PROJECT MANAGEMENT AND ITS STRATEGIES IN GLOBAL ORGANISATION: CASE STUDY

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Abstract: The goal of the presented paper is to compare the different approaches of the Novartis Global IT project management in its four divisions. The basics of the project management with the focus on the global or international project management are described in the theoretical part. There are highlighted the ways of projects´ monitoring and evaluation. The history and the evolution of the project management in the context of used methods and approaches in various time periods in the particular divisions of the Novartis Global group are described in the analytical part. The comparison is used through the identification of positives and negatives of the analysed IT project management parameters. Currently we underline the importance of the communication within and outside of the projects with emphasis on the cultural differences in global project management. The results of the comparison are becoming essential for the recommendation for future project management plans in the Novartis Global group.

Introduction

The information and communication technologies that present fast continual development had brought to the area of business the aspects of the global market, and moreover, the new approaches to the overall management of companies, especially in terms of cooperation when operating on an international level. Nowadays, the globally operating organizations have to deal with the necessity to implement such organizational structure and knowledge management that allows the participation of employees of various countries and cultures on one or more projects as there are high demands not only on the expert factors, but also on the utilization on the regional and cultural habits consideration in order to develop the products optimized for the global market.

The development of a new product or product family on a global level requires specific aspects of managing the organizational resources. For these purposes, specific strategies and models are implemented into the organization hierarchy and structure that are commonly supported with the application of progressive information sharing and real-time communication tools that are utilized in accordance with the actual and cotemporary needs of the project. The overall project management approaches are structured differently in comparison with the national strategies and require detailed monitoring and measuring of achieved milestones and goals stated in compliance with the objectives of the projects.

Methodology

The goal of the presented paper is to go through the project management evolution and initiatives within the Novartis organization and to elaborate specific aspects and changes leading to optimise the project methodology.

The paper is divided into a theoretical and analytical part. The following methods are used:

- Synthesis – the combination of various elements together in order to form an interconnected whole,
- Review – the assessment or critical appraisal of given area, object or situation with the intention to set changes if necessary,
- Analysis – the detailed examination / decomposition of given area, object or situation and determination of its essential features and their relations,
- Comparison – the consideration of similarities or dissimilarities of two or more objects.

The theoretical part will provide a necessary knowledge in the area of project management and will create a base for further analytical study. The target of the theoretical part is to describe basics of global project management and the factors that influence the success of the project. The aim is to describe briefly the definition of terms related, i.e. expressing the specifics when the project is managed globally. Additionally, the project management strategies and measuring's of the project will be characterized.

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For processing the theoretical part, we used the method of analysis of data collected, information sources and the information obtained we've used for the analytical part. Analysis means the method of exploring more complex facts by decomposing to simpler ones. It is used in many sciences; in philosophy and in everyday life where we want to achieve certain results based on detailed knowledge of the details. A scientific method based on the decomposition of the whole on the elementary part. The aim of the analysis is to identify the essential and necessary properties of the elemental parts of the whole, to know their essence and regularity

The essential of the analytical part is to describe the evolution in the project management strategies and methodology in the given time frame, between years 2005 and 2016. Novartis IT Projects started in year 2005 as individual local projects, from time to time also called "island" projects. There was just the corporate strategy to bring all divisions into one ERP platform, mainly focusing on the finance integration in individual areas, but no global approach and/or plan. During the time the island projects became ineffective, so the approach began to change till the complete corporate governance cross the Novartis division. The focus will be given to elaborate especially the change in the approach from local projects to the global program approach.

In the analytical part there will also be described the decisions and mistakes made, highlighting dead ends and confirming approaches that lead to the corporate IT strategy cross the globe. Within the analytical part mainly the comparative method will be used. Especially with a focus of the comparison the project management strategy at the beginning and end stage of the given period. The outputs of the partial analytical steps are summarized through SWOT.

Next the synthesis, deduction and reasoning personal experience are used.

Synthesis is a set of activities aimed at finding a controller of such properties in order to achieve the desired parameters of a closed control circuit. It is a combination of individual parts or elements (objects or ideas) in one unit (the opposite of analysis), respectively the whole itself is thus created. Synthesis together with the analysis forms the basic thinking processes in identifying new relationship and regularities. All analysed data we synthesized into the case study. A case study is a research methodology that has commonly used in social sciences, it is a research strategy and an empirical inquiry that investigates a phenomenon within its real-life context. Presented case studies are based on an in-depth investigation based on personal experience and analyse to explore the causes of the underlying principles.

Deduction is a way of drawing new, sometimes logical conclusions based on the already well-known, general facts, statements or assumptions. This is the type of judgment and the method of exploration where the assumed pronouncements (premise) arrive at a new assertion, conclusion, and consequence.

