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IT Enabled Buisness Models - Decision Support for Measuring Financial Implications of Business Models in Media Industry

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IT-ENABLED BUSINESS MODELS

DECISION SUPPORT FOR MEASURING FINANCIAL IMPLICATIONS OF BUSINESS MODELS IN MEDIA INDUSTRY

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Abstract

The introduction of new IT artefacts has changed business rules in many industries. Companies are faced to challenge the issue of aligning business and IT strategy in order to safeguard competitiveness. In research and practice a large variety of different business models aligning IT and business strategy has been proposed. Against the background of industry structure and existing competencies of a firm, companies need to decide which business model fits best for their specific situation. In addition for decision support the related revenues, costs and risks of a specific business model need to be assessed. With this paper we introduce a systematic approach for decision support method. This approach bases on reliable methods in the field of information systems design, capital budgeting and decision support systems. We apply this approach for business models in the media industry to demonstrate its benefits.

Keywords: business model, strategic alignment, decision support, capital budgeting, risk management

1 THE CHALLENGE OF PROFITING FROM IT-INNOVATIONS

The introduction of new IT-artifacts has changed the business rules in many industries (Kelly 1998). The availability of large-scale reliable internet access in combination with internet technologies for example has shaken the traditional book distribution industry (Benlian 2006, Benlian et al. 2006). Whereas in the past this industry was characterized by a polypolistic competition, where a large number of relatively small enterprises has competed against each other, today an oligopolistic market has evolved (Albarran 1996, Picard 1989). Simultaneous to the market entrance of new competitors like Amazon, a concentration within this industry took place. One reason for this can be seen in the development of new IT artefacts that cause the vanishing of existing market barriers. By introducing Software artefacts allowing handling of secure payment operations and the availability of high speed internet access, it was not necessary anymore to run a brick and mortar book shop. Other IT artefacts that may cause a similar shock of traditional industries are SOA-based Information Systems (Woods & Mattern 2006). These have only recently been analysed according to their economic impact (vom Brocke 2007).

Despite these potentials offered by new technologies, their risks have to be taken into account as well when defining the business model of a company based on an alignment of IT and strategy (Porter 2001). Firstly the risk of failure of a technology is evident. In the past a large variety of different promising technologies have failed. Reasons for failure comprise the markets choice for one of competing standards, e.g. the triumph of VHS against BetaMax and Video 2000, or the introduction of new more capable IT artefacts, e.g. the substitution of BTX by Internet technologies. Another risk that needs to be considered is an overestimated expectation for a new technology. Recent studies show that in early stages of a technology life cycle, often economic impacts of a technology are far way

overestimated (Fenn & Linden 2005). Therefore a bubble evolves, where the economic impacts of technologies are considered as unlimited. These bubbles are likely to burst and economic expectations tend to be near zero. After this depression, the plateau of productivity will be reached for new technologies, where actual economic impacts and expectations are balanced.

Companies having the idea in mind to invest in new technologies and change their traditional business model face the challenge to calculate the economic impacts of this decision. Therefore adequate methods for decision support need to be applied in order to safeguard rationality. These methods should regard the direct linkage between technology and business model as well as the resulting economic impacts. Within this article we present an approach for an integrated method system based on established methods in the field of information system design, strategic management and investment controlling. In the following section we will introduce the framework for this approach and present a short overview on the underlying methods integrated in the approach. To illustrate the benefit of this approach we will then present an example in the field of media industry. We conclude then with a brief summary and an outlook on further body of research.

2 MEASURING THE PROFITABILITY OF IT-ENABLED BUSINESS MODELS

Starting from the three partial models, *market model*, *activity model* and *capital model* of a business model, a framework for adequate procedures for decision support can be developed (Grob et al. 2005). The market model contains a description of the structure of the media market as well as the different actors and their roles (Hess & von Walter 2006). In the activity model a description of the activities, which are conducted by the provider, is given. Both models are the foundation of the capital model, which contains the caused costs and earned revenues of the activities. The activity model provides the quantity structure for determination of cash outflows; meanwhile, the market model provides clues about generated cash inflows. The difference between cash inflows and outflows in each period as well as their cashflow statement over the period of the planning horizon, afford appropriate funding in the capital model. We can subsequently calculate the monetary implications from the market model and activity model in the capital model.

