

Global Complexity Management patterns: Ten success factors

Klaus D. Schopf/Daniel Rohde

Coping with complexity in global production and R&D networks is a herculean task due to manifold triggers driving complexity throughout the company. Effective management of complexity has become key lever for competitive advantage as complex problems can be found throughout all industries as well as in healthcare industry. In a research study, ten industry-overlapping success factors were analyzed and defined as presented in this article.

State of the art in global Complexity Management

Ongoing globalization, increasingly complex product and production technologies as well as individual customer requests foster complexity in global enterprises. Besides these external drivers, complexity arises from internal drivers: badly aligned product architecture and organizational structure foster complexity as local optimizations result in problems from a global perspective. To prevent disadvantageous developments, a globally integrated Complexity Management is needed to control complexity whilst

maintaining flexibility and creating complexity-robust structures. This is where the benchmarking study sets in and identifies general success strategies, methods and concepts.

Within the study, top performers in the field of Complexity Management were identified by quantitative analysis and in-depth interviews. Finally, ten industry-overlapping success factors (global Complexity Management patterns) were derived in the four fields of “organization”, “culture and mindset”, “set transparency” and “valuable standardization”.



Fly the flag

Commitment from top management and clear support in a company's strategy are central requirements for a consistent implementation of Complexity Management.

- The optimization of complexity often leads to conflicts of interest – executives must intervene local resistance to reach global optimization
- Impact of complexity shows gaps between cause and effect (temporal, functional and regional)
- Top management commitment to Complexity Management is the most mentioned success factor



Organizational implementation

Complexity Management can be implemented in different ways – defined responsibilities and clear mandates are crucial success factors.

- Two ways to implement Complexity Management: as a separate division or as a cross-functional team
- Decision-making structures and escalation levels must be established to resolve conflicts efficiently and sustainably
- 75 % of top performers have established complexity managers for complexity analysis and optimization



Complexity Management starts in the mind

Company-wide awareness of the impact of complexity allows a prevention of complexity.

- Understanding complexity in all divisions is a key factor, employees must be aware of complexity drivers and consequences
- Consequences of complexity relevant decision must be evaluated for the whole company
- Flagship projects are a great vehicle to communicate success stories and potentials of Complexity Management



Show persistence

Complexity Management is no short-term activity – although first success occurs in the short run, effects in indirect areas often only occur later on.

- Short term success of Complexity Management will be easily achieved, most potential will be “hidden” and occur with a time offset
- The greatest potentials arise from long-term oriented initiatives such as the modular design of processes, structures and products
- Successful complexity managers show at least 10 years of experience in the field with continuously growing success



Systematically disconnect from old loadings

Consistent phase-out processes create efficient product portfolios, enable lean processes and create room for innovation.

- Changed market conditions, diverse customers and new technologies are main drivers for product complexity
- Lean product portfolios increase product profitability and give room for innovation
- Defined end of life processes supported by complexity cost analyses are best practice to control product variety



Complexity has its own value

A complexity-based pricing increases portfolio profitability, but only works if the additional value is acknowledged by both sales department and customers.

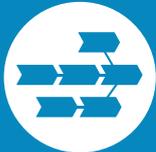
- Companies managing complexity most efficiently gain sustainable competitive advantage and exert pressure on competitors
- Complex product portfolios require a good knowledge of customer needs in order to distinguish value-adding and value-destroying variety
- Top performing companies use complexity-based pricing to ensure complexity costs are ascribed to the inducing product



Data is the new oil

Global data access in real time enables an integrated analysis of complexity and a global controlling of complexity within the company.

- Complexity managers need integrated data analytics of the company and the environment for informed decisions
- Standardized IT-landscape and complexity controlling throughout the company are key levers for comprehensive complexity evaluation
- Tracking of internal and external complexity drivers need to be established to identify emerging trends



Global integrated process management

Integrated process management can be used to develop global synergies and to promote cooperation between the sites.

- Processes are becoming increasingly global, dependencies between the subsidiaries are rapidly growing
- Degrees of crosslinking in functional process and the dynamic of process adaption increase process complexity
- Global process strategies require distinction of process character and purpose to foster agility and stability at the right place



Standardization creates flexibility, even in production

Production platforms enable the flexible production of broad product portfolios and lower one-off-expenditure especially in a global networking compound.

- Successful companies are striving for adaptability in production networks in order to efficiently react to external influences
- Modular production kits enable efficient capacity balancing between production sites
- Adaptive production structures enable cost-effective production of broad product portfolios



Anchor standards in IT-systems

The global communication of standards as well as the integration of rights management allow the enforcement of worldwide platform designs and defined local adaptations.

- IT infrastructure is the key lever for goal-oriented product development as well as the enforcement and maintenance of a global standard
- IT-based alignment of worldwide development activities strengthens the focus and avoids redundancies
- Existing data and local knowledge of subsidiaries must be gathered to create a global "single source of truth"

Summary and conclusion

Once again, the study clearly demonstrates why an elaborated Complexity Management approach enables superior performance. Though industries show multifaced challenges and complexity drivers resulting in different strategies, superordinate success factors show validity throughout all manufacturing companies.

Understanding cause and effect is essential to control complexity. A shared understanding of complexity throughout the company is necessary to avoid turning local improvements into a general disadvantage for the organization. Therefore, top management must demonstrate commitment to Complexity Management and support cross-functional cooperation.

Important external complexity drivers in healthcare companies are often local market requirements as well as regulative environments. We definitely see industry-specific strategies, frameworks and concepts, nevertheless the DNA of complexity is the same. The roots of complexity might be different, but effects are can be compared throughout all industries.

For healthcare management, there still is a huge learning potential that can be inspired by insights in other industries. Take the chance and make use of the experience of leaders from other industries to boost your competitive advantage through global Complexity Management!

Source

Schuh, G.; Friedli, T.; Schiffer, M.; Rohde, D.; Toennes, C., 2017, Global Complexity Management: Summary of the consortium benchmarking

Contact

Klaus D. Schopf

klaus.schopf@schuh-group.com