HOW TO DEVELOP CLOUD COMPUTING STRATEGIES IN WHOLESALE TECHNOLOGY

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Abstract: Cloud computing is also becoming an important cornerstone of corporate success in tech wholesale companies that run their own data center, as an alternative to IT, but not the core business. Especially technical wholesale companies are often dependent on IT, but not experts in this field, and therefore see cloud computing as a real alternative to cost minimization, because IT operations can be "outsourced" in whole or in part.
Key words: Cloud Computing, Cloud Strategy, Analysis, Technical holesale.

1. INTRODUCTION

Cloud computing is and will remain a forward-looking buzzword for modern IT strategies in the company. The term refers to the external provision of IT infrastructures as well as application service hosting (application service providing) via the Internet (public cloud) or an intranet (private cloud) and thus poses a fundamental requirement for companies.

Against this background, the focus on cloud use and essentially related business issues is taken up below and the basics of strategic corporate management with a particular focus on the development of an information strategy, which is particularly important for the development of companies, is presented.

Since the technical wholesale companies Since the focus of this contribution is on small and medium-sized technical wholesalers, the procedure for developing a strategy and the necessary development steps against the background of a external IT reference is presented.

The following article is dedicated to the extraordinary importance of supporting the value chains and thus also for its activities and processes of this target group and presents a model of strategy development for the effective use of cloud services by the technical wholesaler.

2. PROBLEMS OF TECHNICAL WHOLESALE TRADE

The term "cloud computing" focuses on a class of offerings that allow companies to obtain parts of their corporate IT over the Internet from external providers and essentially settle it based on usage. It must be borne in mind that cloud computing is not a new technology, but a new paradigm for IT operations, which brings together many well-known technologies under one roof [1].

Cloud use is particularly attractive for small and medium-sized wholesale tech companies, as this group of company's struggles with tight time, financial and human resources, which has a particular impact on a company's "unloved" IT function. This therefore opens up a great potential for cost savings or quality improvements. Substantial reservations, on the one hand, and a lack of expertise coupled with a lack of capacity to develop appropriate skills, on the other, have so far prevented wholesale tech companies from taking advantage of cloud computing [2].

So, while cloud computing is slowly becoming a critical factor for the company's success and competitiveness, many small tech wholesalers have not yet addressed the issue at all. There is therefore an urgent need to develop a comprehensive solution that helps companies develop and optimally implement an optimal strategy involving cloud computing in order to exploit the potential of "the cloud".

The comparatively small size of the company enables a fast and personal exchange of information, which ensures high flexibility and fast coordination. The limited resources and a comparatively small number of employees lead to a focus on day-to-day business, which is a greater limitation, especially in the establishment of innovations and long-term planning in the company, than in large companies.

Furthermore, with regard to the IT function of typical small wholesale companies, it should be noted that financial, temporal and human resource constraints must also be taken into account here, which, above all, make an intensive evaluation of new technologies by a small company unrealistic.

If it is added that only a small part of the sustainable success of the company is influenced by exogenous factors, i.e. the economic conditions in the market, and that the greater share is due to factors that are subject to the direct influence of a company, this underlines the particular importance of a methodology for the development of a cloud computing strategy and its correct implementation. These conclusions apply not only to the company as a whole, but also to its IT function in a similar way. In the following section, therefore, some basics on entrepreneurial strategies and their

functions in general are first presented, followed by a more detailed look at the individual steps for strategy development and their contents.

3. STEPS FOR THE DESIGN OF CLOUD COMPUTING STRATEGIES

From a business perspective, a strategy is a framework with medium to long-term principles designed to ensure a company's long-term competitiveness. The core of a strategy involves developing and developing one's own market position and company-specific competitive advantages. The strategy content and strategy process are essential contents of strategic management. This includes reformulating (and repeatedly updating) a strategy and assessing its consequences. Above all, however, the systematic, creative process of developing alternative strategies, including formal, systematic strategic business planning, should be mentioned. A strategy is not an action plan, but it is a common logic of action for all divisions and thus forms a link between corporate objectives and tactical measures.

Creating a cloud strategy typically takes place as part of a project. It may be advantageous to embed this directly in a larger framework if, for example, a corporate or IS strategy is to be developed simultaneously. In any case, it is important to choose the participants of this project as heterogeneously in terms of background of experience, character, attitude and hierarchy. At the same time, all parties concerned, such as (if any) management, legal department, works council, data protection officer, security officers and specialist departments must be represented in the project from the outset. Finally yet importantly, a security officer for the cloud systems should be explicitly named, who will remain responsible both during and after operation.

