-plus-pricing-credit-card-processing-rates-increase-over-time/
[17] http://europa.eu/rapid/press-release_IP-02-1138_en.htm?locale=en and http://europa.eu/rapid/press-release_MEMO-08-170_en.htm?locale=en

2003 decision to halve credit interchange fees did not lead to "lower prices for consumers" but rather to "cumbersome regulation (and) a lack of competition and innovation" resulting in "a more expensive payment system that delivers fewer benefits."[18] Yet despite the various challenges, the main tenets of the industry's business model had prevailed. When technology became ready to enable mobile credit card payments, the new mobile payments players integrated into the current ecosystem and chose a business model consistent with the existing options. The way the mobile credit card payment firms and their acquiring banks (that is, the processor teams like [2can + PSB], or [Square + JPMorgan Chase + Chase Paymentech]) obtained their mark-up or margin constituted the core of the mobile payments business model.

In the traditional non-mobile card processing business there were two ways to charge merchants. The first way through which processors earned their margins was ***pass-through pricing***. Under this variant the processors passed through to the merchants the interchange fee (the issuing bank piece) as well as the assessment fees (the card brand piece) at cost. The processors then charged a mark-up, which consisted of a percentage and a flat fee (in the US this could be 0.1% plus $0.2 USD per transaction).[19]

The second mark-up variant was the ***bundled pricing*** model,[20] and that model was chosen for mobile card processing. It was also the only model used by Russian banks. Under the bundled variant, the processor's mark-up rates were as much as the processor team deemed reasonable. Square's main model imposed a flat, fixed rate of 2.75% charge on each merchant transaction. There were some variations (flat rate pricing of $275 USD per month was possible) as well as related restrictions.[21] 2can referenced this approach. Yet while the 2.75% was fixed, Nikolay pointed out that sometimes very large volume merchants might negotiate a percentage fees that were lower than 2can's standard. As for the model's revenue generation potential, in 2013 total transactions processed by Square were expected by one account to hit $20 billion USD, resulting in sales of $550 million USD; Square's own net revenue, the mark-up part, could amount to $110 - 165 million USD.[22] Even taking the lower figures as a working assumption, Square's own take of 0.5% (from the 2.75% charge) was considered high by American PSP/payment facilitator/sales agent standards.

The industry fee structure in Russia that applied to 2can is summarized as follows:

[18] http://www.mastercard.com/us/merchant/pdf/021208MythsFacts.pdf
[19] http://www.blindbid.com/blog/2011/09/30/what-visamastercard-assessment-fee/
[20] http://www.cardfellow.com/content/credit-card-processing-guide.php#MoneyGo
[21] http://www.cardfellow.com/blog/square-review-rates-fees/
[22] http://blogs.wsj.com/digits/2013/11/06/square-exploring-2014-ipo-with-banks/

**2can Brand**

| | |
|---|---|
| Acquiring and processing bank | 0.45% |
| 2can | 0.75% |
| Issuing bank | 1.50% |
| Visa / MasterCard | 0.05% |
| *Total* | *2.75%* |

Own brand, '2can Label' model: Signing-up clients

In the 'own brand' model the 2.75% fee (charged to merchants) eventually worked out to a margin of 0.75% for 2can. These percentages were considered lofty for 'sales and serving' agents in the Russian credit card processing business. Yet it was not less true that mobile credit card processing companies often reached 'bottom of the pyramid' merchants, which previously where unable to take credit cards and as a result missed out on potential shoppers. Reaching those merchants was expensive (when asked, Nikolay answered that the average acquisition cost and the net revenue figures per merchant figures were confidential).