Deduction is a judgment process in which the assumptions conclude from these assumptions, deduction is certain, not unlikely. This is the basic procedure for proving.

Literature Review

Project, project management

Project can be characterized as *"a temporary endeavour undertaken to create a unique product, service or result",* as cited in A guide to the project management body of knowledge (PMBOK®guide, 2013). The project is commonly oriented on one specific product, product family or product portfolio. The definition of a project therefore needs to be extended to comply with the hierarchical structure of the management on the international (global) level with its position within this hierarchy comprising the program and portfolio (Kerzner, 2014; Rosenau, 2007; Svozilová, 2016). Considering this structure, a project may be seen as *"time and cost constrained operation to realise a set of defined deliverables (the scope to fulfil the project's objectives) up to quality standards and requirements"* (Máchal et al., 2017).

However, the project itself can be seen from different points of view to understand the aspects of the project, and project management can be derived from the characterization of the project lifecycle, i.e. the chronological development of the project that leads the idea then to the successful implementation and then to the production (Baum, 1970). The project lifecycle can be described in various forms, as is cited in Kanda (2011), Schwalbe (2011), Korecký & Trkovský (2011), Fotr & Souček (2015), Allen (2010) or Morris et al. (2012). For this paper the project life cycle definition cited in Field & Keller (1998) is essential. According to these authors, the project lifecycle can be adopted in three different types (Field & Keller, 1998). First of them is the basic project lifecycle based on five phases of the

operation that include the definition of the project purpose and its feasibility, planning specific tasks to be accomplished, the determination of the organization of project solving teams, the execution of tasks defined and the closure of the project. This type of project lifecycle is adopted as a basic structure and can be identified in many types of general project management associated with various kinds of outcomes and deliverables that are not specifically related to the newly developed product or service result.

The second type of project lifecycle is associated with the development project and is described as a phase-development project lifecycle. *"Phased development is a strategy in which the activities and requirements determination, the evaluation of alternatives, design specification and the implementation of the design"* (Field & Keller, 1998). This type of project lifecycle approach adopted creates closely related subprojects that are chronologically dependent and following-up on each other. Each phase of the project presents an individual subproject with defined goals, objectives and deliverables expected.

The third type can be characterized as a prototyping lifecycle. This model of project lifecycle presents a specific form of phase-development approach that determines the deliverables of the phases of project as a state of the prototype and its technological readiness in relation to the serial production.

Project management can be then described as an *"application of knowledge, skills, tools, and techniques to project activities to meet the project requirements"* (PMBOK®guide, 2013).

Approaches to project management on an international level

The conducting of tasks related to project management and the approaches adopted in this area on an international level are closely associated with the methodology of project management (Brière et al., 2015). The description of these approaches could be provided for example in accordance with three ranges of competence (technical, behavioural and contextual competences) that are fundamental for the proposed success of the project. These ranges are described in (Máchal et al., 2017).

The structure of international project management is commonly hierarchically differentiated to provide better planning and scheduling and simultaneously to be monitored in terms of project deliverables accomplishment from the point of compliance to the global business strategy of the organization. This approach described in (PMBOK®guide, 2013) diversifies the project management to the portfolio management level, program management level and project management and strategic planning level.

Other approaches to project management on an international level are described in Muriithi & Crawford (2003), Collyer (2009), Bond &Hulme (1999), Rondinelli (1979), and Harrison & Lock (2004).

Project management strategies and leadership approaches

The project management strategy is always based on the strategy mix that is built on the global corporate or business strategy of the organization (Youker, 1999; Walker & Ruekert, 1987). The strategy mix commonly involve a series of strategical approaches that in their respected part include the business or corporate strategy of the organization (Srivannaboon & Milosevic, 2006). From this point of view, following kinds of strategy mixes, cited in Grundy & Brown (2002), are commonly applied in individual phases of the project lifecycle.

A deliberate strategy states clearly the idea of the process of project realization. The proviso of the deliberate strategy lies in the need to anticipate both pending external changes and complexions of their implementation.

Emergent strategy is commonly recognized just after the actual realization of actions and arises explicitly after the actions provided on the basis of pattern detected. *"Emergent strategies vary in terms of how coherent this pattern is after the event and whether they exploit opportunities in different strategic directions thus, in effect, partly cancelling each other out"* (Grundy & Brown, 2002).

Submergent strategy is basically the deliberate or emergent strategy that leads to an unsuccessful result.

Emergency strategy has a very little long-term pattern and is commonly associated with short-term pressures and temptations of the situation. Emergency strategy provides a reaction for occasional changes in the factors influencing the project course.

Detergent strategy or refocusing strategy is an approach that reacts on the changes or expectation of an unsuccessful ending of the project curse. The idea of detergent strategy lies in the modification of the project plan in all of its parts on the basis of re-analysis of the possible risks.