It is also often highly recommended to hire an external consultant to moderate and speed up the process [3], as well as address "blind spots". Depending on the scheduling situation and the number of participants, the development time for a cloud strategy is likely to be between one month and half a year. To create a cloud strategy, we recommend a systematic approach, as described below. The procedure is a refinement of the process proposed by Vossen and others [4], i.e. a prescriptive, holistic approach, which is characterized in particular by a sequential sequence of clearly defined steps. The goals, contents and processes of a cloud strategy are defined in advance, and implementation is subsequently carried out. Due to its clear structure, this approach is well suited to describing the "optimal" approach and seems well suited for the initial definition of a strategy in companies that have not yet carried out strategic planning.

In practice, however, an emergent approach is recommended in the long term, in which a strategy develops through numerous feedbacks between the parties within the company; the planning is then incrementally, i.e. systematically with numerous iterations [3].
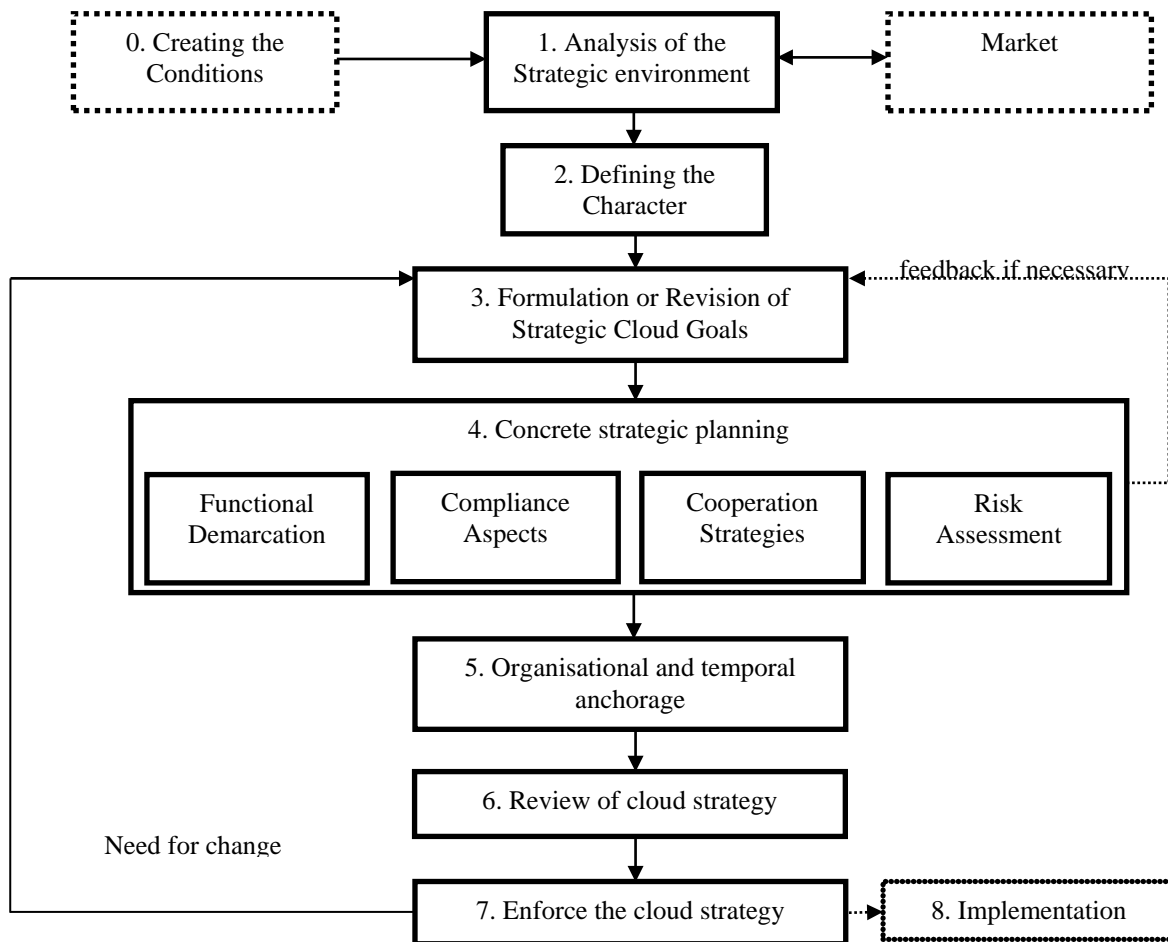
Fig. 1. Recommended procedure for creating or updating a cloud strategy

