

DESIGNING NEW BUSINESS MODEL AS A BREAKTHROUGH INNOVATION FOR COMPETITIVE ADVANTAGE CREATION

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Abstract

The paper submitted deals with creating competitive advantage by means of setting up new business model. New business model establishment is always risky procedure with quite uncertain consequences. In managerial practice there exist critical situations where pushing through new business may become a superior tool for competitive advantage generation. No doubt that telecommunication services are believed to contain hidden business potential which can be unleashed as soon as legislation barriers are lifted. Such a situation is expected to come into effect in a moment when the government resumes a tender for additional telecommunication operator. It is mandatory for the winner of the tender to enable *so called* virtual telecommunication operators to enter the telecommunication market and reinforce competitiveness of this market. Many a newcomer considers entering this market but it is far from easy to develop functioning business model which would assure sustainable competitive advantage and continuous growth. This paper made a point to propose normative model of virtual operator foundation which would be almost generally applicable by any potential newcomer to budding virtual telecommunication market.

Key words: virtual operator, telecommunications, new business model.

JEL Code: O32, O 33

Introduction

New business model usually represents fundamentally different way of making money as compared to any previously well established and perceived processes. New business model as a breakthrough innovation concept as has been already addressed by various authors (Davila, 2006; Tidd, 2007). In order to go behind this principle, we examined new business model functioning in the information technology business branch. Opting for this business branch was driven by the fact that this branch undergoes rapid development and looking for new ways of winning competitive advantage became almost daily assignment for the management. In course of time telecommunication companies almost exhausted new technology

possibilities and they all operate on equal technological standard. For instance all three telecommunication operators in Czech Republic¹ offer the same technological platform and quite equal level of technical support to customers. Moreover their pricing policies, notwithstanding intrigue and hardly understandable tariff bundles, also lost their magic to attract customer. One of possible ways to find a way out of this problems is embarking upon new business model, which could help all parties concerned – current operator, new (virtual) operator and end-users. Such an idea, when transformed into full operating model shall result in win-win-win situation, where all three parties involved in a new business can score success.

1. Methods and techniques used in research

Practical aspects of a research were explored in rapidly changing telecommunication business, which after years of decent oligopoly competition faces not only upcoming action of new frequencies but also entering new virtual operators. As methods to be used for evaluation of results, scientific observation and comparison took preference over others. Comparison method was used upon comparing price levels of telecommunication services within OECD countries while the explanation was used for characterization of virtual operators. Method of modelling was applied to corporate process design and functions.

2. Specification of a virtual operator

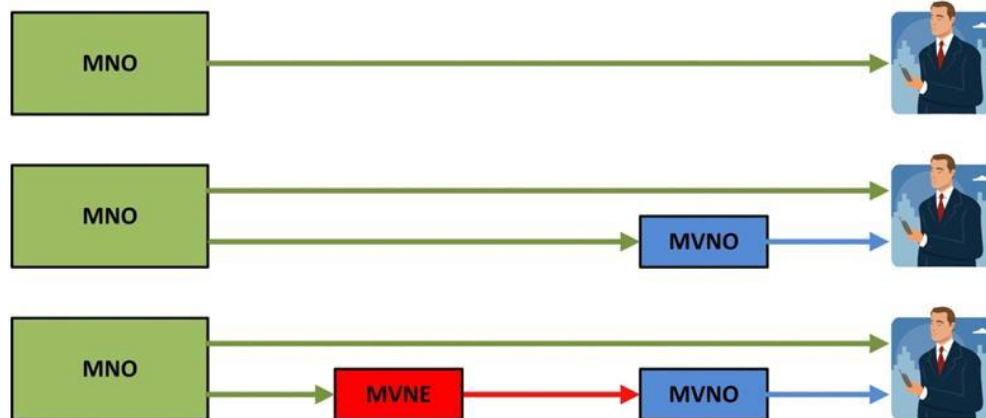
Basic difference which distinguishes between standard and virtual operator is the access to infrastructure. Virtual operator operates as a provider of telecommunication services to end users without both any possession of full infrastructure and licence for using radio frequencies. Such an operator usually declares its corporate identity through its own brand. Virtual operator is marked by the abbreviation MVNO (*Mobile Virtual Network Operator*). Due to existence of various types of virtual operators their definition is often too general. As an example, British telecommunication market regulator defines virtual operator as “*The organization which offers telecommunication services to customers without possession of broadcasting time*” (Ofcom, 2004, p. 17). International Telecommunication Union (ITU) extended this definition by the factor of corporate brand possession. This brand is presented by means of proprietary SIM cards: “*Mobile virtual operator is an operator which offers telecommunication services, but it doesn't t licence for radio frequencies. Usually it assigned identification number, by which it logs in into network and in many cases it issues SIM card* (ITU, 2011). The first Czech virtual operator BLESKmobile extended the definition of ITU by factors of marketing, distribution and customers support (RAS, 2012a, p. 5).

