

Activity-Based Risk Management for Consistency in Management and Leadership

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With all the current discussions surrounding the issue of digitalisation, there is a growing danger of exaggerating the use of object orientation in modelling and neglecting people and their free will. Decisions are linked to responsibility for the effects they provoke. And it is ultimately people who have that responsibility. It has only been when discussing questions relating to responsibility for autonomous driving or artificial intelligence that many people have become cognisant of the fact that without human “free will” any discussion of fault is simply obsolete. However, the debate has largely been focused on the technical level. But as organisations become increasingly complex, it is vital to combine the various developments in the fields of “management” and “leadership” into a consistent “management method”. Managing risks (opportunities and threats) should enable people to make responsible decisions and take responsible actions. This article will show that concentrating on “human activities” in risk management is the key to overcoming this challenge.

Advantages of subject-oriented modelling

An approach that is rigorously focused on human activities as the key basis for consistent risk management in an enterprise is, in itself, nothing new. However, as the term “activity” has been expanded beyond human actions to encompass objects, it has become increasingly cumbersome in practice. [Horváth 1993, p.607 ff.]

In addition, existing activity-based methods have to date remained purely process-oriented. Even the German version of the American activity-based costing (ABC) method aggregates activities at different levels – depending on the required granularity of the analysis – into subprocesses or main processes covering multiple cost centres [see Horváth & Mayer 1989, p. 214-219]. Implementing and maintaining this kind of multi-level system of processes has proved very expensive in practice and, because of its pure object orientation, the system can quickly become extremely complicated. By contrast, cost accounting focused on human activities is simpler and clearer.

Here, an **activity** is defined as **“an action determined by a human decision, either an act or omission”**. As will be shown, these very small active elements of economic subjects can be used to link changes in business portfolios (products, services, projects, resources and stocks) and movements that make up business processes (flows of value, finance and information) consistently.

As in ABC and the subsequent developments activity-based budgeting (ABB) and activity-based management (ABM) [see Kaplan & Cooper 1998], human activities are related to one another or combined into overlapping processes.

However, the focus is not on achieving the most extensive possible object-oriented parsing of the value chain or corresponding internal processes. Instead, it is assumed that efficiency and effectiveness – aleas processes and portfolios – result solely from the activities of human actors, who may utilise technical aids – either available to them or provided by management and leadership – as additional resources. Managers may not like the realisation that ultimately they can (but also have to) manage only one person – themselves.

In an extreme case, a fully-automatic production process such as 3D printing with a fully automatic purchasing and sales platform would have a single actor (for example the owner) to whom all its activities would be assigned. They would represent the only human risk factor and would bear sole responsibility for decisions and their consequences. At the same time, that person would be a resource, providing all other resources for those performing his activities.

However, in general an organisation consists of a large number of subjects or actors. Therefore, an organisation requires controlled interaction of numerous people or, as Albert Schweizer once splendidly put it: “I am life that wants to live, in the midst of life that wants to live.” [Schweitzer 2003, 1917-1918]. As the activities of other human actors, such as employees or suppliers, are incorporated, corresponding resources are assigned to them. As well as physical aids, these enablers definitely include education, training or coaching. All activities must always be viewed in the context of the overall value chain. This enables their effect to be assigned to the relevant process, a portfolio (product, individual service, project, resource etc.) or to an area of a business (unit).

Thus, all resources in a company are deployed to support performance of human activities in providing goods and services. As in ABC, the costs and risks or opportunities and threats associated with the resources have to be allocated to the corresponding activities for planning, budgeting or management. Cost drivers can then be used to assign the calculated costs to individual cost units in the familiar way.

However, ABC puts the activity level between the costs of the resources. By contrast, in our approach it is recommended that the costs and risks of the resources are assigned directly to the activities that utilise them through their drivers and for each individual decision. Because the relevant cost estimation is linked directly with the decision and is documented through a related activity, a subjective value estimation can periodically be cross-checked against the values from traditional accounting or costing and, if required, can be operationally corrected or strategically adapted.