As can be derived from the stated strategical approaches, the complex strategy involved in the strategy mix complying with the overall business or corporate strategy cannot be considered final, as the conditions influencing the project life-cycle are continuously evolving and can change the actual expectations related to the project plan. This is confirmed by Shenhar et al. (2001) and Morgan & Strong (2003).

However, the strategic approaches should be involved especially in terms of leadership that has to be provided in order to maintain the teamwork. Leadership approach involves providing direction and motivating team members in terms of task fulfilment. The leadership approaches are based on the initial phase of the project development and associated with the proper team members' selection. The proper project team should accept the responsibilities and accountabilities for the project, and actively participate on the tasks assigned, exhibit a sense of purpose and direction through clear understanding of the project objectives and aspects of teamwork, rules, guidelines and responsibilities, and should provide the mutual trust and reliability, as cited in Termini (1999). Moreover, the confidentiality of fellow project team members is required, the team should provide such decision-making that would not negatively affect the task fulfilment of a fellow member of the team. The team should show a sense of urgency in getting the project executed as planned (Termini, 1999).

The leadership provided by the manager is predominantly based on proper communication of the project objectives and purpose. Nokes & Kelly (2007) define the principles of project communication that should be adopted in order to achieve the expected impact.

The key aspect of leadership within project management is, however, the selection of an adequate leadership style to provide proper coaching and motivation, and simultaneously achieve the delegation of tasks. The leader should be aware of the leadership styles that are available and select a suitable approach in compliance with the team members' needs and requirements. The actions related to the leadership of the project comprise several steps that are determined in the work by Máchal et al., (2017). However, achieving recognition as a leader by the members of the team is always needed (Diallo & Thuillier, 2005; Laufer et al., 2015; Madden & Stuart, 2007).

Project monitoring and evaluation

The project progress must be properly measured in order to provide support for monitoring and performance assessment, as well as to recognize or reveal the potential deviation from the planned baseline of the resolving. The dominant strategy for the monitoring process is an open communication and implementation of the reporting system that is stated in the development phase of the project (Crawford & Bryce, 2003; Bouras, 2013).

The specific actions related to the project monitoring that supports predominantly the control strategies can be diversified into the design of the monitoring system (including the stating of time-framed points within the project lifecycle in which the assessment of performance is expected to be provided) and the implementation (defining the procedures and methodology of monitoring to be applied). The basis for the monitoring system is the selection of the approaches to project progress evaluation (Gumz & Parth, 2004; de Witt, 1988).

The approaches to project progress evaluation are predominantly targeted towards process performance analysis within the defined points of the project lifecycle. The monitoring and control are then after based on these principles in detail specified in Randal & Bucero (2012):

- measuring always only one dimension of how work is done and in parallel in more dimensions,
- pinpointing and evaluating the opportunities for improvements on a continual basis,
- comparing the workstyle to the performance of other projects.

The performance of the project progress is commonly measured via Key performance indicators (KPI's) that can be described as stated defined measurable characteristics, the key values associated with the project objectives (Lindner & Wald, 2010; Jugdev & Thomas, 2002). The dominant requirement on KPI is its effectiveness and clear connection with the proposed project goals. Kerzner (2014) identifies various KPI characteristics.

The definition of KPIs is leaned on the monitoring approaches stated within the adopted project development phase and reporting system. The indexes selected arise from the measurable objectives of the project, therefore it is crucial not only to define their nature but also precisely state the proposed

target value that should be achieved by the project accomplishment (Besner & Hobbs, 2006; Cooke – Davies & Arzymanow, 2003).

In conclusion, the key performance indicators have to be stated clearly and their measurements should allow the unambiguous results to be properly applied within the project management processes, as cited in Thamhain (2002) or El Sayegh (2008) and Bushuyev & Sochnev (1999).

Project Management in Novartis: Case Study

Novartis is an international, publicly traded pharmaceutical company. It was established in 1996 by the merger of two Swiss companies: Ciba-Geigy and Sandoz Laboratories. Headquartered in Basel with its research laboratories and production facilities deployed worldwide. Novartis develops, manufactures and distributes original healing, immunological and diagnostic preparations for the treatment of the locomotor system, cancer, asthma, high pressure, etc. It also deals with the development and production of medicinal and immunological products for pets, cattle and fish. Its pharmaceutical division is the company's most important division which focuses on original medicines. Novartis also owns Alcon (an Eye Care Producer) and Sandoz.

From the Novartis corporate hierarchy, the IT projects belong to Novartis Operations / Novartis Business Services group (NBS), located in Prague Czech Republic. Recently to all the Programs/Projects running under NBS are assigned approximately 5,000 people internally, with a yearly budget of ~$800 million USD.