¹ O2, T-Mobile and Vodafone

3. Virtual operator models

The very terminus MVNO (*Mobile Virtual Network Operator*) is diverse and includes more approaches to operations, strategy and technical solution. There are several main models of MVNO. They are characterized as branded reseller, service operator and full MVNO. These models are contractually bound to traditional network operator MNO (*Mobile Network Operator*). Fig. 1 illustrates all three possible models. Typically traditional model, where the only provider is MNO, then MVNO, which hires infrastructure and offers services to customers under its own brand and finally MVNE (*Mobile Virtual Network Enabler*), which hires technical solutions and further leases them to MVNO. The general trend is most probably an evolution towards an MVNO owning the whole core network architecture and buying access to an MNO (Balon, 2012).

Fig. 1 Mutual relationships among MNO, MVNE and MVNO



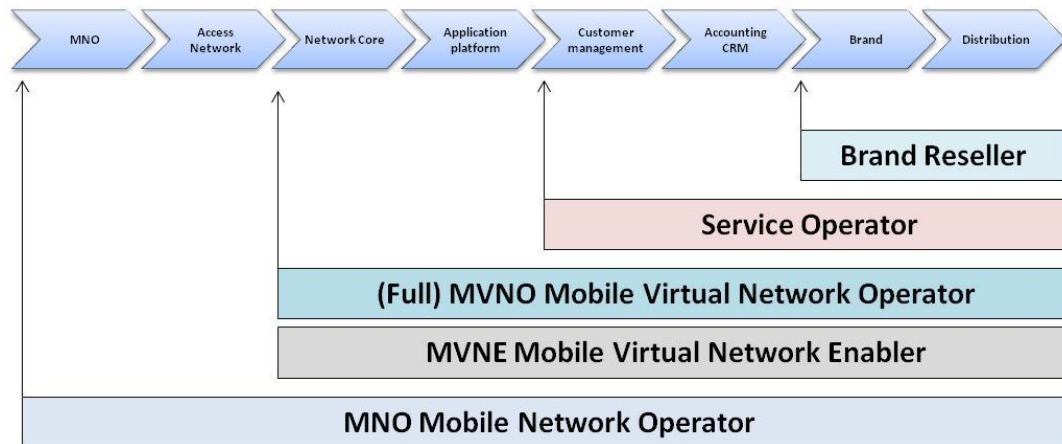
Source: authors

4. Virtual operator value chain

Fig. 2 describes in details value chain of individual types of virtual operators. Value chain breaks down provider operations into individual processes. From the point of view of strategy, it is necessary to clearly define processes which are sources of competitive edge. The only model of virtual operator is viable, which brings competitive advantage and is able to successfully compete on telecommunication market which is becoming more competitive than ever before. MVNO potential to reach success was tested against business environment structure (Shin, 2008) revealed that business environment structure can significantly influence the position of MNVO. In case that MNO is vertically integrated, then this operator is able to charge monopoly prices and thus the ability of MNVO to offer services is constrained. From this point of view horizontally layered structure seems to be more inviting for MVNO. For this reason MVNO which operate on West European markets are much more successful than

those operating in Asia. As expected pricing policy to be applied by individual MVNO on either market is in large extent influenced by both the level of oligopoly strength of MNO (Le Cadre, 2012) and behaviour of other MVNO (Zhao, 2012).

Fig. 3 Types of mobile operators



Source: (NSN, 2004, p. 4)

4.1 Brandy Reseller

Branded reseller is aimed at providing customers with services and building own brand. Branded reseller doesn't own any infrastructure; it hires whole technical solution either from MNO or other virtual operators. Branded reseller manages image of its own brand and distribution channels as well. Notwithstanding brand reseller's direct contact to end users, all the data on customers and accounting administration is arranged for by business partner. Such a partner is directly bound by contract to brand reseller's customers. Brand reseller's profit margin is derived from the difference between wholesale price of one minute call which is paid to host MNO and retail price which is settled by the end user. The nature of making cost savings for brand reseller is using the same distribution network as parent company does. BLESKmobil uses identical distribution channel like newspaper stand both for pre-paid cards and tabloid Blesk. Since brand reseller needs to build neither own network nor infrastructure therefore this business model is least demanding for capital expenditure. Brand reseller can approach even small segment of end users to be consolidated into clusters with some specific characteristics like operating on the same place or having same or very similar needs. As an example can be set is an offer of special tariffs for students. Brand reseller has only restrained capability to innovate its own services, which are provided by infrastructure operator. Moreover there is little possibility to manoeuvre with price.