The enterprise controlled by people as subjects based on their will, thus automatically takes into account all significant subjective factors. In an aggregated form, this allows information about the (business) climate or the (risk) culture to be derived. Enabling employees in respect of their activities can also be managed in a more targeted way. This method can also support top down behaviour-based approaches in accounting, controlling or risk management as it takes into account human will and its influences on the company. [See also Buchmüller 2012]

Management and leadership includes designing rules, parameters, visions and culture, modifying management models and adapting them to new contexts, relationships or environments. However, a company can only achieve the necessary flexibility and at the same time the required resilience if its management instruments can be applied to the smallest active elements of the system: the enterprise is managed based on activities. See Q3 in ► Fig. 01.

Kant argued that all sensations and perceptions based on “pure reason” are only possible under the conditions determined by the subject’s conception of space and time [Kant, p. 113 ff.]. According to Schopenhauer, introspection enables us to understand how we (like every subject) can perceive ourselves in our “will” [Schopenhauer 1859, p. 33 ff.].

The propensity to innovation (will to power or to change) is determined geometrically in Q1 of ► Fig. 01, the first quadrant (top right). It is based on expectations, which in turn are based on the realisation of process returns through prices in the market.

This is done by consulting the business success curve in the second quadrant and the market success curve in the fourth quadrant. Market success represents unrealised value. The third quadrant shows the equilibrium condition for each individual activity in the stock of the system or subsystem in question, which is always satisfied at the angle bisector. In the four quadrant model, the x-axes are to be read from bottom to top and the y-axes from left to right as usual.

The function lines are only intended to convey a rough idea of the fundamental relationships.

Making a decision essentially means choosing freely between alternatives. Depending on the company’s direction, the focus of continuous improvement may tend to be within a fixed framework or in more openness and adaptability.

Contrary to the intuitive positive expectation of an efficiency improvement due to automation or strict regulation, a culture focused on efficiency actually reduces – as can be identified here – the risk-weighted return due to the simultaneous increase in process risks. In terms of operational risk management, a risk emerges from expected returns: “no expected return, no risk”.

Therefore, while hierarchy and will to power are more pronounced and can have a positive impact on growth in returns in the form of clear rules (threat corresponds to opportunity), in a more flexible organisation there are frequently process-related causes of friction and inefficiencies, but the will to change and the propensity for innovation are also higher. This comes at the price of accepting strategic portfolio risks. On the market side, “return follows from risk”. Without any change in prices, quality or density (simultaneously a measure for complexity) etc. of the portfolio components (in this case an organisation’s activities), no return would ultimately be achieved.

As well as taking into account free will, activity-based risk management (ABR) can, at the same time, close the consistency gap between management and leadership discussed at the outset. The 4-quadrant model in ► Fig. 01 makes this clear. The “Process risk or doing things right” dimension (Q2) is linked to the “Portfolio risk or doing the right things” dimension (Q4).

Perhaps it is helpful here to explain the words used by Kant disciple Richard Wagner, whose Parsifal says: “I hardly move, yet far I seem to have come.” And Gurnemanz replies: “You see, my son, time turns here into space.” [Wagner 2016, End of Act 1 Scene 2] Time

and space, space and time represent two interwoven levels of being that influence one another. At the same time, these dimensions represent our understanding and the basis of our existence.

Consistently linking discrete market portfolios with continuous business processes based on human activities