Evolution of the IT Projects in Novartis group: description

Novartis Pharma

The corporate initiative "to put every affiliate" under one ERP system platform (SAP) started during the year 2005, when the financial heads of the Novartis were strongly pushing for unification. It was decided to start with the Novartis Pharma division, where the main revenues are.

The division had at that time 3 main revenue streams, Technical Operations (TechOps), Commercial Operations (ComOps) and Turn Table Operation (TT) which served as Global supply chain planning and transportation planning. The TechOps stream was selected as the first to be implemented. Unfortunately, at that time there were no Novartis Project management methodologies or strategies, so all of it had to be developed within the first project itself. On top of that the Pharma industry is a strictly controlled environment therefore also all the Quality aspects had to be put in place. It was a large amount of work to be done, but people were enthusiastic, and they thought all of that could be achieved.

It was decided to take as a basis the SAP ASAP Project methodology, which is derived from many sources, mainly its reflecting PMI and IPMA. The project manager was nominated from one of the production sites in Germany, in Wehr. Mainly because most of the IT department was situated in Germany.

The project itself was defined as 4 simple phases: Blueprint; Development; Realisation; Go-live.

The blueprinting phase was used to define the basic requirements of the selected site and was supposed to be taken as a basis for the other sites. Nobody at that time was thinking that the situation in the other production sites could be different. Also, the position of the Project manager was simply to coordinate people on the project, not to manage them.

The planning of the phases was also not completely fixed. There was set only an approximate go-live date which was floating in time depending on the issues identified during blueprinting. Later the additional driver that was affecting the timelines was the situation called "Money doesn't matter" where most of the issues were solved with development which was not even looking for standardisation.

The next obstacle was the documentation practice. As mentioned earlier, the Pharma industry is a strictly controlled environment, and everything must be documented and be traceable. Unfortunately, there was not much done in this area and the documentation was not 100% completed.

This first Implementation project was afterwards changed to be called the Pre-project and was as not successful to the Lessons learned exercise. It was clearly said this practice must change.

As mentioned earlier no standard approaches were used and the Project manager was "just" a project coordinator. This was identified as the project's main threat. Therefore, for the next upcoming projects the position of Project manager was strengthened with the position of Integration manager.

Projects in Novartis Pharma ended in 2012 when most of the "important" outputs were implemented and now is in place the initiative to restart the project.

Table 1 cites the SWOT of the Novartis Pharma project management approach.

Table 1 SWOT of Novartis Pharma project management approach	
Strength	**Weaknesses**
Easy to manage = low number of project members Focus on exact affiliate = focussed only on local business requirements "Short" term project	Not able to evaluate needs of other outputs Have to be replenished with next output
Opportunities	**Threats**
None	Probability of revisiting of the site after finishing other outputs to align the processes and functionality Loss of experienced people
Source: authors	

Sandoz

Because of the issues identified during the Pharma projects the Sandoz division completely changed the Project management structure and approach. From the beginning the project was called SHAPE - Sandoz Harmonised Processes in ERP. Accent was especially given to the words: Harmonised processes.

The project methodology was completely redone, from the SAP ASAP methodology to Sandoz's own one, called the SHAPE methodology. The project methodology included all the aspects a project in the Pharma industry has to have. From Good quality documentation practice, through clear project structure and responsibilities, and strict project planning. On top of the deliverables (documents, project checks, developments, system settings) which had to be delivered at the end of each phase of project and without which the project would not continue were clearly defined.

Still the approach to finish one project and continue to next one remained. Against the previous practice in Novartis Pharma the first project Pilot set the standard for the upcoming projects in the pipeline and was promoted as the SHAPE standard. This allowed the Project manager to control the project itself.

Project phases changed depending on the size of the site: Pre-Project (optional for big sites). Blueprint. Realisation. Testing and Training. Go-Live.

The biggest site in Europe, Lek Ljubljana Slovenia, with all the possible scenarios in place was taken as the Pilot. This site is considered as TechOps, ComOps and TT.

The split between the TechOps and ComOps sites remained and the new element of possible managing two different project types appeared. So, within the Pilot the planning of the upcoming projects was split into 3 streams: TechOps, ComOps, TT.

The lessons learned lead to the identification of positions that were promoted as Core, and which were used as a supervisors and mentors for the members of the next upcoming projects. These Core people were installed in the positions of the domain leads and controlled the project progress and the quality of the deliverables.

On top of that the position of a Quality manger was established. This led to an easy controllable environment that ensured all the deliverables were delivered in the expected quality and expected format.

Table 2 cites the SWOT of the Sandoz project management approach.

Novartis Consumer Health – OTC (Sold in 2014)

Because of the success of the SHAPE project approach in SANDOZ, the project management approach changed. Program management was introduced to be able to plan with a larger scope and include more than one division (more than one type of business). The program SHAPE introduced two streams: SHAPE@SANDOZ and SHAPE@OTC. This was a trial to run multiple projects at the same time in two different divisions (different sales models).