4.2 Service Operator

In between brand reseller and full MVNO **service operator** can be ranked. This model offers more flexibility than brand reseller model, especially in terms of managing customer relationships, pricing strategy setting, and amount and structure of services offered. Service operator model is from technical point of view more complicated, because service operator operates its own IT system. Compatibility of both IT systems is underlying factor for optimum collaboration with MNO. Due to interconnection of both IT systems there is an increased dependence of a service operator on host MNO. Service operator is a model which enables price competition with host MNO since service operator is both allowed to actively manage customer relationships (CRM) and influence price strategy. By this way competition between virtual and host operator may come into effect, especially in the segment with high profit margins (premium segment). MNO often regards service operator as a competitor and sometimes is not willing to lease infrastructure to him. Possible solution to this problem is either signing an agreement, where the host reserves conditions which are favourable to him or taking such a market position which creates synergic effects.

4.3 Full MVNO

The model of full MVNO includes ownership and operation of complete infrastructure but Business Support system (*BSS*). Full MVNO issues its own SIM card with unique identifier IMSI and specific phone number with own dialling code. Calls termination fees²² are charged at the liability of full MVNO. Full MVNO hires the base stations system only. As opposed to previous types of virtual operators, advantages of full MVNO consist in interconnection of calls, better flexibility with respect to MNO and innovation possibility. Full MVNO, as distinguished from service operator and brand reseller, is relatively independent on the host. If full MVNO decides to change the host MNO, there is neither need to change end users SIM cards nor to change settings of IT solution. Full MNO can also offer all the services as MNO does. The only restricting factor is the quality of the host MNO network (2G, 3G or 4G system). If there is a need for higher quality BSS then it is necessary to change the host. In general, the larger part of own infrastructure the operator operates, the higher possibilities for virtual operators exist.

4.4 MVNE model

MVNE model significantly differs from aforementioned models. This type of virtual operator doesn't encompass direct contact with end user. Its Core business resides in services

²² It means rates which mobile operators charge to each other.

mediation to other virtual operators. As a matter of practice MVNE uses the system of base stations (BTS and BSC systems) of the MNO operator. Additional systems like NSS (*Network System Security*) and OSS (operational support system) are in possession of MVNE. The applicant who would like to operate MVNO can use the structure which MVNE already possesses and leases. MVNE then arranges for client's access to other networks, establishes virtual switchboard and interconnects the call with a person to be called.

Typical example of MVNE in Czech Republic is Telematika Company which collaborates with O2 and thus it achieves complete Czech Republic region coverage.

5. Choice of MVNO type

First of all it is necessary to choose appropriate type of MVNO. This represents complex multicriteria decision making process.

5.1 Criteria of MVNO choice

Choosing the set of decision making criteria follows commonplace rules to be published in literature (Fotr, 2006). When choosing the proper set of criteria it is inevitable to observe all the aspects which contribute to competitive advantage generation and which vice versa represent key risk factors. First of all **time factor** is worth mentioning since current market high demand for cheaper operators will be continuously compensated for in consonance with increasing number of new virtual operators entering telecommunication market. Another risk factor which may hamper successful establishment of MVNO is **initial investment costs**. Providing that the project didn't come off, it would be difficult to sell off partially worn out technical equipment. But the ownership results on the other hand in the increase of **profit margin**, which accounts for another criterion. As a matter of fact establishment of MVNO would always be backed up by **feasible legislation process** which demandingness may vary as per model chosen. At the end the company which would be purposefully established needs effective process management. Number of employees, organizational structure and other aspects of company management are crucial to company success. The **exactness of company management process** should be thus considered as a criterion.

6. Setting up normative model aimed at establishment of a virtual operator

Even if the approach to establishment of a virtual operator may slightly differ from case to case, it is possible to generalize findings from current practice of existing and potential virtual operators and make a set of recommendable steps to establish virtual operator.

6.1 Macro and microeconomic analysis

By the analysis performed by the authors it was proven that these types of analysis are underlying starting points for further elaboration of the virtual operator establishment project. These analyses included PESTEL analysis as well as Porter analysis to be complemented on by the specification of opportunities and threats (OT analysis). The aim is to recognize whether environment is suitable for the establishment of a virtual operator.