Figure 1 illustrates a framework, suggested by *GROB*, *VOM BROCKE* and *BENSBERG*, for structuring this approach (Grob et al. 2005).

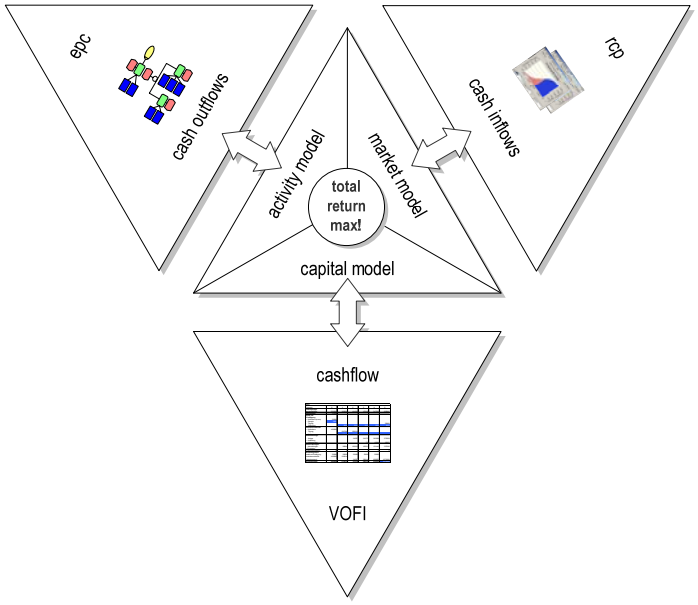

Figure 1 Framework for evaluation of business models (Grob et al, 2005)

Within the identified sub-areas, new specific requirements must be taken into account. In the following, approaches meeting these requirements are presented.

2.1 Evaluation of the market model

For evaluation of the market model we have to determine the cash inflows belonging to a business model. Therefore we must identify markets in which a media company can work and at the same time have a high market potential (above-average return on investment). Adequate approaches for the evaluation of the market model are found in the field of strategic management, namely the resource-based view (rbv) and the market-based view (mbv). The rbv aims at the identification of core competencies. Core competencies are competencies characterised by three central characteristics (Prahalad & Hamel 1999): (1) At first they are not bound to certain activities or products, so they can be applied in different contexts and provide access to different markets, (2) core compentencies must contribute significantly to a perceived customer use and therefore stay in direct connection with the offered services on the market, (3) They must be so specific that a competitor can not adopt them within a short period of time. Core competencies can be build up by learning processes or appointing new employees. Regarding the strategic positioning in the education market we have to determine the sub-segments of the target market, which promise above-average return on investment. For an analysis we can use PORTER's 5-Forces-Analysis (Porter 1980). Application of this analysis derives five forces that determine the attractiveness of a specific sub-segment: The Bargaining power of suppliers, the bargaining power of customers, the threat of new entrants, the threat of substitute products and the intensity of competitive rivalry. The strengths of each force can be determined by a range of influence variables. For the threat of new entrants e.g. market entry and market exit barriers are extremely important. Similarly, a detailed competition analysis (Prahalad & Hamel 1999), summarised to a competitor reaction profile, gives information about the intensity of competitive rivalry. The competition analysis must be performed for all sub-segments, which can be worked due to available core competencies. As result of the analysis we get a list of sub-segments that are both highly attractive and realisable by the media company. We choose sub-segments in which we have high core competencies and that have high sub-segment attractiveness. For the chosen sub-segments we must evolve a detailed market development strategy, whether we reach the distinctive decision of cost and quality leadership respectively or if the leadership bears the whole market or only single niches. For strategy choice we have to make a unique decision for one of the options to overcome other competitors (Prahalad & Hamel 1999).

Starting from sub-segments on which we can reach a comparative advantage, we can define offered services. For these services we must forecast revenues, customer numbers and market prices. Because of prevailing uncertainty, we must provide approaches for monetary evaluation of business models, which represent chances and risks on the income side. Appropriate approaches will be presented in the description of the capital model. At first we have to determine the necessary activities for the services and evaluate them with costs to create an evaluation of the media industry business model.