From this point on, Program SHAPE start to work with Waves, it means to cumulate more affiliates in the same region and same division into one project. Each Wave had three parts: Scope & Seek. Solve. Sustain.

Table 2 SWOT of Sandoz project management approach

Strength	Weaknesses
Focus on corporate functionality = process and functionality can be reused Strict project rules, clear guidance Keeping the same project team	Longer processing time More people needed
Opportunities	**Threats**
Build the 3rd level of the Program guidance	Forgetting of processes and functionalities considered "Nice to have" Not keeping in mind "I'm working with others" might lead to changing the process and functionality on existing outputs already using the given process/functionality

Source: authors

Each part had its own phases, where the main part, Solve was the exact Project known from the previous 2 divisions. The first part of Scope & Seek was the most important part of each wave, because it was considered as the initiation and acknowledgement of the project implementation happening. The Core verification was handled as a Fit – Gap analysis against the process map of SHAPE@ SANDOZ, based on BPML. The differences were taken as a starting point from the next 3 projects that ran in parallel. The main with issue having such an ambitious expectation in running 3 projects in parallel was that there was just one project team. Of course, the knowledge was secured for all three, but the number of people to work with was too high and the travel between each site was almost impossible to handle. At the end it was decided that only project offices will be used.

Table 3 cites the SWOT of the OTC project management approach.

Table 3 SWOT of OTC project management approach

Strength	Weaknesses
Taking advantage of already existing processes/functionalities. Focus on corporate functionality = process and functionality can be reused. Strict project rules, clear guidance. Keeping the same project team. If properly handled, a time reducing approach.	More people needed Many project locations Communication not easy to handle
Opportunities	**Threats**
Using the other division experience as lessons learned Creation of a Knowledge base with a guarantor of each process domain	Forgetting of processes and functionalities considered "Nice to have" Not keeping in mind "I'm working with others" might lead to changing the process and functionality on existing affiliates already using the given process/functionality

Source: authors

Unfortunately, this approach at the end was considered a dead end, because the businesses of SANDOZ and OTC were so different, the functionality was not as compatible as it was expected, therefore after the division was sold, this way of handling of projects was never used again.

Alcon

As the youngest division of the Novartis group, Alcon began its IT projects latest. They already were aware of both the type of projects/program in both the Pharma and Sandoz divisions. Because Alcon is headquartered in USA, the decision was taken to "do it different and better".

The program was named IRIS and was promoted as one single program and the future for the whole of Novartis. The Program and Project management methodology was taken mainly from the Program SHAPE, just with differences in the implementation part. As there was strong push back from affiliates, the waves were not possible to manage easily, so the decision was taken to start with two big operations,

USA (the biggest market) and TT (Supply chain). Unfortunately, the decision included also the fact, that they should start from scratch and not to take an example from Pharma nor from SHAPE. Therefore, the progress of both sites was very slow, and management started to become unsecure about when the projects could be possibly delivered.

After more than a year without any results, the decision was taken to use two smaller businesses, Canada and the UK, to deliver at least some results, so to the Novartis management board some success could be presented. Both projects in the UK and Canada took approximately half a year without any experienced teams, where right after the handover of the projects most of the people left the company.

This unsuccessful part of the program resulted in the nomination of new Project teams, with years of experience from Program SHAPE, to sustain the situation. Two new projects started, BENELUX and Switzerland. On both projects the result of the Blueprint phase was not satisfactory, and the project of BENELUX was stopped. Right after the BENELUX, the project of TT also was stopped, and only USA and Switzerland remained and continued till their final delivery.

The main issue within the ALCON approach was to try to make all the processes and functionalities based on the identified processes in the USA and promote them as a Core functionality. Nobody from the team that establishing the list of processes ever expected there will be something different in European countries, therefore when the project was extended to Europe issues started to pop up.

Based on that experience and costs of ~$900 million USD spent with not many positive results, all IT projects in the Novartis group were stopped and were revaluated.

Table 4 cites the SWOT of the Alcon project management approach.

Table 4 SWOT of Alcon project management approach	
Strength	**Weaknesses**
Taking advantage of already existing processes/functionalities Focus on corporate functionality = process and functionality can be reused Strict project rules, clear guidance Keeping the same project team If properly handled, a time reducing approach	People in different levels of knowledge Many project locations Communication not easy to handle
Opportunities	**Threats**
Using the other division experience as lessons learned Creation of a Knowledge base a guarantor of each process domain	Trying to make a single functional approach, forgetting the needs of others Not keeping in mind "I'm working with others" might lead to changing the process and functionality on existing affiliates already using the given process/functionality
Source: authors	

Project management approach comparison

All four project management approaches mentioned in the previous section have common points that they share:

1. Decisions were made in top management, mainly driven by financial needs. In most cases, when the decisions are taken in top management without knowing the exact situation in each area of interest, it always leads into fast and inaccurate decisions.