Generally speaking, industry metrics behind the business model were a carefully guarded secret that often had analysts guessing. In June 2012 Square announced that it had 2 million users (merchants, individuals) accepting credit cards.[23] Pundits then divided that number by the total number of payments processed and calculated that the 2.75% cut resulted in about $110 USD generated per user.[24] Applying that figure to a mark-up of 20% to 30% yielded around $30 USD net revenues per user per year. Yet Square's revenue streams were hard to determine, especially non-conventional ones derived from non-interest bearing merchant reserves, daily discounting practices, the higher 3.50% plus $0.15 USD fee for card-not-present businesses (incidentally, this model and practices often drew complaints).[25]

Expanding credit card usage was one of the reasons why in January 2011 Visa co-invested in Square's Series B round that valued the firm at $240 million USD,[26] and why Visa supported 2can with the September 2012 launch press conference. In the West, mobile payments were perceived as an ideal solution for tradesmen and lifestyle enterprises, for micro and small firms, and for seasonal and temporary business. In retail, some of the largest brands saw the technology as a way to increase flexibility and services levels, while for retailers that lacked a stable storefront it was the only way to accept credit card payments.

[23] https://squareup.com/news/releases/2012/more-than-two-million-square-users-can-now-accept-credit-cards
[24] http://news.cnet.com/8301-32973_3-57391137-296/metrics-watch-what-does-squares-$4b-in-transactions-really-mean/
[25] http://www.cardfellow.com/blog/square-review-rates-fees/
[26] http://www.crunchbase.com/company/visa and http://techcrunch.com/2011/01/10/sequoia-leads-27-5-million-round-in-mobile-payments-startup-square/

In Russia this last category included Gorbuhska retailers (Горбушка, as the open-air markets selling electronics are known in Russia) or metro station retailers (such as those once found in Moscow's Mitino district, Ми́тино). Exposure to some of these merchant segments meant that mobile payment processors incurred a larger transaction risk than their non-mobile processing peers. As a result they had to qualify merchants to prevent misuse, and investing in fraud prevention was a must.

How did 2can sign-up merchants? The firm's direct sales team (10 employees) placed cold calls to merchants to generate interest. 2can also got leads as a result of advertising, both on-line and off-line. Other marketing approaches included participation in special conferences where 2can representatives met with large potential merchants. Nikolay noted that one of his commercial coups was signing up Tanuki (www.tanuki.ru), probably Moscow's best-known Japanese sushi chain, "now one of our biggest clients." Credit card payments for Tanuki's popular food delivery services (just call 495-223 2 223) were processed by delivery staff armed with smart phones sporting the 2can dongle.

2can's portfolio included names like http://citycycle.ru/, http://ad-paintball.ru/, or http://www.electrovenik.ru/. Beyond traditional merchants and retailers, professionals such as taxi drivers and insurance agents constituted other high-potential targets. Russia's e-commerce sector was also a fertile ground for business development. Early on 2can's research had showed that about 80% of online sales in Russia were cash-on-delivery pointing to an obvious, and at the same time highly profitable, opportunity. This opportunity materialized beyond expectations: by the end of 2013, 2can had succeeded in signing up 470 e-commerce stores, representing 20% of all of 2can's points of sale, for 38% of its revenue.

The initial problem of convincing merchants, professionals and e-shops was trust in the technology. The milestone that tackled the issue was the launch event of September 2012. At the press conference a PSB executive, Mr. Algirdas Shakmanas,[27] used his personal Visa card and swiped it through the 2can dongle of a merchant's iPhone to acquire fruits and vegetables from a Straight from the Farm store (http://www.sferm.ru/en/). The demo was a real mobile credit card purchase, the first ever 2can transaction.

OEM, 'White Label' model: Banking partners

The custom branded OEM or 'white label' business saw 2can recruit partner banks and financial institutions that would sign up merchants under their own bank brand. All the technology and support was provided in the background by 2can. The global reference for white label mobile payments solutions, sometimes also known as mobile point of sale (mPOS) was ROAM. The venture founded in 2005 in Boston was acquired in 2012 by Ingenico SA, a French payments equipment and

[27] http://www.efma.com/index.php/networking/whos_who/portrait/EN/7/519/1-OZZYO

solutions provider with 20 million terminals deployed.[28] By the end of 2013, 2can already had signed up three Russian leading financial institutions for its own white label programme.