2.2 Evaluation of the activity model

For evaluation of cash outflows, approaches are needed that provide transparency in the desired activities and at the same time allow a derivation of the connected monetary consequences. According to recent research in the field of process management, methods are available for deriving relevant cashflows from process models (vom Brocke 2007). One variant of this approach (Grob & vom Brocke 2004) is to derive the cashflows on the basis of event-driven process chains (EPC) (Keller et al. 1992). Thus we must identify and evaluate the input-factors of a function. In view of the attribution, we have to distinguish between usage and consumption factors. Usage factors are resource-objects that can be used by multiple functions. In the activity model of business models they mean primarily the labour of workers, as well as the use of hardware and software systems. Consumption factors on the other side are input-objects for the processing of one function. In recent studies references meta-models have been designed in order to transfer these principles of calculating the profitability of processes to a larger extend of modelling languages (vom Brocke 2007).

A function’s cash outflows are made up of that function’s cash outflows based on its use of resource-objects and input-objects of the function. For calculating input-objects we have to measure the

required quantity, which must be cleared with the settlement price of one unit of an input-object. Cash outflows for resource-objects are calculated on the base of resource-use. Calculation by means of resource-use is carried out in the same way as in activity-based costing. Thus resource-use of a function is measured in percentages, by dividing quantity units used by the sum of all quantity units delivered by the function. By evaluating the activity model we forecast cash outflows on a specific sub-segment, which are opposed to cash inflows in the evaluation of the capital model.

2.3 Evaluation of the capital model

Starting from the calculated cash inflows from the evaluation of the market model, as well as the calculated cash outflows from the evaluation of the activity model, we evaluate the long-term consequences of using a business model. In order to summarize individual cash flows in periods to decision-relevant target values, we need approaches to capital budgeting. We must include alternative forms of raising and investing capital, and above all taxes on income. Due to the long range of the planning horizon, we must expect changes to the relevant influence variables. (e. g. Change in tax system). In order to make an adaptation of business models possible, the approach should be transparent and extendable. Traditional approaches in capital budgeting are seen as insufficient for this case, so we suggest Visualisation of Financial Implication (VOFI). VOFI makes it possible to create a cashflow statement of the considered payments over multiple periods. Taking into consideration different conditions for financing, reinvestments and taxes, a wide range of financial ratios is offered. Notably meaningful for the comparison of alternate business models is the VOFI return on assets, which describe the return on investment on a dynamic basis. The VOFI return on assets describes the realised return on investment (ROI) over the asset depreciation range (vom Brocke 2006). We can reach an informed decision if we compare the VOFI return on assets with the average cost of capital. The evaluation of business models has to consider the uncertainty of the forecasted cash inflows and outflows. The introduction of new technologies in the media industry holds great potential, but today it is unknown how the potential will be split. Both forecasted prices and forecasted customer numbers, which are needed for determination of cash inflows, are variables of uncertainty. On the side of goods and services there is also uncertainty. This uncertainty is clarified e.g. by uncertainty regarding the development of personnel cost and regarding the amount of the expected experience curve effect. The warranted possibilities of adaptation have additional requirements regarding the approaches of evaluation. Traditional risk ratios (e.g. Mean, Variance) are seen as an insufficient means to summarize varying cash flows from multiple aspects. The risk-chance-analysis is an approach to examine the uncertainty of the decision problem by simulation. In doing so, multiple factors of uncertainty are modelled with distributions, and the distribution of the target figure is evaluated within a simulation run. The so far described scenario servers as a calculation system, as the cash outflows and the simulated cash inflows in the VOFI are summarized to financial ratios. The result of the simulation run includes e.g. the distribution of the accumulated value of the investment or the resulting return of investments of one business model. The distribution of the target ratio is transformed into a so-called risk-chance-profile. Risk-Chance-Profiles make it possible to read off the probability when a target figure is greater than or equal to a critical value.

3 CASE: IT-ENABLED BUSINESS MODELS IN THE MEDIA INDUSTRY

3.1 Introduction to the Application Domain

The following example applied to illustrate the benefits of the above introduced approach, is based in the media industry. This industry is especially suitable to demonstrate the approach, because of the rapid change within the industry based on the application of new technology. Traditionally the value chain of this industry consists of the stages production, bundling, distribution and reception (Hess & von Walter 2006). This value chain is displayed in the following figure 2.

