# 2013

REWE Group

Miguel Melo- CEMS-MIM

# REWE – Optimization of delivery channels in retailing

# INDEX

## Brief Context

### a. The Client

In our Business Project we were working in the retailing sector, more particularly with the REWE Group - a German company which operates in the food retailing and the tourism industries. The REWE Group is a company with a turnover of 48.4 Billion Euros, employing over 320,000 workers in 15 different countries. In terms of structure it operates like a cooperative, where each owner has a say in the overall company strategy.

In Germany, REWE Group employs over 222,000[1] people and generates 35 Billion Euros of its entire turnover or 85% in percentage. In its 3300 stores the REWE Group offers a full range proposal to its customers, from the heavy discount stores to the smaller shops and convenience shops, but also charging higher premiums to the customers. These shops have also a full range of brands, differentiating them from each other and they are: REWE for small supermarkets and convenience stores; Toom, Nahkauf, TEMMA, Kaufpark and Akzenta used for stores with bigger dimensions and discount perspective.

Our Business Project focused on the logistic network of REWE in the German market, this excluded other retailers in this market that did not have the REWE brand name. REWE distributed its products in Germany through a logistic system that included 14 warehouses, being one of them a national warehouse and the rest of them regional. Those fourteen warehouses are subsequently divided in six regions: Centre, North, East, South, Southwest and West; each of these regions hosts normally two to three regional warehouses being the national warehouse located in Dietzenbach.

### b. Market Overview

Considering the German food retailing market we can describe it has one of the most competitive in Europe. This fierce competition is justified by the presence of very large retailing organizations inside the German cities; heavy discounters are not left out to the peripheries as in the other European markets but they are rather inside of the city bringing

[1] http://www.rewe-group.com/

price competition to the overall market. This different geographic placement of German retailers creates a unique market environment.

Culturally German customers are also very price aware[2] and tend to compare prices of the overall market. Therefore price is a very important factor in groceries purchasing in Germany. Other important factors are proximity and presence of a large assortment of products. Another very strong tendency in the German grocery market is also the strong presence of Bio supermarkets and bio varieties, for instance REWE overlaps its fresh products assortment with one containing only Bio products.

### c. Current client situation

REWE used at this point in time to choose its delivery channel in terms of products volume. In REWE distribution channels 5 channels were in fact available: direct delivery, regional delivery, national delivery, warehouse to warehouse delivery and cross docking. This strategy of defining the channel of distribution to be used only by volume, overlooked several other determinants, such as the implied costs in each channel, the required warehousing space and availability or possible cost savings in ordering deliveries in bulk. REWE used a quite simple approach to choose between delivery channels, however, this simplistic approach also tended to eliminate the potential for cost cutting and optimization. The system was indeed simplistic; however, the question mark above possible cost cutting possibilities was still available, being sometimes the more simplistic approaches the more efficient ones.

### d. The Business Project challenge

Our Business Project had as a title "Optimizing delivery channels in retailing", which gave us a general picture of what we would be doing. We can actually have a better picture of what the project was about when looking at the objectives that were also revealed at the beginning of the project, these were:

[2] Evanschitzky H, Kenning P, Vogel V, Consumer price knowledge in the German retail market Journal of Product & Brand Management, 2004, Volume: 13 Issue: 6 pp.390-405

• Determination and identification of the relevant parameters

• Development of a simulation model to compare the settlement forms

•Provision of relevant target KPIs for evaluating the simulation results

Accomplishing these three objectives encompassed several small tasks to be performed, requiring project management skills and expertise in the area of supply chain and logistics. For a comprehensive understanding of the processes several visits in REWE logistic facilities were advised in order to draw flowcharts of the processes and to familiarize ourselves with them.

Further we would have to program and to build the actual model or tool for the optimization process, which required modeling and strong analytical skills. This project as all of other Business Projects involved students in an extensive contact with companies, the need to present the work being performed and the accomplishment of milestones; such criteria were a challenge, we had to manage well our time, fulfill the required deadlines and more importantly to present ourselves as competent professionals.