2. Either no or wrong reference was taken. The project management where no experience with the methodology used are always in some way pioneers and this does not always end well. Especially the target end date is endangered, because there is no reference, where the mistakes or positive points are highlighted or the reference is completely missing, so the project management is working from scratch.

3. Overestimation of the targets: It has been said, to plan only the goals you can achieve in a given timeframe with the given resources. In the early phases, the SMART targets were defined, which initially seemed to be easily achievable, as their definition was carried out without realizing deeper situational analyses, but during the project implementation these targets had to be reformulated.

4. Underestimation of the staffing: Without having experienced resources/personal, starting with the Project manager down to the single team member, the targets cannot be easily achieved. The most significant situation that has been identified is the knowledge of the industry/business standards. Meaning the staff could be well educated in area of their expertise (Project management, SAP consulting, Development), but without knowing the Pharma industry standards, the delivery of a successful project is not very likely. like shooting the star with a boomerang. Such an underestimation has a very negative impact on the project implementation process. will always come back and bite you from the angle that is not expected.

As seen from these four common points the main issues are either underestimating the situation or overestimating the goals to be delivered with the given resources and in the given time. The evolution from island projects to a global program, presents how much project management is sensitive to the environment it is used in. Local, individual affiliates are always easier to handle whereas a multinational, multi business program can lead to hiccups that at the end result in situations nobody expected when planning the project and it is either stopped or completely refurbished, like in case of ALCON.

Overall this presents the fact of how much the project management is connected to external drifts. The project structure and planning as good as they could be is always fully dependent and must rely on the respective stakeholders. Therefore, the comparison between the isolated local projects at the beginning and the global programs at the end are clearly visible.

The project was originally set as a four-stage project with a single project manager, without any subordinate managers, but ended as a multi-level program, that included all the respective stakeholders. Especially it was important to find a person in top management of the corporation that was promoted as the project sponsor, so there is somebody to take responsibility for the successful and smooth running of the project. The project sponsor at the end plays the most important role in the phase of affiliate engagement, where the affiliate management must be aware of what's coming and must support the changes the project will bring.

Another important point learned is not bring all the project leading activities to one single person. Most of the operative day-to-day tasks are done on the level of the Team leads, reporting to the Project manager during the Project management meeting, where the important role is played by the Integration manager, which is in certain areas of responsibility on the same level as the Project manager. Therefore, the Project manager could be fully focussed on his duties.

This matrix was successfully proven as fully functional. Of course, the main success factor is to have mature and experienced people in the positions of Team leads and Integration managers, otherwise the matrix will swiftly break down. This was ensured with three round selection processes. The First round to check the knowledge based on the person's CV, the second an interview with a superior senior person with wide knowledge of the given area and the third with the Project manager to ensure the person's communication skills and leadership will fit into the existing project team. Both of positions also must be good team players. If they will act solely as individuals, the success of the project is clearly threatened.

Comparison of project communication on an international level

The key factor in most projects is communication. Let's have a look into the area of communication from two sides, project scale and the nationalities of the project members.

As discussed earlier, when projects are individual islands, communication is easy to manage. The size of the project is not so big, and the counterparts are always individuals in the given affiliate.

When talking about global programs, multi-country affiliates are involved. The key stakeholders are spread across the globe; therefore, communication matters are the most important. Usually at the beginning it is difficult to manage the different management styles or the time differences between stakeholders. The worst situation that was managed within one Novartis project was the Supply chain integration between Japan, the EU and the US. To just simply plan a Project management meeting took some effort because in Japan it was late evening when for US it was early morning. Also, to manage the expectations was not easy.

What also plays a significant role is the number of project members. When the project runs with 5 people, communication is easier that in a project with hundreds of members. The comparison could be

the project in Canada with approximately 15 project members against the project in USA where the team was composed of roughly 130 members in different areas and sites. The main positive part of the project with 15 people is not have so many people to lead and not so much information to process. Where when on the project itself there is over a hundred members, there must be a precise structure to be able to handle all the people and make sure the information is properly distributed vertically and/or horizontally. This cannot be managed by a single person there must be a management team where each person plays a key role in her/his area of responsibility.

The biggest difficulty is to manage a project of such a size in a multinational team. Within the USA project the team had 30 nationalities. The culture of each individual is different, and it also involves the communication skills usual for each of them. There is a huge difference when a person from e.g. Germany presents when the goal will be delivered against person from e.g. India. Both of them might be expressing a similar situation but in a different way.