Austrian owned Raiffeisenbank (Райффайзенбанк, www.raiffeisen.ru), one of Russia's top 10 banks, was 2can's most active partner bank. Russian Standard Bank (Банк Русский Стандарт, www.russianstandardbank.com), owned by billionaire entrepreneur Rustam Tariko, also of Russia Standard Vodka fame, was one of the country's leading merchant acquirers, and had issued nearly 40 million credit cards as the exclusive partner of American Express. The deal with OpenBank (Банк "Открытие", http://www.openbank.ru/) has been inked in December of 2013. With three banks in 2013, it was expected that two additional more banks would join the progamme in early 2014. By the end of 2014 Nikolay wanted to have eight to ten banks, including three of the country's top 10 banks. All of these banks were provided with card readers duly branded with their own bank logo. The readers were in turn distributed to banks' merchants to enable their mobile devices to accept credit card payments. As part of the partnership, 2can also designed and developed the iOS and Android OEM apps for the bank that where used by their merchants to transact the payments (see picture 04 in Exhibit II).

By the end of 2013 the white label investments had not yielded returns of note and the model played second fiddle to 2can's own label.

> "We do things quickly (with 2can's own brand) and banks obviously move slower than start-ups. When a bank starts something, like entering a new market, they need a long preparation period. We sell more than Raiffeisenbank, which might seem surprising given their client base. We sell the very next day after we develop our software product, while the banks start to sell a long time after they have been enabled."

Moral hazard by financial institutions underreporting revenue was of course not an issue because 2can "sees" the numbers and size of the transactions. All white label banks used 2can's software platform, which ran on 2can's datacenter. As for splitting forces, Nikolay saw no contradiction in pursuing both strategies. He was adamant that once the powerful machinery of banks started rolling, 2014 being the breakthrough year, the white label business model would earn 2can as much revenue as 2can's branded model (see Exhibit IV). It was the combination of the both revenue streams would make his firm the leader. That would be so, he felt, despite the white label business model yielding significantly lower margins. The comparison between the two fee structures is summarized next:

[28] www.ingenico.com

| | 2can Brand | **White Label** |
|---|---|---|
| Acquiring and processing bank | 0.45% | 0.95% |
| 2can | 0.75% | 0.25% |
| Issuing bank | 1.50% | 1.50% |
| Visa / MasterCard | 0.05% | 0.05% |
| *Total* | *2.75%* | *2.75%* |

The lower margins were the consequence of partner banks investing in merchant acquisition. On the upside, in the OEM white label model 2can did not incur financial exposure, as the white label partner bank bore all the risk. In contrast, with the 2can own label model any fraudulent transaction at the merchant level (such as the merchants themselves conspiring to defraud or outright credit card fraud by customers) would be the responsibility of 2can.

Future business models: Services to digital wallets?

Fraud detection was one of the services where Nikolay had invested significant funds. Because it was an essential service component of mobile payments, it was hard to monetize. Yet 2can's fraud prevention analytics capabilities were clearly a source of pride for Nikolay:

> "Up to now we have lost zero money in fraudulent transactions even though there have been several attempts. Our anti-fraud system identified and then stopped the suspicious transactions. For instance, merchants tried to use stolen cards. Not only did we prevent them, we immediately stopped accepting credit card transitions from these merchants. We also have blacklisted them. We are working now to share this data with our competitors – this is in the best interests of all players. We plan to create an industry blacklist for mobile card payments. We are competitors but we should cooperate in our fight against fraud in mobile payments."

2can's ability to manage security threats, and thus contribute to the healthy development of the industry in Russia, meant big data skills. It was clear that those skills and that data might eventually be mined in the context of novel business models. 2can was processing ever-increasing amounts of merchant and transaction information. Big data would come to life when linked to loyalty cards, discounts or bonus programmes. Nikolay was aware of the value of 2can's data assets, and was contemplating ways to earn money from customer intelligence. "I don't think that I will sell this data, but we are going to use the data."