The last challenge, for me at least was the language barriers, since the communication and presentation of the company would be in German, language at which my knowledge was limited. It was an aspect that I was aware of and informed the University representatives, being reassured that this should be no problem. Even with this reassuring confirmation it was in my mind that language barriers would probably have an impact in the work to be performed.

e. Summary of conclusions

In our Business Project we developed a model for the distribution channel decision making process. In the present the decision making process uses a volume based rule that has only one input: volume. In our Business Project we built a simulation tool that introduced many parameters for the decision making process. Our model used a cost based approach, including many cost drivers to find the cost of distributing each product by each distribution channel.

Our team derived three main conclusions, the first one was that our delivery channel optimized scenario delivered substantial cost savings for the company logistics department, additionally our simulation  tool shows a clear preference for the regional delivery channel. Last but not least the transportation cost seems to be the big chunk of the costs for REWE. The tool produced was customizable, what enabled REWE to make its own adjustments if changes in cost drivers occurred.

Our model was very comprehensive and complete, including all the possible factors available, however, we advised the company that no blind decisions should be taken only based on the model suggestions and that the decisions should be carefully analyzed.

2. Reflection on the work done

a. What was the original approach?

In order to accomplish such an extensive task in this confined timeframe we needed to organize ourselves and to use our project management skills. As Winston Churchill once told "He who fails to plan is planning to fail", so following this quotation we decided that we should carefully and as extensively as possible elaborate on planning. In the beginning we had few information about the Business Plan, so first we conducted some research altogether in order to be able to understand the extent of the workload. Having done this we could finally start planning what would have to be done, at which time and by whom. We need here to highlight the fact that with the initial information provided to us in the commencement of the project, planning was an activity particularly complicated and where the use of assumptions was widely required.

Our plan backbone was defined already in the second group meeting, where we sub-divided our group in different sub teams according to each one's expertise and created several small tasks that could be done independently or that needed previous ones completion in order to be performed. We created four different teams*: research, data, simulation model* and *performance measurement*. The size of those specific groups ranged from two to three people, being therefore the team able to perform tasks in a simultaneous way,. Those teams can actually be seen in the Annexes of our Business Project.

Thinking about the structure of the team  in a broader way we also defined specific roles in the team. Julien Müllender was the company contact person; he had the responsibility to maintain the company representatives and academic advisors informed about the progress of the project but also to keep a record of the topics discussed during the group meetings. Julien was then considered responsible of the communication department in our business project. Having a communication person in our group was crucial for maintaining a professional and coherent communication strategy with the company.

We also decided to elect a team leader, to solve any disputes or conflicts, but also to keep the group goal oriented, this person was Carina Von Weyhe. Carina was in charge of controlling the execution of the Project and the accomplishment of the pre-established milestones, as told before she also was in charge of solving potential disputes in the group. Our leader would be for us a last resource when a consensus would be impossible to reach and someone controlling the Project execution.

Important milestones were also defined in our first meetings, even if their timing for some of them was still dependent on other agents such as company representatives or academic advisors or in assumptions derived by us. The timing of meetings with company representatives or academic advisors was something that we would like to solve in the further encounters with these agents. Some flexibility was still left in the plan for other meetings or necessary actions. In the beginning we could admit that already a clear picture existed of what would have to be done in the further steps of the project.

In terms of physical support for this work we used a timeframe in excel, this would give us the visual support needed, but also a way to assess our progress. This physical support was under the form of a Gantt table, where the commencement and the conclusion of the specific tasks was clearly delimited, this particular chart also presented the groups that would be performing each task as well as the team leader and our communication responsible person.

Later on, the priority was defining with the rest of the project stakeholders the remaining deadlines and availabilities for the meetings, which was done in the first meetings and then during the overall project. This enabled us to have a clear picture of the workflow, after the first weeks of work.

If we look more in detail to our Business Project plan we can say that we had three major divisions and major deadlines. The first milestone to be achieved was the midterm presentation, then we had the development of the tool based in Microsoft Excel and at the end, the final presentation of the tool developed by us, results and recommendations. In terms of major divisions they also presented some similarities with the milestones to be achieved in our plan.