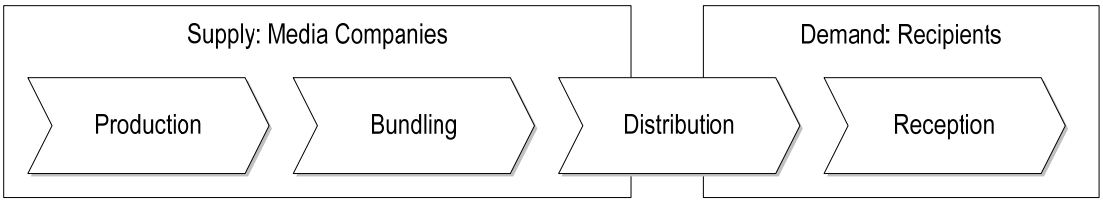

Figure 2 Media Value Chain (Hess & von Walter 2006)

Traditionally the production and bundling is executed by the media company, whereas the reception stage is located by the recipients of the media artefact. The distribution stage is conducted jointly by both stakeholders of the value chain. Based on this generic value chain different business models within the media industry can be derived, depended on the allocation of functions. Hess and von Walter e.g. derive different business models for the industry displayed in following figure.

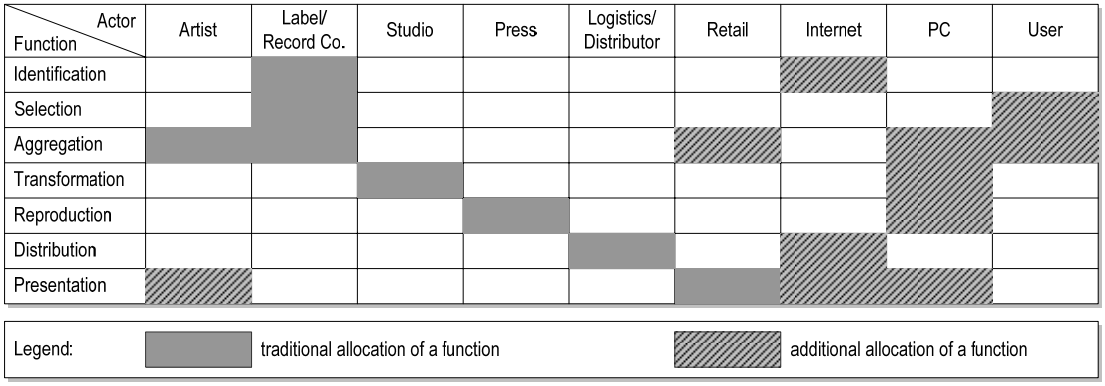

Figure 3 Allocation of functions among the value chain (Hess & von Walter 2006)

The introduction of new technologies can change the allocation of functions among the value chain (Porter 2001, Hess & von Walter 2006). For example the introduction of Internet technologies enabled intermediary business models within this industry. Intermediaries bundle media artefacts produced by different supplying media producers and offer them for a large variety of customers. Another example for a new technology enabled business model is content-on-demand (CoD) models (Hess & von walter 2006, Hess & Hirnle 2005). In the music media industry Napster has been a pioneer in the field of CoD, whereas nowadays companies like Apple (i-tunes) (von Walter & Hess 2003) or Sony (connect) are key players in this market. By 2001, about 29 % of all American adults and about 53% of Americans age 12 to 17 downloaded music files over the Internet, (Fox & Wrenn 2001, p. 112). Consumers have now the option to download only their preferred songs, rather than purchasing an entire CD or single. In fact, many consumers are not interested in an entire CD, but only in a few favourite songs. Other, fee-based approaches are found in the film and broadcasting industry as well as in the book publishing industry. In the book publishing industry even individualized contents are available. One example of such personalized contents is personal novels where recipients can describe characters to be included in a novel (e.g. www.personalnovel.de). They even can define what type of novel their characters should act in. In the following we will focus on the music media business, to demonstrate the benefits of the introduced approach. Therefore we will introduce an example on how this approach can be applied for measuring the financial implications of different business models for a record label.

3.2 Application Example: Music Media Industry

A small size record label, specialized on audio-books is planning to use Internet technologies to distribute their media contents. The core competency of this label is the production of crime novels (historical and regional) as well as the production of songs performed by artist living in Bavaria. As a result of a in deep market analysis it turned out that just a few small size labels up to now distribute their contents via the Internet. The label wants to position itself as a quality leader in the market for regionalized media contents. Two different designs are actually discussed for distributing the content via the Web. Business Model 1 is a cooperative approach, where the presentation of media contents is

conducted by an intermediary for regional oriented contents. Business Model 2 is a CoD approach, media contents are offered in an online shop owned by the label.