The basic assumption is that a satisfactory solution is often sufficient and that compromises must be made on a regular basis, which exclude optimal achievement of objectives, as assumed by a prescriptive approach. With the increasing "strategy experience" of a company and a suitable corporate culture (which, for example, defines goals and framework conditions rather than setting guidelines), it is to be expected that the strategy process will develop towards an emerging, incremental approach [2] because its flexibility is better suited to cloud sourcing and to the characteristics of a typical SME. This means that the strict sequence of the procedure described below is broken, but the respective contents of the steps remain valid.

The overall process for creating a cloud strategy is in Figure 1 for a better overview of the following explanations.

Step 0: (One-off) creation of the prerequisites

Before creating a cloud strategy for the first time, the right prerequisites must be created. This means, above all, that the upstream stages of the strategic planning

process have been carried out, because the creation of a company's cloud strategy is based on the corporate strategy. In addition, an effective implementation of strategic planning requires a "strategically compatible" corporate culture, in which employees are able to effectively implement the strategy(s) "on a small scale" and to provide feedback on the usefulness or suggestions for improvement [3].

As a further preparation for the creation of a cloud strategy, it will be useful to conduct a survey of which services are already in use in an organization. Such an analysis can lead to surprising results, especially with the growing size of the company, because on the one hand users knowingly use cloud software without consulting the IT department, on the other hand, many users are already unknowingly already "in the cloud".

Step 1: Analysis of the strategic environment

Once the prerequisites for strategic cloud sourcing planning have been established, the business objectives that are important to the cloud strategy must be identified from higher-level strategies or related areas. In addition, the main influencing factors for strategy development have to be defined. Here, already basic compliance requirements or industry-specific, exogenous boundary conditions can be highlighted. In addition, the basis for further discussion should be a recording of the existing functions, systems and services of a company's IT. These must then be classified according [3] to their strategic value and their impact on the value added of the company. As a basis for strategy development, it is highly recommended to design long-term scenarios [2]. Ideally, these scenarios already exist from higher-level planning levels and only need to be enriched with cloud-specific details in this step.

Scenario analysis [4] requires describing alternative visions of the future that also include speculative developments. The scenarios not only describe future conditions, but also the necessary development paths. They should go beyond a purely competitive analysis and instead help to identify trends and assess potential risks; it is a creative process [2]. The principle of future orientation is important, which means to include developments of the future whenever possible (especially technological developments). As a result, the scenario analysis helps to unify the mental attitude ("mindset") of a company's employees and to identify thematic priorities and goals. It is therefore an important basis for the following steps.

Step 2: Defining a Character for the Strategy

Before defining strategic goals for cloud sourcing, top management should characterize the company's basic approach. Here, the nature of the strategy is important, i.e. whether an aggressive strategy is chosen, i.e. whether to strive for leadership in the field of cloud services. Alternatively, whether the company should

act defensively, rely on standard solutions. The choice of the basic strategy type determines the character of one's own cloud strategy and influences all subsequent steps.

Step 3: Formulate Strategic Cloud Goals

In this step, the company's management defines the strategic goals to be achieved through a cloud strategy. Ideally, the target definition can be based on strategic objectives of the IT strategy. However, it seems unrealistic that smaller wholesale tech companies in particular have already explicitly formulated such targets.

In line with the strategy environment, key target content must be formulated for a cloud strategy, as supported as possible by quantified statements on the achievement of targets and the temporal reference. Typical objectives are effectiveness, cost-effectiveness, quality, flexibility, productivity and protection and safety [2]. To support the target definition, it is helpful to make a rough classification of the existing systems in terms of their respective cloud potential. On the one hand, the potential of existing systems is to be explored, but on the other hand, consideration will also be given to the opening of new business models through a cloud strategy. Depending on the level of detail chosen, this analysis can take a considerable amount of time. It is therefore important to achieve a meaningful compromise of little effort and usable results.

Step 4: Concrete Strategic Planning

After formulating the strategic objectives, it is important to identify concrete strategies to achieve the objectives [4]. While the strategic objectives determine the destination of the trip, the strategies plan concrete itineraries to describe the way to the destination. With a view to the direct implementation of the strategies, sub-objectives can be formulated for each strategy, the fulfilment of which ideally leads to the achievement of the overarching strategic objective. The sub-objectives therefore define the intended state of affairs for a strategic goal as concretely as possible. In particular, a functional demarcation, relevant compliance aspects and cooperation strategies are taken into account and a risk assessment is carried out. The strategies must be tailored to the specific situation of the company.