Value added services around the transaction could also extend existing business models. Nikolay emphasized how differentiation from the competition was "all about new ideas and new functions." The thinking was that 2can might one day charge merchants for services aimed at managing cash flows, client portfolios or tax returns. Many of 2can's merchants did not use financial, ERP or CRM software. 2can's software (residing at the App) already offered basic CRM and inventory control functionality. Nikolay calculated that even merchants who were served by

traditional software and hardware vendors might evaluate 2can's offering favorably given the seamless integration with card payments data. 2can was at the intersection of business activity and business technology, enjoying a hard-to-match, intimate relationship with its merchants. 2can's offering was from day one based on mobile, cloud-based software-as-a-service technology.

A third new revenue generation proposal related to the partner banks. That is, 2can's software platform could become a piece of the bank's own core IT infrastructure. Nikolay articulated the vision,

> "Ideally we would like to see our partnership with Russian banks evolve so that they use our software platform to provide services to their clients. We have designed a cutting edge application. If the banks accept our software platform as part of their regular banking business infrastructure, they could accept a flat annual license fee too."

Any concrete proposal was months, if not years, away. The monetization possibilities (beside the flat annual fee, there could be transaction fees, annual maintenance, service charges) were also unclear.

The eWallet model, the phone digital wallet where 'your smart phone is your wallet' (or rather your smart phone is your credit card), was one of Nikolay's strategic projects for 2014. Square Wallet worked in Starbucks 7,000 US stores; in September of 2012 the Seattle retailer invested in Square's Series D round that valued the venture at a "blockbuster" $3.25 billion USD.[29] Square Wallet seemed to work smoothly: "Tell the cashier who you are. The cashier taps on your name and photo to confirm it's you. You're all set."[30]. The challenge of any eWallet model was recruiting large numbers of potential shoppers and big merchants with multiple outlets.

2can had no specific plans on how to monetize big data, value added merchants services, IT infrastructure for partner banks or any other of Nikolay's ideas. Nonetheless, two important product launches were planned for 2014: a cash register with a card reader and a printer (code-named "cash box"), and fiscal identification services for merchants that would be hosted on 2can's cloud platform.

[29] http://allthingsd.com/20120917/square-finally-closes-200-million-round-at-blockbuster-valuation/
[30] www.squareup.com

**Part III: The Future**

After 20 months in business, 2can had moved beyond the early stage and was facing the challenges associated with fast growth. Besides the business model decisions needed to grow the user base to hundreds of thousands, there was cash-flow pressure. The quicker the firm expanded, the higher its funding demands.

Fund-raising: Series B

The initial investment of $300,000 USD would last 2can a little over half a year as the firm was burning cash to the tune of $40,000 USD a month. Nikolay's main responsibility as a CEO was to raise funds. As soon as the firm was set up, he sought out investors: "smart money;" that is, "advisor investors" with "strong business networks." He succeeded in his Series A round which closed in September, 2012 and brought in $2 million USD against a total 40% stake in the firm.

The Series A round included two individuals (who saw themselves as business angels) and two investment funds: Inventure Partners (www.inventurepartners.com) and Almaz Capital Partners (www.almazcapital.com). One of the business angels was Robert Agee, former Vice-President of CISCO Russia whom Nikolay had known for many years.[31] Robert's contribution went beyond international business: "When we started nobody knew us, but everybody (in Russia's IT industry) knows Robert." Robert was one of the members of the Advisory Board along with Anton Inshutin, managing partner of Inventure, and Alexander (Sasha) Galitsky co-founder of Almaz. They all endowed 2can with credibility and plugged the venture into their networks.

Nikolay himself brought in and negotiated the deal with the Series A investors and soon was working on identifying potential new investors for the next round. The company had six shareholders and there were option plans for employees. The idea was to add one or two new key investors, never more than three or four. The search was still for smart money. This time around "smart money" would mean something else in terms of both experience and networks. Strategic investors could be large financial institutions, ideally Russian banks able to bring in business to help grow 2can's merchant base. European banks would be considered too, but they were considered "less smart" than their Russian counterparts; nonetheless, in the future foreign institutions could become instrumental in negotiating an exit (e.g., to a Western mobile payments company).