Alternative 1 is to participate in a company network, where different small sized labels team up and one intermediary presents the entire program of the different suppliers on the Internet. In this case orders are directly sent via E-Mail to the record label where they are processed. Consumers will then receive a package with the ordered CDs by a carrier and have to pay the bill by an invoice. The distribution in this case is equal to customer's orders received by phone or fax. If an order is received, the label checks, whether the CDs are in stock or not. In case they run out of stock, new media contents are produced. Depended on the address of the customer, a can carrier is chosen who will deliver the CDs to the recipient. The distribution process is displayed in figure 4.

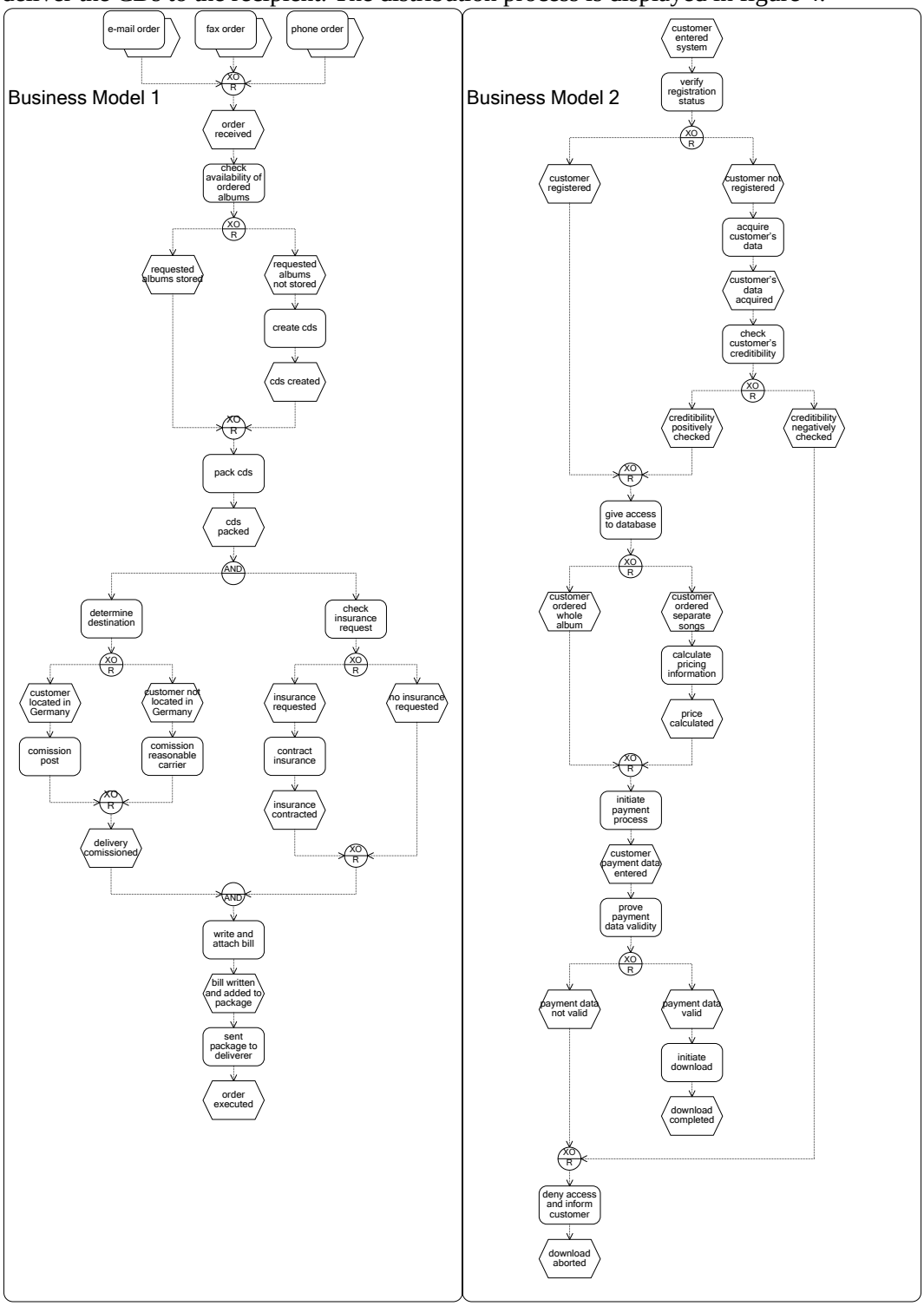

Figure 4 Distribution Processes of business model 1 and 2

The CoD business model 2 comprises a different approach for distributing media contents (see fig.4). Registered customers can download either whole albums via the web shop or just single songs. Opposite to business model 1, customers have to pay online for their media contents. In this business model recipients have the choice to bundle their own personalized contents. To present the contents the record label needs to set up an Internet store and encode the contents in a MP3 format.

In both cases 15000 Euros as equity are available to be invested. Further cost can be refinanced by a overdraft credit, interest rate 12% p.a., or a maturity loan up to 5000 Euros with a disagio of 10% and a interest rate of 6% p.a.. 25% Taxes have to be paid on the earnings of the record label. The decision about the business model should be grounded on an assessment of the financial implications of the following five years.

It is expected that in case business model 1 is realised in the first year 3500 customers will use the new distribution channel for ordering CDs. The number of customers will increase each year by 20%. In average each customer will order two CDs per year priced at 17.50 Euro. 98% of the customers are located in Germany in the first year. In the following years this rate will decline by 2% per year, because more orders will be received from foreign country based customers (e.g. Austria and Switzerland). These customers request more often freight insurance