The cultural differences might also bring misunderstandings which might result in endangering the project success. It's crucial to have all of these things in mind when setting up a project structure, so miscommunication can be avoided.

The structure must have a certain hierarchy, where a Team member reports and is using his/her Team lead as a communication counterpart. The Team lead is then part of the Project management team, where he reports all the respective communication tasks towards the Project and/or Integration manager and other Teams leads and is able to filter operative tasks he can handle himself or expressing the needs to others.

On the Project management meeting all the decisions are made and then reported to the Team members either in Team meetings. The Project or Integration manager communicates outside the Project as a Communicator either to the Program, Corporate or Affiliate management team. This structure avoids most of the misunderstandings that could be caused by wrong understandings between different people.

Within such a structure another important role is played by the Change manager. To communicate outside the Project organisation the changes that are upcoming with the project delivery is also an area which deserves focus. The affiliate organisation absorbs the changes easier when they are presented ahead and accurately formulated.

This communication within and especially outside the project was in many cases underestimated in Novartis, so not always successful projects were well received by the target organisation. Therefore, lately on each planned project the role of the Change manager was accented to prepare the associates on the on-going changes and what the future will bring to them.

Project monitoring and evaluation tools comparison

To lead a successful project also means to monitor and evaluate the project progress. The hierarchy of the Novartis project had several levels at which progress was reported:

Team level: Each project team had weekly team meetings where each stream was presenting the progress, highlighting the achievements and obstacles they were having.

Project management level: Each Team lead had to compile a Team status slide to be presented in front of the Project and/or Integration manager, reporting the team status, the next steps and highlighting the Challenges and Risks.

Steering committee / Program management level: The highest level of monitoring of the progress is the Steering committee and/or Program management where the overall progress is presented and evaluated.

There are many tools that could be used, but mainly within the Novartis group the Microsoft SharePoint program is used. This tool allows to have structured project phases and steps including the deliverables.

This tool was not available for a long time, so at the early stages of the Novartis projects either Lotus notes, MS Excel or MS Project were used, which brought about many issues with licencing. This way of monitoring the project also brought about a lot of difficulties on how to monitor the project itself. Therefore, the so called "Toll gates" or "Reviews" were introduced. In the project plan there were set exact dates when each review was supposed to be happing. The review was not only controlling the progress, but also checking the quality of the so far delivered work.

This way of project controlling consumed a lot of time for preparation, therefore we were looking for some specific methods on how to lower such effort:

1. Clearly specify, what the key deliverables are for each project phase.
2. Allow the project team to have access to all documents produced by the project.
3. Get a Quality manger to handle all the formal requirements of the delivered work.

As mentioned earlier in this section, SharePoint was considered the best tool to be used. It's an easy to manage tool, where all the respective access rights can be created, and the progress of the project can be monitored.

It is also essential to have in the project plan a set of milestones, against which the project can be measured.

Within the project planning it is also essential to set a realistic end date, to be able to deliver the project in its given scope and quality. As mentioned earlier, Novartis projects have been usually split into 4 main phases: Blueprint – 1/5 of the project time. Realisation – 2/5 of the project time. Testing and training – 1/5 of the project time. Go-live and support – 1/5 of the project time.

This split allowed project teams to focus in given periods on to their respective goals and deliverables, the results were later part of the review. The review ensured all deliverables (documentation, system settings, trainings etc.) are delivered in their respective quality and with a given formal layout, are approved and signed by the person responsible. If the review was not considered successful, the phase of the project was not closed, and next phase could not start.

Another area how the project is measured are the KPI's. In the IT projects the KPI's when the project was running were not easy to set, therefore they were mainly used after the project was delivered and were used to present how fast or how slow the organisation is able to adopt to all changes in processes and the tools delivered. With Novartis, it was not always common to use KPI's in the early stages. The main goal was to deliver the project in at given time and expected quality, but nobody afterwards exactly measured the progress.

The usage of KPI's started when the global point of view prevailed the local projects, where it was not that significantly needed. Because the IT projects at Novartis are performed as a joint venture between the Business and IT members, the business members were asked to provide figures as of daily business that are set as KPI's and against which the progress is measured. Usually several key KPI's were set per area, e.g. number of orders received, number of orders processed, number of goods delivered, number of payments issued and received.

Depending on the percentage of how many KPI's were fulfilled, the last stage of the project, the Support phase, was either extended or shortened. Such a progress also presented how much the changes were accepted in the local organisation. When the Change manager and the rest of the project team delivered a good project and the KPI's were fulfilled on time it showed good communication between the project organisation and the local business.