6.2 Internal company analysis

On a company level it is necessary to perform strengths and weaknesses analysis (SW) to define which key company competences may lay ground for competitive advantage generation. The point is to determine unique assets or competences which company has in a possession and it is possible to offer them to MNO in ranks of a partnership. Such an approach enables identification of potential synergic effects from which both companies will be benefiting. The outcome of this analysis is always the set of tangible or intangible assets which may be the source of competitive advantage.

6.3 Process organizational structure determination

Establishment of process based company structure ensures that all company main and supporting activities will be effectively bundled into processes. The prerequisite is that each process is substantiated only then, when it contributes to company value. As key company processes were identified marketing, new customer recruitment, service delivery and customer support. Each of processes shall be assigned process owner to be responsible for complete management of the process including goal settings, incorporation of permanent improvement principle, sources allocation. The outcome is a proposal of company process structure to be visualized by a company process map.

6.4 Goals determination

The goals shall be determined in agreement with well known SMART principle (FOTR, 2012; Veber, 2009). Company goals should be decomposed to partial goals to be tied with individual processes. Fulfilment of each goal must be properly observed and periodically evaluated.

6.5 Elaboration of a marketing plan

The aspect of a marketing plan to be of importance is market segmentation. It is evident that MVNO will be effectively operating in segments where customers are least satisfied. It was proven by the research that there are dissatisfied customer segments on Czech telecommunication market. Marketing plan is based on “4P principle” (product, price,

placement, promotion) which is extended by additional “3P” in service sector (people, processes, physical evidence). Marketing principle 4P shall be collated with 4C one (customer value, customer costs, communication, convenience) so that the customers’ standpoint would be properly reflected.

6.6 Choice of MVNO type according to criteria

Process of choosing MVNO type shall be subject to meeting already specified criteria, the objective is to find a model which fits in best with predefined criteria. The set of predefined criteria posted in this paper mirrors the most important operator preferences which were collected during the research. Nevertheless both these criteria and their relevance are not binding for potential operator and may be adapted to particular situation. Criteria evaluation process adheres to commonplace principles of managerial decision making (Fotr, 2006).

6.7 Corporate strategy elaboration

Based on analyses performed, which indicated both gaps on telecommunication market and segments of customers dissatisfied, it is possible to embark upon strategy elaboration. Such a strategy should be focused on generating competitive advantage through application and fructification of key company competences. Porter s generic strategies offer suitable tool for strategy selection (cost leadership, differentiation, and focus strategy). At least at the beginning customers will be driven to the change of operator by offering lower cost tariffs. That is why low cost strategy or segment oriented low cost strategy will be preferable way of company strategic thinking. Such a strategy should tackle not only marketing and operation part but also a financial part. Investor shall make not only an investment decision which prove economic effectiveness of the project but also a financial decision confirming whether investor is able to ensure financial viability of the project. It means that investor needs to get assured that for each year of the project he is able to compose such a combination of financial. The point which shouldn’t stay out of focus is human resources management.

6.8 Critical success factors (CSF) determination

While discussing virtual operator expert, following critical success factors were determined:

- negotiation with MNO and coming to terms,
- dysfunction of a network,
- web application quality,
- cost overdraft, shortage of cash flow.

Negotiation with MNO

Suggestive and persuasive presentation of the proposal to MNO is a keystone of the project success. Composition of a team to be in charge of negotiation must be both representative (*CEO and Corporate Heads*) and professionally highly qualified (telecommunication experts). The project must be clearly defined and its lay out must be at maximum illustrative and well understandable. Synergic effects and benefits for both parties must be properly highlighted. The concept must properly address the type of MVNO, outcomes of previous analyses, technical solution to the project, tangible and intangible assets to be input in the project, securing financial sources and proving economic effectiveness and commercial viability to be supported by guarantees of investors. Thorough risk analysis and the set of provisions for their mitigation shall not be also omitted. On the other MNO shall indicate if the proposal is worth further discussing. It goes without saying that both parties should play win-win game. If the project seems to be gainful for both parties it is inevitable proceed with negotiation on further agreement. It is a tedious work and both party lawyers would play their roles.

Notification to Czech Telecommunication

Depending on the model chosen some obligations to MNO may occur. The scope and nature of these obligation should be properly addressed in PESTEL analysis. It basically deals with the compliance with the Law No. 127/2005, which sets up conditions for communication activities execution. This legal norm is applicable to all sorts of networks and electronic communication services.