than German customers. Due to more transparent customer profiles that can be created via web log mining analysis the probability of non having ordered CDs in stock will decline from 25% to 9%. Based on the functions to be performed in the specific distribution process the total cost of this process can be calculated. This cost mainly result from material (e.g. packaging) and personal resources. In addition to the function depended cost of this and other processes, also function in depended cost need to be taken into account. Other processes in this context comprise for example administrative processes and processes for the development of social capital with the intermediary. Cost not resulting from processes includes the overall cost for material not specific for a certain function. Figure 5 displays the relevant cost and revenues of business model 1 to be included in the series of payments.

Business Model 1

variables	P1	P2	P3	P4	P5
number of customers	3.500	4.200	5.040	6.048	7.258
average number of orders	2	2	2	2	2
number of provided albums	25	38	56	84	127
P(requested albums stored)	0,75	0,79	0,83	0,87	0,91
P(customer located in germany)	0,98	0,96	0,94	0,92	0,90
P(insurance requested)	0,10	0,10	0,10	0,11	0,11
non-function-dependent cost					
material (development, packaging and sending)	17.500,00	22.050,00	27.783,00	35.006,58	44.110,72
cost per function					
check availability of ordered albums	0,10	0,10	0,10	0,10	0,10
create cds	0,50	0,50	0,50	0,50	0,50
pack cds	0,50	0,50	0,50	0,50	0,50
determine destination	0,10	0,10	0,10	0,10	0,10
check insurance request	0,10	0,10	0,10	0,10	0,10
comission post	3,00	3,00	3,00	3,00	3,00
comission reasonable carrier	6,00	6,00	6,00	6,00	6,00
contract insurance	2,50	2,50	2,50	2,50	2,50
write and attach bill	0,25	0,25	0,25	0,25	0,25
send package to deliverer	0,50	0,50	0,50	0,50	0,50
other cost					
bureau rent	10.000,00	10.000,00	10.000,00	10.000,00	10.000,00
studio rent	12.500,00	12.500,00	12.500,00	12.500,00	12.500,00
[…]	[…]	[…]	[…]	[…]	[…]
cost of other processes					
administration	35.000,00	36.750,00	38.587,50	40.516,88	42.542,72
social capital building	2.500,00	2.625,00	2.756,25	2.894,06	3.038,77
[…]	[…]	[…]	[…]	[…]	[…]
revenues					
price album	17,50	15,00	15,00	15,00	15,00
deliverage rate germany	1,50	1,50	1,50	1,50	1,50
deliverage rate other countries	4,50	4,50	4,50	4,50	4,50