Step 5: Organizational and temporal Anchoring

Once the content planning has been completed, objectives and strategies should be anchored in an organizational manner. This includes, in particular, the clear allocation of responsibilities. Furthermore, all measures, including those of the previous planning steps, must be provided with a defined time horizon [5]. Upon

completion of this step, a complete, scheduled design of the developed cloud strategy for the company will exist.

Step 6: Review the Cloud-Strategy

A review workshop will examine the design of the cloud strategy. Contradictions, unclear wordings, contentious passages, etc. are directly improved, so that when this step is completed, the finished cloud strategy is available as a coordinated document. For larger issues, it may be advisable to return to previous steps and iteratively incorporate the changes. In particular, the specific strategic planning may lead to aspects that require feedback with the target formulation. In addition to the final review of the cloud strategy project, it is also advisable to institutionalize regular review workshops to review and update the cloud strategy.

Step 7: Publish and energise the Cloud-Strategy

Once a cloud strategy is complete, it must be published and disclosed to the company. In addition, organizational measures must be taken to ensure the implementation of the strategy. A high level of strategic implementation competence is a key to sustainable success for managers and managers [5].

4. NOTES ON THE PROCEDURE MODEL

Frequent feedback between steps is to be expected. In addition, coordination with the IS strategy, especially with regard to the IS portfolio, must always take place, especially within the framework of steps 3 and 4. It is recommended that individuals regularly adapt their company's cloud strategy to the potentially changing business environment, just like any strategy. For example, the presented process can be repeated at certain intervals. The duration of the individual activities can often be significantly shortened, because the preparatory work of the last workshop can be based or it turns out that hardly any changes have to be taken into account.

5. CONCLUSION

This article presented a coherent, consistent approach to developing and implementing a cloud strategy for wholesale tech companies. After motivating the need for sustainable competitiveness of companies by leveraging cloud offerings and developing at least a "minimalist" cloud strategy for future business success, their content was explained in detail. To this end, the previously proposed model for the creation of a cloud strategy has been transferred to the domain of the technical

wholesale trade by extending the Vossen, Haselmann and Hoeren [4] approach model to the specifics of the companies and by adding a strategic portfolio planning.

The subsequent approach to implementing a cloud strategy sets out the first fundamental advances to take it seamlessly and under the face of portfolio analysis as part of the enterprise strategy in future developments and decisions.

Overall, the proposed approach provides an integrated overall approach that can fully cover a cloud strategy in the tech wholesale companies. Special features of a cloud strategy, the continuous development and the constant necessary comparison between target and actual state were also taken into account. The descriptions in this article focused on a practical view for small companies of the technical wholesale without a specific IT background, a strategic and forward-looking cloud management, its implementation in the company and its life cycle to take into account in the company development.

A structured approach was proposed to develop a strategy and the necessary steps were presented. On the basis of the proposed development steps for strategy development, it has become clear that an exact evaluation of cannot be carried out without considerable methodological competence. An approach based on the proposed development steps seems to provide a reasonable balance between complexity and accuracy, since it is more important to select and collect the relevant cost and benefit effects than to look at the business in detail.

REFERENCES

[1] Bräutigam P., A. Brandt **(2019)**. *IT-Outsourcing und Cloud-Computing: Eine Darstellung aus rechtlicher, technischer, wirtschaftlicher und vertraglicher Sicht.* Erich Schmidt Verlag GmbH & Co, Berlin.

[2] R. Rafaels **(2018)**. *Cloud Computing.* CreateSpace Independent Publishing Platform.

[3] T. Söbbing **(2016)**. *Handbuch IT-Outsourcing: Recht, Strategien, Prozesse, IT, Steuern und Cloud Computing.* C.F. Müller Verlag, Karlsruhe.

[4] Vossen G., Haselmann T., T. Hoeren **(2012)**. *Cloud-Computing für Unternehmen: Technische, wirtschaftliche, rechtliche und organisatorische Aspekte*. dpunkt.verlag, Heidelberg.

[5] Lindner D., Niebler P., M. Wenzel **(2020)**. *Der Weg in die Cloud.* Springer Fachmedien, Wiesbaden.