First we had to develop our midterm presentation to participate in the midterm competition; this was a task involving a great deal of time management, we had to meet the company representatives, find what the company really wanted to be done and start working. Time was scarce, besides the midterm presentation occurred after one third of the required time for the Project being passed; this gave us really a good push to start working and to being efficient and organized when doing it.

Then came the part where we had to collect information and develop the tool for the optimization of the delivery channels, being in permanent contact with the company to collect information and assess if the tool was in accordance to their needs. This part appeared to be the longest one for us, being a continuous process of queries and answers, where we needed the collaboration of company representatives and academic advisors.

The last part of the process involved the presentation of the tool developed and the presentation of our conclusions and recommendations. This last part would be mainly presenting what was done during the entire Project, being apparently for us the simplest part of the Project.

b. How did it evolve over time? Why?

As told by Helmuth von Moltke "No battle plan survives contact with the enemy", in our business project this quotation was also applied. Our specific case some changes had to be made as the project was developed or whenever some major obstacles appeared.

The first challenge to our initial approach was already in the early beginning of the project, we had in fact to prepare ourselves for a mid-term presentation competition of the business plan. The midterm competition was scheduled for the fifth week according to our initial plan, which included thirteen weeks. The midterm competition appeared then to be quite earlier than the name suggested. The mid-term appeared approximately after one third of the time being passed. The challenge was in fact to be able to understand what the company was expecting from us, being able to get also feedback from the academic advisors. This led us to have to accelerate the meetings that we had planned and to try to collect as much information as possible for the mid-term presentation. For instance the visit to the REWE logistic center was done just one week before the midterm presentation, having the mapping of the distribution process to be done in that week.

In terms of the milestones established in the initial plan, we could do the the Data Need Analysis and start with the Parameter Definition and Prioritization; all of those tasks started on time as planned and were running smoothly as it was expected. The modeling was indeed more difficult to start, since the Cost and Process Analysis was a more difficult task than it was expected taking more time than expected. Processes were indeed more complex and required a visit to the warehouse to be adequately mapped. Besides they also required a process of questions and answers to the company representatives to assess if the mapping was correct. Cost and Process Analysis continued until the midterm competition, being the Modeling part just started in the week of the midterm competition, instead of two weeks before.

Complexity of the Cost and Process Analysis was in fact an obstacle for us; however the late contact with company representatives was also cumbersome. Before the midterm we were in fact able only to meet three times, being the first one quite short and oriented to present the company and  the actors of the project and the second one geared towards the understanding of the company's processes with a visit to a warehouse. The last meeting before the midterm competition, was already to present the PowerPoint presentation for the midterm. Those initial meetings were more oriented to have a perception of what REWE was doing than to target directly the business project topic. As told previously the midterm came before our team expected and we had really to catch up to be able to build a good presentation.

Arriving to the midterm competition was a quite odd experience, since we had the feeling of having a really good structure for the presentation, a really good feedback from our academic advisors and company's representatives; however, the feeling of being behind in modeling was still present. The expectation of our advisors and of Mr. Bernd Peters, our company representative present at the midterm competition were in fact correct; at the presentation of the awards, we were in fact able to win the midterm competition, ending with a three years record of victories from the teams working with ATKearney. The result gave us an extra push with our academic advisors and company representatives, giving also extra motivation and the cohesion needed to continue performing our project and to get back on track in our initial plan.

*A game change*

After the first three weeks of work, a more cohesive group dynamic started to erupt, people were starting to get more comfortable with each other. This more informal environment and closer relationship between people gave rise to a new set of issues that were not initially planned. As one of the group members told that he had planned a trip to the US for three weeks since some time ago, everyone started to place its own time unavailabilities'. In fact our group contained one member that was working part-time already; others wanted to explore the region, some were unavailable during the week-end. Availabilities rose here as a major topic, this issue came up quite naturally during the trip to one of the REWE regional warehouses and also went away as smoothly as it came up. We decided to create an availability sheet that everyone would fill and we also decided that if some adjustments to the workload had to be done they would be done between the people staying at Cologne. The topic of equality in terms of workload was addressed using the end report as tool to balance efforts put into the Project. The end report would then be allocated in a bigger share to people that were not that much present during the Business Project . This deal enabled us to equalize efforts within the group without incurring into unproductive discussion that would create divergences and discomfort between team members.