Results

As a summary we can highlight positive points and of course the negative points when comparing the approaches:

1. Positive
   a. Exact reporting on each level = easy project progress monitoring.
   b. Splitting deliverables into % milestones = quickly checking if the project is on schedule and the deadline will be met.
   c. Working close together with the review team = on-going check of the quality of the documentation and the system setup, speeding up the review time, catching issues early.
   d. Using proven tools = one single place to store the documents -> what is not in the tool, do not exist.
   e. Setting of KPI's for day to day business progress after handover from project to business organisation = easy to monitor progress of absorbing the changes of the daily business processes and its usage by the respective associates.

2. Negative
   a. Monitoring tools not available from the starting point = diversified storing of the documentation.

    b. Missing domain leads = long review time, when issue identified within review, its already too late.

    c. Project quality management not established from the starting point = not clear documentation practice, disputes about the GDP and document approvals.

    d. Not easy to measure the project with KPI's within the project realisation = Project manager is fully dependent on the documentation progress and review results.

Discussion

In the previous sections we analysed 4 different project management strategies of Novartis. The early stages were simple single projects on the local level, rolling over the Novartis affiliates cross the world, where the latest activities led to a Global standardised program covering multiple affiliates in given regions. From the point of view of the given time period, it was not seen as a wrong approach, but let's have a look at all the project management strategies in Novartis affiliates from the view of a global corporation that Novartis is.

Island projects used in Pharma are useful within a Global organisation only when the local issue or improvement is necessary to be done, but not for the global projects what for sure the implementation of the central ERP system is.

As it is visible from the SWOT of the Novartis Pharma project management approach, only the local focus is applied, which is from the positive point of view of the activities done locally. But on the other hand, there are no opportunities for improvement, because no global view could be applied. Where the weaknesses and threats lead to possible time prolongation in the full scope of the affiliates. The prolongation and the loss of the quality was already confirmed for Pharma.

From the evolution of the strategy described for SHAPE Sandoz, we already see the approach tends to use global resources planning in a wider range. Unification in certain areas is already visible and the usage of global resources is getting more and more involved. As seen in the SWOT of the Sandoz project management approach, the strength is moving towards standardisation in a global level with opportunity to build Core / Global process maps and a global guidance. On the other hand, building a strong "project force" allowed the success of the program.

When the Global program SHAPE got expanded to OTC, there was the trend towards even more extensive globalization by involving several affiliates in the region with one single project, which was ultimately found unrealistic. As seen in the SWOT of the OTC project management approach, the strengths from Sandoz prevailed, but the scope was highly overestimated. Trying to absorb a completely different type of business into an existing process map led to a complete revisiting of the scope in certain areas, mainly in the Sales process. Also "ignoring" local process and pushing "best practices" called corporate process and functionality resulted in a misleading approach that was later abandoned.

When taking in the account the approach of IRIS Alcon, centralisation was already completed. The goal to centralize all the functions, processes and functionalities goes over the limit. The end of such a kind of approach is not surprising, because the company is a living organism, where each piece of the business and each process at the lowest level plays a significant role. As seen in the SWOT of the Alcon project management approach, there is a lot of advantages like reusing functionalities already proven in other parts. This approach could only be considered as successful when all the open topics are known at the starting stage, all the aspects are thoroughly analysed, and the project involves all the respective parties.

Conclusion: Proposed changes to the Global project management strategies

The recommendations towards standardized and functional project management is to run first a global unification project where all the stakeholders from the main company's domain will discuss and create process maps cross the business. Simplify the processes and behaviour of the last associate using such a process, which allows to reduce or even eliminate differences in the perception of project management in all its aspects caused by the influence of multicultural stakeholders. Such a streamlining of the corporate process leads to clear specification what the IT standardisation program must deliver. When talking about a corporation like Novartis there must be also present a send step of such a process standardisation which is to compare standardised processes cross the divisions, because what we learned earlier, when it was tried without such preparation, or just simply processes from one region were promoted , it always brought more difficulties than positives. As a second step there must be a global decision whether to conduct an IT program where one or more division will be implemented.

This type of activities has already been started in 2016 when all the IT programs and projects were stopped. Revisiting all the previous projects and looking for an alignment whether all 3 existing Novartis division will have the same backbone ERP system or each one will have its own.

From all the known documentation, there should surely be 1 pillar for Pharma and Sandoz, because these two divisions are running almost the same business, Pharma producing and selling primary pharmaceutical products (drugs under licence) and Sandoz producing and selling pharmaceutical generic products (drugs with already expired license); and 1 pillar for Alcon, because its business is mainly OTC (over the counter) production and sale of products, plus production and sale/rent of surgical machines.

It all leads to simple recommendation for Novartis. First standardise the company's business process in a single division, make an assessment of how much these processes are in common in other divisions and then run the IT implementation projects in waves for a small number of affiliates in countries that are close to each other and it is expected there is not many differences in legal requirements, e.g. split countries in EU to two or three areas, because its expected, the legislation should be similar.

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