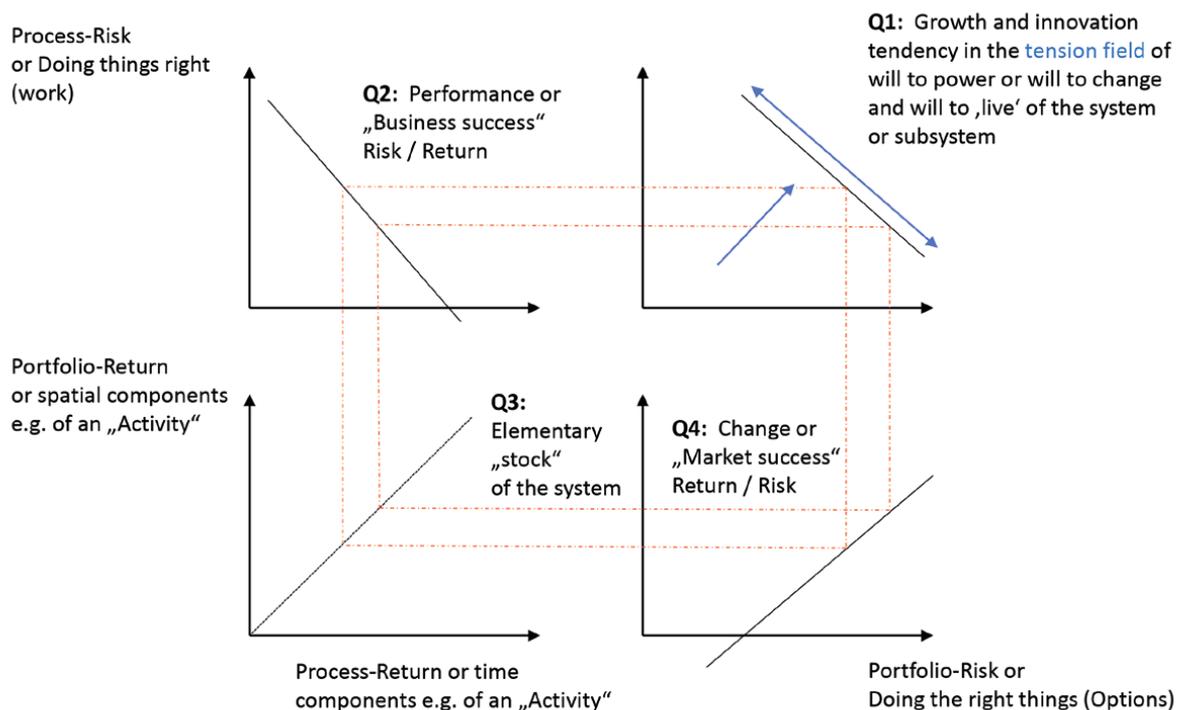
The methods and tools currently used in practice only satisfy the requirements for efficiency or process oriented management of systems with internal interdependencies in isolated cases. Alternatively, they satisfy (also object-based) the requirements for effectiveness or market oriented management of disorganised, stochastically viewed systems. The latter tend to represent imaginary portfolios (made up of independent components) that are hardly ever found in real world business.

In times of high complexity (Q4) and increasing dynamics (Q2) management of processes and portfolios in an organisation or an organised system requires relevant practical context and should be based on human activities. No technology is able to make responsible decisions based on free will.

The 4-Q model outlined above enables managers to appropriately solve problems with portfolios made up of discrete, changing components and processes in a constant state of flux in general. For example for the joint management of production and sales or for a consistent liquidity and performance management of asset portfolios. These and other similar problems can be understood, represented and evaluated using this standardised dynamic model. The lack of integrated and properly linked portfolio management, as well as all the other disadvantages of current activity-based methods discussed, can be resolved by a rigorous subject-oriented approach to business management.

For some time, professionals and academics alike have been attempting to address the issue of risk management with static or semi-dynamic risk measures (or combinations of these). However, as a result only risk-adjusted flows are converted into stocks and the latter are then added up over multiple periods or categories [Gleißner 2008, p. 107-126]. This means that the known risk measures only support static views at, for example financial flows or limit systems.

Fig. 01: Four quadrant model for risk management



Source: internal figure

Comparable with the product market (Q4 in ► Fig. 01), return and risk in financial portfolio management have a special economic relationship based on fluctuations in the market prices of assets held in the portfolio: their potential return (or opportunity) results from the risk. For the purposes of a “risk-adjusted” analysis, a particular yield is therefore regularly expressed in relation to the associated risk. To achieve higher yields, higher risks (for example expressed in the form of a debtor’s probability of default or the volatility of the market prices of a security, in other words a potential) have to be accepted, and lower risk expectations are generally linked to lower yields.

By contrast, in cashflow management, or in process management at company level, the exact opposite effect is seen – the risk increases along with the expected return. This inverse proportionality and, at the same time, the differing quality of returns and risks in portfolio and process management present not only manufacturing companies but also (at a very one-dimensional financial level) every investment company with significant conflicts when making decisions, for example when optimising liquidity flows and the performance of a portfolio. Alongside various microeconomic methods [see Erben/Fornefett/Pauli 2010, p. 21 ff. with further references], activity-based risk management could also close this gap if the 4-Q model borrowed from macroeconomics in ► Fig. 01 is applied to other elements of a system rather than to activities.

Object-oriented modelling should definitely not be exaggerated, while neglecting the characteristics of human free will. With increasingly sophisticated technology and increasingly complex organisations, it is essential to combine developments in management and leadership into a consistent (risk) management method.

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