*The IT issue*

Another issue present in our Project was the understanding and adaptation to the required IT tools and the required modeling. Those two aspects even if they seem quite distinct they go together. After a deep understanding of the cost structure of REWE logistic system, we were at a point where we had to start modeling and to build the actual tool. The first difficulty was to choose which IT software to use; we had to choose between MS Excel and MS Access. The first one was in fact easier to use and known by everyone, however, it did not had the data analysis capabilities necessary when working with large samples. MS

Access was able to use large data samples, but it required a programming skill set that none in our group had.

In the beginning of the modeling phase we had agree to use MS Access in our project, due to the large data sample that we had to analyze. Using MS Access raised many programming problems and compatibility issues, that could not be solved by either research or our Academic Advisors, so the final approach used was a mix of both. This would largely simplify our task, even if in the end the model stayed quite complex. First we would treat the databases provided in MS Access to reduce them in terms of size and then we would transfer them to MS Excel, where we would compute and calculate the required cost factors for the inception of our tool. This intermediate solution reduced much of the complexity, even though the model stayed quite complex, since many of the costs for each product were interconnected between the different regions, providing for instance just for one product 64 different cost paths. The model stayed complex, but this was an essential step in the Project, since working with MS Access could raise complexity at such a high level the Project completion could have been jeopardized.

c. What are the main limitations of the approach used?

Our approach was since the beginning very systematic and organized, we could even say that it followed pretty much the German stereotype of extreme organization. Being that organized brings certainly advantages, such as the knowledge of the objectives and the path to attain them, it enhances the time management and productivity, at least in the majority of the time, progress and advances in the project are easy to be monitored, between other advantages.

The organization and planning was in fact one of the major strengths of our group, being mainly constituted by German speakers, but also being geared since the initial presentation of the Business Project towards a very systematic approach. We mean by this the extreme importance that was awarded since the initial presentation of the Business Projects to project management and defining a clear set of milestones and phases that had to be achieved. There was therefore a predisposition to organizing and defining all the phases and milestones of the project.

This organized approach, although it had a great set of advantages, presented also some limitations. Starting the project quite early and with the pressure to establish a plan led us to underestimate or overestimate some phase of the project. In fact due to the need to have a plan since the beginning we were planning without having the adequate understanding of the Business Project *per se*. In the initial presentation with the company we had already a well defined plan. It is important to explain here that at this stage we only had a very reduced understanding of the tasks to be performed and of the workload required. At this stage we had the information sent by the university about the topic, having therefore very little information about the project.

Planning was here quite early and did not seem that logical or useful for the continuation of the Project. Having this specific approach already defined we had our first meeting of the Business Project with the company representatives, which result was a presentation where everything was very well defined in terms of planning. We were at this time presenting to the company a document, where everything was well defined even if our knowledge about the industry and the problem was quite reduced. Some tell in consulting that it is better to already arrive with a clear definition to what will be done and in which timeframes, the risks of seeing the entire Project trashed for a lack of understanding of the matter is here real. A different approach is to arrive to the project with an open mind and hear what the client has to tell, this approach even if it seems more opened also shows that the team did not spend a lot of time working on that matter. Related to this matter it is difficult to choose which path to choose, but it is indeed a matter to reflect over.

Our initial approach of planning very initially and in detail led us to some issues. In terms of the needs of workload required, they were sometimes misleading and not accurate with the actual needs that we would find as time passed by.

In our Business Project we had several teams for many tasks, due to the size of the workflow but also for efficiency and specialization issues. In the majority of tasks performed the issue of the lack of understanding of what was doing by the other sub teams was not an issue, since the tasks tended to be quite easy to understand, being mainly related to PowerPoint slides preparation, mapping processes, writing reports or memos between others. When we take the specific task of programming and building the optimization tool, it is indeed different, the tool was built in an initial phase by three of our group members and in posterior phase by just two. Complexity was here a crucial matter, programming took hours, and it is the kind of activity where having too much manpower can actually slow things up and harm the project. As modeling continued, spreadsheets started to grow in terms of complexity, to the point that the third member of our group present in the modeling activities started to lose track of the model. If this member of our team was lost, the others were if not as lost, more lost than him.