Figure 5 Calculations for Series of Payments Business Model 1

In case an own web-shop is opened to distribute the media contents 6000 consumers are preditctet for the first year. The annual growth rate is 25% and therefore higher then the one of business model 1. Each consumer will download an average of two Albums and three individual songs. In the beginning there are just a few users already registered, the amount of registered customers will increase over time. With the increasing number of customers the probability of non credential or wrong payment data will increase. In contrast to business model 1 infrastructure cost for servers and network connections need to be considered. Although expenditures for marketing and the actualization of the product catalogue are taken into account as process cost. Due to the fact, that most functions are handled automatically by the system, the function depended cost are low. Cost for material do not occur in case business model two is implemented. The price for a complete album is 12.50 Euro because customers will burn their CDs themselves. The relevant data to calculate the series of payments for business model 2 are displayed in following figure 6.

Business Model 2

variables	P1	P2	P3	P4	P5
number of customers	6.000	7.500	9.375	11.719	14.648
average number of downloads	2	2	2	3	3
avergage number of separately downloaded songs	3	3	4	4	4
number of provided songs	300	450	675	1.013	1.519
number of provided albums	25	38	56	84	127
P(customer registered)	0,60	0,66	0,73	0,80	0,88
P(creditworthiness positivily checked)	0,95	0,92	0,89	0,87	0,84
P(customer ordered separate songs)	0,60	0,66	0,73	0,80	0,88
P(payment data valid)	0,95	0,93	0,91	0,89	0,88
non-function-dependent cost					
system cost					
- network cost	5.000,00	5.500,00	6.050,00	6.655,00	7.320,50
- energy	2.500,00	2.750,00	3.025,00	3.327,50	3.660,25
- server attendance	10.000,00	11.000,00	12.100,00	13.310,00	14.641,00
- domain	750,00	750,00	1.500,00	1.500,00	1.500,00
media development cost					
- copy protection	3.000,00	4.500,00	6.750,00	10.125,00	15.187,50
- data compression	60,00	90,00	135,00	202,50	303,75
cost per function					
verify registration status	0,01	0,01	0,01	0,01	0,01
acquire customer's data	0,02	0,02	0,02	0,02	0,02
check customer's creditworthiness	4,00	3,80	3,61	3,43	3,26
give access to database	0,01	0,01	0,01	0,01	0,01
calculate pricing information	0,01	0,01	0,01	0,01	0,01
initiate payment process	0,01	0,01	0,01	0,01	0,01
prove payment data validity	0,02	0,02	0,02	0,02	0,02
initiate download	0,01	0,01	0,01	0,01	0,01
deny/cancel access to database and inform customer	0,01	0,01	0,01	0,01	0,01
other cost					
bureau rent	10.000,00	10.000,00	10.000,00	10.000,00	10.000,00
studio rent	12.500,00	12.500,00	12.500,00	12.500,00	12.500,00
[...]	[...]	[...]	[...]	[...]	[...]
cost of other processes					
advertising	35.000,00	35.000,00	35.000,00	35.000,00	35.000,00
actualize product catalogue	2.500,00	2.500,00	2.500,00	2.500,00	2.500,00
[...]	[...]	[...]	[...]	[...]	[...]
revenues					
price separate song	1,50	1,50	1,50	1,50	1,50
price album	12,00	12,00	12,00	12,00	12,00

Figure 6 Calculations for Series of Payments Business Model 2

Based on series of payments for both business models the derivative cost can be calculated. They comprise credit intakes, redemptions, interests and tax payments. On basis of these payments the net present value of each business model can be calculated. This value is applied for calculating the ROI of each business model. The VOFI for business model 1 and for business model 2 is displayed in figure 7 and 8.