Mobile payment firms would also be considered as strategic investors. Nikolay thought that Western firms would be nervous about starting a business in Russia on their own. Yet he also reckoned that Russia was too large a market for any firm with global aspirations to ignore. Entering Russia was not easy, and Nikolay drove

[31] http://www.pkcc.ru/en/news/robert-agee-was-appointed-vice-president-rtec

the point home by illustrating the adaptation of 2can's model to the country's rules:

> "At 2can we spent inordinate amounts of time with lawyers to find a way to work without paper contracts (with our merchants and with our transacting users), and we found a solution. It was a different way than anything that had previously been done in Russia, possibly a strange new way. Of course, now everything can be copied. Yes, our competitors can reference our creative legal approach, but we are already leading. We have a first move advantage and are ahead of the pack."

As investors in 2can, foreign competitors would acquire an option, a Russia play. Square already had started growing internationally - for instance, in Canada (built from scratch) or Japan (through a partnership with Sumitomo Mitsui Card Corporation, "the company that introduced Visa to Japan").[32] Nikolay was adamant: "When in the future foreign mobile payment firms think of Russia, they will have to acquire a Russian player."

How much could 2can be worth eventually? Nikolay did not want to get off track by discussing the firm's exit. Such an event was too far away and uncertain. Nikolays' priorities were growing the 2can business to reach profitability and to become Russia's undisputed leader in the mobile payments space.

For the Series B round, the valuation of 2can was set at $12 million USD pre-money, and the funds solicited were $6 to $8 million USD, in cash. The round was expected to close in spring of 2014. That investment would allow the firm to have financial independence for a period of 18 months to 2 years. "We are still burning cash, but at the end of the second round we may have become cash-flow positive." More specifically, after having consumed about $180,000 USD cash a month in 2013 the firm aimed for break-even in 2015.

The consideration for the second round would be a 37% stake in the firm. That would mean that the original founders would be diluted to one-third of the equity and would *de facto* be relinquishing majority control. Asked whether such a move was not premature, Nikolay elaborated: "we need money to continue growing. I plan to stay on as CEO, and the shareholders will exercise influence at the Board level." In terms of governance, 2can's board was admittedly not a proper one: "we don't have a Chairman, but the Series B round is going to make a more professional board, with independent board members."

Filling gaps: SKOLKOVO

From the moment Nikolay quit his job he begun to inquire about educational programmes tailored to active firm founders. He was keenly aware that he needed additional skills to deal with the uncertainties of his venture. He also was after support for the critical strategic decisions that he was facing; "my previous experience was all about finance and large firms."

[32] http://techcrunch.com/2013/05/23/square-starts-mobile-payments-in-japan-its-first-country-outside-of-north-america-in-partnership-with-visas-ally/

The SKOLKOVO Start-up Academy (SSA) was a 10-week part-time programme where founders meet two evenings a week plus weekends, and which included a two-week immersion stint in Silicon Valley. It applied Steve Blank and Bob Dorf's Customer Development Method in addition to fusing applied skill development with startup acceleration. The first of its kind in Russia, SSA was geared to entrepreneurs "with real and doable startup ideas, as well as members who want to find a startup project for further development."[33] SSA also had the added advantage of being nested at the Moscow School of Management SKOLKOVO (SKOLKOVO), Russia's "largest private business school."[34]

SKOLKOVO was a "private-public partnership" fully privately funded, yet had the explicit support of the highest spheres in the Russian Federation government. The aim was to build a top international business school with powerful alumni networks centered in Russia. The Prime Minister of the Russian Federation Dmitry Medvedev was the Chairman of the International Advisory Board (IAB). During the graduation ceremony for the 7 year Anniversary of SKOKLOVO on September 21, 2013, Prime Minister Medvedev's helicopter landed on campus and he went on to supervise the IAB meeting.[35] Present at the meeting were business leaders like Ajay Banga, President and Chief Executive Officer of MasterCard Worldwide, and Ruben Vardanian, a well-known entrepreneur and philanthropist (incidentally, the First Prime Minister of the Republic of Singapore was also a IAB member).[36] One of the highlights of the board meeting was the report by the school's President Andrei Rappoport on the entrepreneurial activities hosted at the school and launched by 'Skolkovites'.