This division brought in fact increased productivity to our group and enabled us to work more efficiently. Even if we were updated during the modeling process and at the end we understood the mechanics and the overall model, we were not experts in it and would not potentially be able to detect any mistake done during the modeling phase.

d. What could have been done differently?

*The initial plan*

As told in the previous section in the first paragraphs planning came before any deep knowledge of the Project and the company, here we could have managed things differently, for instance being more focused on gathering information with the company in the first meeting, rather than presenting an already pre-established approach to the company without knowing the specificities of the project. This initial planning could have been done after the first meeting with the company, obtaining a better plan that would be more accurate in terms of the durations of each Project stage. This would however have wasted the potential for an initial good impression with the company; it is also true that it also put as at risk due to our limited knowledge about the Project.

*IT system choice*

The issue of which data processing tool was already discussed previously, in the end a combination between MS Excel and MS Access was used. The initial choice pointed to MS Access; however this was essentially a problem of overconfidence in our capacities. Even if we asked internally and externally if anyone had experience with MS Access and the response was always negative, we continued to think that we would be able somehow to manage it. We were overoptimistic, the rationale was that we would be able to program in MS Access, a program that no one knew. The reality proved that we were wrong, this specific IT system was more complex than we though and an alternative method had to be developed.

In this situation we could had since the beginning defined a different solution based in our strengths, rather than insisting in a solution that was highly risky proved in the end to be fruitless.

*Sub teams*

Since the beginning we created different sub teams in our group to perform different tasks in a simultaneous way. This approached highly increased the efficiency and specialization in the tasks performed, the down side was that for more complex tasks the understanding of the overall group was limited. More specifically in the modeling part of the work the majority of the group had a limited understanding of the modeling tool, besides of this process the work was mainly performed by only two of our team members. In this type of activity trust was foremost; in fact even if we understood the mechanics of the work done, we had to trust that the model was well developed and that computations were correct.

In this particular task of with such important impact in our Project we could have probably created a new sub-team just with the purpose of verifying the work performed. Working all in the Project seems as the logical choice; however we cannot forget that the work would be difficult to be performed with too many people in this task, besides other activities had to be done simultaneously to achieve the results in each stage of the project. Having this new team for verification purposes would in fact increase the credibility of our model for us but also for the company representatives.

*Increasing the chances for our tool*

Another aspect where we could have a deeper focus would be the presentation of the model to the company representatives. This was done only at the time of the final presentation, when we presented the tool built by us to the company representatives. As the tool was quite complex, the feeling at the end was that further explanation and maybe trials would be needed for a full understanding of the tool.

In this specific case we could have organized one or two workshops with the company representatives to explain the functioning of the tool. This way the tool would be probably better accepted and it would highly increased the chances of our model being implemented in reality

3. Reflection on learning

a. Previous knowledge

i. Masters content applied

In terms of the use of my Master's knowledge it was quite reduced, because in this specific project we were aiming at Supply Chain Management or Operation Management, which was a topic that was not present during my Master of Finance or in the CEMS MIM. It was not also a subject totally strange for me, since I had Operation Management in my Undergraduate at Nova SBE. In a more strict way, this was a different topic in terms of my Master's knowledge.

Thinking in a broader way some of my Master's knowledge was applied, for instance the ability to analyze performance, results and to present them, this was learned during my Master in Finance. This ability was used in the end of the Business Project to analyze results and present them to the management team; this is an essential skill that is learnt during the Master of Finance and that was easily transferrable to the Business Project. Using the same reasoning, the analytical skills and group working skills were also very easy to transfer to this specific Business Project and used there.

ii. Masters content adjusted

This Project also required the use and adaptation of some of the Masters' content, for instance during both Masters that I took at Nova group work skills were learnt, which I had to adapt to this new Project. Organization skills had to be adapted, due to the longer duration of the Project and to an extensive contact with the company.