Conclusion

Mobile Virtual Network Operator represents new business model which is able to bring value added to both providers and end-users. This business model is spreading across the world and Launching new virtual operators are supposed to come into existence in Czech Republic as early as in 2013. Even the first “early bird” BLESKmobil was already noticed. Virtual operator business model brings new benefits like lower demand for capital expenditure. Prior to formulation of a normative model, thorough analyses of macro and micro environment were performed so that suitability of Czech telecommunication market for new virtual operator establishment would be properly judged. By the measurement of *Herfindahl–Hirschman Index (HHI)* it was found out that Czech telecommunication market has oligopoly character and existing three rivals don’t exert sufficient competitive pressure which would level prices to European market. Since the establishment of a virtual operator is a very demanding process thus we decided to collect all information available, then to subject this

information to thorough critical evaluation and finally set up normative model which describes stepwise process of establishment virtual operator. This normative model comprises several steps which include macro and microeconomic analysis, internal company analysis, process organizational structure determination, goals specification, elaboration of a marketing plan, choice of MVNO type according to criteria, corporate strategy elaboration and critical success factors (CSF) determination. Particularly critical success factors were properly addressed. The key finding is that notwithstanding reinforcing competitive pressure caused by newcomers, Czech telecommunication market is still very promising and gainful for newcomers.

Acknowledgement

This paper was elaborated with the support of IGA 2 subsidy at University of Economics in Prague.

References

- Balon, M., Liau, B. (2012) Mobile Virtual Network Operator Architecture Evolution and Economic Stakes. *Proceedings from the 15th International Telecommunications network Strategy Symposium (NETWORKS)*, Rome, Italy, October 15-18.
- Davila, T., Epstein, M.J. Shelton, R. (2006) *Making innovation work: how to manage it, measure it, and profit from it*. Upper Saddle River: Wharton School Publishing, XXVI, 334 p., ISBN 01-314-9786-3.
- Fotr, J., Švecová, L., Dědina, J., Hružová, H., Richter, J. (2006) *Manažerské rozhodování*. Ekopress s.r.o, 409 p. ISBN 80-86929-15-9.
- Fotr, J., Vacík, E., Souček, I., Špaček, M, Hájek, S. (2012) *Tvorba strategie a strategické plánování: teorie a praxe*. 1st. Edition, Praha, Grada Publishing, 381 p. Expert (Grada). ISBN 978-80-247-3985-4.
- International Telecommunication Union (ITU) (2011) Regulatory Treatment of Mobile VNOs. *April 4, 2011*, [online], [cit. 2012-12-17]. Available from: <http://www.itu.int/osg/spu/ni/3G/resources/MVNO/index.html>
- Le Cadre, H., & Bouhtou, M. (2012). Modelling MNO and MVNO's dynamic interconnection relation: is cooperative content investment profitable for both providers? . *Telecommunication Systems*, 51(2-3), 193-217.
- Nokia Siemens Networks (NSN). Mobile Virtual Network Operator. (2004) [online], [cit. 2012-11-14]. Available from: http://www.nokiasiemensnetworks.com/NR/rdonlyres/3E2608E7-0AED-4629-A278-6CF866146E22/0/MVNO_A4_2106.pdf

- Ofcom. (2004) The Communications Market. *Telecommunications, October*. [online], [cit. 2012-11-14]. Available from: www.ofcom.org.uk/research/cm/cmpdf/telecoms.pdf
- Ringier Axel Springer (RAS), (2012). *Prezentace k projektu BLESKmobil*. [online], [cit. 2012-11-14]. Available from:
<http://www.ringieraxelspringer.cz/system/files/article/2012/10/cs1274.pdf?download=1>
- Shin, D., H. (2008) Overlay networks in the West and the East: a techno-economic analysis of mobile virtual network operators. *Telecommunication Systems*, Vol. 37, pp. 157-168. DOI 10.1007/s11235-008-9105-1.
- Tidd, J., Bessant, J., Pavitt, K. (2007) *Řízení inovací: zavádění technologických, tržních a organizačních změn*. 1st. edition, Brno. Computer Press, Praxe manažera, 549 p., ISBN 978-80-251-1466-7.
- Veber, J. (2009) *Management: základy, moderní manažerské přístupy, výkonnost a prosperita*. 2nd. edition, Praha. Management Press, 734 p. ISBN 978-80-7261-200-0.
- Zhao, S., Zhu, Q., Zhu, H. (2012) Optimal Price Strategy Selection for MVNO in Spectrum sparing: An Evolutionary Game Approach. *KSII Transactions on Internet and Information Systems*. Vol. 6, (12), pp. 3133-3151.

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