In April of 2012, two months after launching 2can, Nikolay enrolled at SSA. After meeting its Director Lawrence Wright, an American fluent in Russian and with ample experience in start-up incubation and capital raising, the choice for Nikolay was clear. He went on to join present and future founders at the first cohort (SA-1, April-June 2012). In Russia's educational system, Nikolay noted, teachers with a track record running a business were a rarity; instructors who have founded a firm themselves were even harder to come by. At SSA the faculty brought to life entrepreneurship by discussing first-hand experiences and dissecting real venture cases. In addition, a dense calendar of events got the students and alumni to regularly interact with a variety of founders. "I participate at SKOLKOVO's entrepreneurial days every month; we share our ideas and gain new information."

SSA students also became each other's educators and they openly shared their ups and downs, quite a challenge in Russia's cultural context according to Nicolay. "We especially talk about mistakes." A support network emerged. This network also saw real business occur: "firms run by my classmates and coaches have become suppliers." Alexander Svinin's SmartStart head hunting venture (www.smartstart.ru), also founded in 2012, leveraged social data and eventually introduced key talent to 2can. Alexey Karlov, a coach at SSA and a media and

[33] www.skolkovo.ru/public/en/ssa/ssa-about
[34] http://www.skolkovo.ru/public/en/skolkovo/skolkovo-about/item/3350-skolkovo-about/
[35] http://government.ru/en/news/5945
[36] http://www.skolkovo.ru/public/en/skolkovo-management/skolkovo-advisory-board/

communications expert, helped Nikolay design a social media strategy that included internet advertising on Facebook and targeting the 230 million users of the all important VK.com or VKontakte (ВКонтакте, meaning "in contact") social network service. Alexander Shulzhenko, another classmate, assisted with fund raising.

One of Nikolay's main aims was a partnership with one of Russia's largest and most prestigious banks, 'the bank'.[37] An association with this institution would mean a dramatic enhancement for 2can's business potential and reputation. The task was not easy: a powerful Russian organization with multiple divisions required parallel negotiations and the agreement of a variety of managers. In September 2012 initial contacts were established. The talks went nowhere; the bank was not interested in 2can's business.

Then in January 2013 Nikolay got wind that the bank could be interested in mobile payments. Here SKOLOKOVO's high-powered Russian network played the pivotal role. Doors opened, meetings were set-up. He recalled how a member of the faculty helped "organize the various parts of the network" a task which is "very complex, involving long chains of people." Progress was made and "I spend the year negotiating with the different managers of the bank." As a result a pilot project was set up for February 2014 after the long Russian New Year break. Nikolay did not doubt that the trial would be a technical success and noted that having a pilot with 'the bank' was already an accomplishment in itself that would not have been possible without SKOLKOVO. Yet he remained cautious. "In 2014 we will clarify our relationship with them."

Family man

Nikolay faced multiple challenges; growing the existing business, deciding whether 2can ought to try out new business models, remaining ahead of the competitor pack in terms of services, closing the next investment round before the firm ran out of cash, a clear roadmap towards positive cash flows. He was confident and exuded strength and purpose, yet his words were measured, reflecting the calm composure of an engineer.

As we wound down our conversation on December 19, 2013 at SKOLKOVO's Correas cafeteria, Nikolay made it clear that his business and family were in harmony. He relished the "full support" he was getting from wife Nataliya. "She likes my business" and "even tries to find customers for me. She buys stuff from e-shops and gives the names of the merchants to our sales force." Moreover, when he was a CFO,

> "My 9-year old son did not understand what I did, what fiber-optic networks were, he could not see my business nor my products. Now my son sees this device (the 2can card reader) in stores and understands what his dad is up to. The day before yesterday I had to prepare for a meeting the next day with *the bank*, which had been unexpectedly called. Incidentally that was the reason why we had to

[37] Note: The bank forbade public disclosure of the partnership before inking the potential deal and subsequent issuance of an official press release.

reschedule our appointment (to discuss this case study). My son helped me prepare the presentation; he neatly bound together all the document packs and yesterday I distributed them to the bank's management team."