In this project "Optimization of delivery channels in retailing", we had a Project that was somehow similar to the Finance problems of optimization of portfolios. In fact the Finance theory could be here adjusted, since we were working with different cost combinations for each product

b. New knowledge

i. New methodologies and frameworks used

This Project was for me an introduction to Project Management, since it was the first time that I had to perform such an extensive Project in contact with a prospective customer. Project Management skills were here one of the major takeaways and it was for me the first time that we used a Gantt chart to define project timings and milestones; it is also true that the extensiveness of the Project required this tool.

The Gantt chart was an essential framework but it was not the only new methodology used. This project was for me and also for many of my group the first time the we worked in a consulting style and really geared towards the customer. In this specific Project customer was at the center, as we were taught in the initial presentation of topics to the Business Project, after each meeting minutes were delivered to each of the project stakeholders, clear deadlines were defined and our team had a specific person for contacting with the company.

This project was for me the introduction to the consulting world, where a result had to be delivered, but also the path of delivery and assuring the right follow up was crucial for customer satisfaction.

c. Personal experience

i. Your key strengths & weaknesses - insights from the being in this project

This Business Project was culturally challenging, since it involved participants of mainly German speaking countries or regions and a suppose “outsider”. Since the beginning the defined language of working with the company was German, this was mainly with the purpose of accommodating the company representatives’ preferences. Language was since the beginning an obstacle to me, German was not unknown to me, since I had it for two years in high school, had some semester courses and  learnt by myself in Lisbon, however, my German language expertise was far from perfect.

Language was a barrier that had to be surpassed, so I spend many hours translating all the important words used in our tool or in the formulae. Presentations with the company were done in a bilingual way being my part presented in English and the rest in German. Discussions were done in German, and my inputs to them in English, communication was of course a difficult issue but not impossible to do. In the end the experience presented some challenges in terms of the language barriers, but that were progressively surpassed.

ii. Plan to develop of your areas of improvement

This Business project introduced me to the project management process and to the professional world. This Business Project introduced me to the consultancy work type, having multi tasks occurring sequentially. In the future I am planning to continue working in this field and to further develop my capacities in project management. This approach of working with a client in a project is for me interesting and enables to switch tasks, responsibilities in the project, learning therefore in many different fields of expertise.

Even if it was not the goal of this project, my German language abilities improved dramatically, of course my stay in Germany also had here an important role as well. Relating to this aspect I am planning to continue learning German, even if by myself as I did during my stay in Cologne. This Project enabled me to interact in a business environment in Germany, aspect that was a challenge for me and that pushed me to improve my German and that took me out of my comfort zone.

d. Benefit of hindsight: what added most value? What should have been done differently?

According to my vision what added value in this Business project was the separation of our group in different sub teams and specific people for specific tasks, such as communication with the company or team leadership. This enabled us to gain in terms of productivity and expertise. This approach, very used in the consulting business and in Project Management gave us a strong advantage versus other teams; each member of the team was clearly oriented to a specific task, with several tasks occurring at the same time. Benefits were in terms of productivity, using all the work force available in the Project, without having idle capacity.

Defining specific position for each of the team members was also, as told before something that added value to the Project. In this specific situation the contact with the company was done in a more professional way, always by the same contact person, this gave also the sense of coherence in every company communication, making the communication easier and smoother. Having a team leader also gave us someone to solve any particular dispute in our group and that was previously legitimate by an election.

This organization gave us the possibility to have a constant workflow, being also highly productive. In our group work was running smoothly and when benchmarking with other groups work hours had tendency to be fewer.

If workflow was smooth and work tended to run smoothly, it is also true that sometimes some tension rose, the team was extremely productive, however, personal relationships between group members stayed always cold and distant. Doing a comparison with other groups, bonding moments were reduced to the strict minimum; the goal of most of the team members was to leave as soon as possible. This lack of bonding reduced the tolerance for failure or mistakes inside the group, creating sometimes a difficult atmosphere for working in a team.