Business Model 1

VOFI						
period of time	0	1	2	3	4	5
series						
of payments	-17500	-3100	-5588	13769	38634	70490
internal funds	15000					
maturity loan						
+ credit intake (gross)	2500					
- disagio	250					
- redemption						2500
- debit interest		150	150	150	150	150
overdraft credit						
+ credit intake	250	1811	3531			
- redemption				5592		
- debit interest		30	247	671		
financial investment						
- reinvestment				2911	24789	43009
+ disinvestment						
+ creditor interest					87	831
tax payment						
- payment				4445	13782	25662
+ refund		1469	2454			
net funding	0	0	0	0	0	0
balances						
on maturity loan	2500	2500	2500	2500	2500	
on overdraft credit	250	2061	5592			
on financial investment				2911	27699	70709
net balances	**-2750**	**-4561**	**-8092**	**411**	**25199**	**70709**

Figure 7 VOFI for Business Model 1

Business Model 2

VOFI						
period of time	0	1	2	3	4	5
series						
of payments	-25000	-36455	-11465	23888	76483	153958
internal funds	15000					
maturity loan						
+ credit intake (gross)	5000					
- disagio	500					
- redemption						5000
- debit interest		300	300	300	300	300
overdraft credit						
+ credit intake	5500	23380	9279			
- redemption				12483	25677	
- debit interest		660	3466	4579	3081	
financial investment						
- reinvestment					21187	93469
+ disinvestment						
+ creditor interest						636
tax payment						
- payment				6526	26238	55825
+ refund		14035	5951			
net funding	0	0	0	0	0	0
balances						
on maturity loan	5000	5000	5000	5000	5000	
on overdraft credit	5500	28880	38159	25677		
on financial investment					21187	114656
net balances	**-10500**	**-33880**	**-43159**	**-30677**	**16187**	**114656**

Figure 8 VOFI for Business Model 2

The resulting ROI of the business model is for alternative 1 (2) 33.4% (38.6%). Therefore the record label should invest in an own shop where entire albums and single media contents are sold. In order to regard the uncertainty of the decision situation further calculations can be conducted. For example the number of customers can be seen as a standard normal distributed variable. Simulation experiments can be applied to display the change of ROI based on this distribution. As a result the probability of ROI can be compared for both models. In this case a variation of the number of customers does not affect the decision suggestion. In every case the ROI of business model 2 is higher than the one of business model 2. The overlay chart of the cumulative comparison is displayed in figure 8.

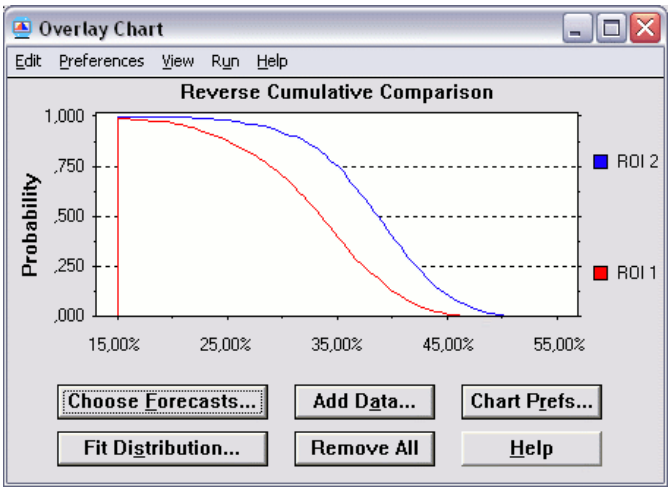

Figure 8 RPC for both Business Models

The assumption of distributed variables can be made for other elements of the cost calculation too. Depended on the type of distribution t might be possible that in certain situations business model 1 has to be suggested.

4 CONCLUSION

The introduction of new IT artefacts enables new business models in a large variety of industries. Companies face the challenge to choose the right business model when a new technology should be aligned with the overall strategy. Based on the strategic positioning and the existing core competencies often not solely one business model could be realised but different variants. Due to the long term consequences of a decision about a specific model the potential value should be calculated and corresponding risks assessed.

In this article we introduced a systematic approach for a monetary evaluation of business models. This approach is especially suitable for technology enabled business models, because technology and business needs are addressed in an integrated manor. The systematic approach supports decision by considering long term economical consequences of business models. We also take uncertainty, chance and risks of the business models into account. By comparing returns on investment of alternatives we get a foundation for decision support. We demonstrated the benefits of this approach by applying it for an example of the media industry. In this example two different business models, one for Content-on-demand and for using an intermediary to distribute media contents are compared.

However, it needs to be taken into account that the information provided by the method-system is limited to decision support. Hence further considerations are relevant. The wide range of qualitative aspects of business models may serve as an example. Further research will focus on enlarging the scope accordingly. In addition to the conceptual perspective of this paper also empirical work will be conducted in order to learn more about the economic design of IT-enabled business models.

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