**Exhibit I**
**Key Early Stage Dates for Nikolay**

| | |
|---|---|
| *During 2010* | *Becomes 'wannabe' entrepreneur* |
| *July 2011* | *Quits CFO Job* |
| *February 2012* | *2can is launched* |
| *April 2012* | *Enrolls at SOKOLKOVO Start-up Academy* |
| *September 2012* | *2can's first transaction, upon becoming first Russian mobile payments accepted by Visa* |
| *September 2012* | *Closes Series A round for $2 million USD* |
| *June 2013* | *2can signs 1000$^{th}$ user* |
| | |

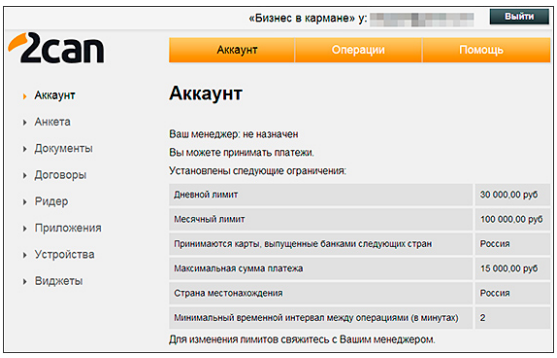
**Exhibit II**
**Illustrative Pics**



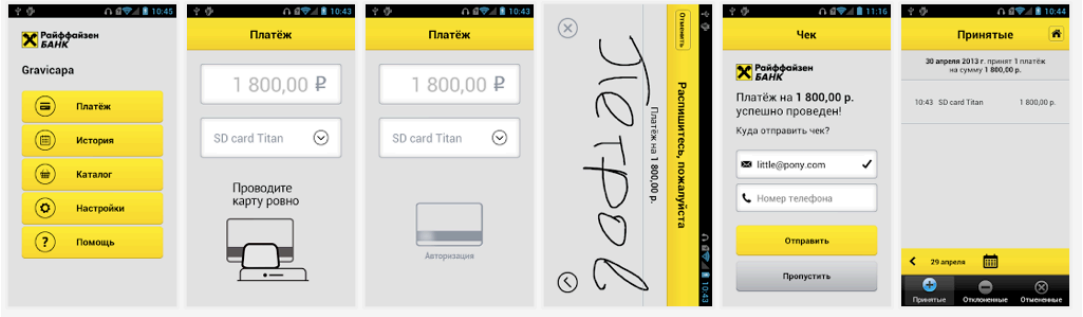

Picture 01: 2can magnetic stripe card reader. Source: courtesy of 2can




Picture 02:
2can 'dual magnetic stripe and chip reader' prescribed by Visa from February 2014 onwards. Source: courtesy of 2can




Picture 03: Merchant's get a general history of all transactions on their app. Source: http://habrahabr.ru/post/191196/




Picture 04: Google Play Raiffeisenbank mobile payments application. Source: screenshot taken from https://play.google.com/store/apps/details?id=ru.raiffeisen.mpos&hl=en

**Exhibit III**
**2can's Top Team**



### Nikolay Zhmurenko, CEO, co-founder

- 20-year business practice: CFO at Sistema Telekom, Svyaznoy, Synterra
- Participation in investment transactions with MGTS, MTS, MTT, PeterStar, etc

### Dr. Yury Vladimirov, COO, co-founder

- 12-year financial experience in RTK-Leasing, Svyaznoy, Medsi (AFK Sistema), Synterra.
- Ph.D., SMEs economics, member of TCI, BAM.

### Konstantyn Yan, CTO

- 10-year experience in the development of bank card processing
- Ex-CTO and processing developer for PayOnline System – top 3 Russian internet processing leader

Source: courtesy of 2can for updates check http://www.2can.ru/en/team