Daring to be simple: lessons learned from the Kwid, Renault-Nissan's indian car

by

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Overview

It is often assumed that innovation involves sophisticated products or specialised technologies, and that it emerges in developed countries before being modified and spreading to developing countries. Renault's car, the Kwid, turns this premise on its head. The Kwid had to be designed and manufactured in India by Indians in order to compete with the cheapest models in the market, and in so doing it rewrote the rules. It had to have an attractive design, but the technical choices made had to be the least expensive. The simplest solutions had to be found, even with respect to the smallest details, and often this meant lowering standards. Imposing such radical ideas on the parent companies required the skill of a charismatic project manager and a very reactive organisation. This experience may be too specific to be able to set a precedent unless it can produce a strategy for global businesses based on the requirements for emerging markets to invent cost-saving solutions which can then be spread throughout the world.

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Christophe MIDLER: Traditionally an innovation makes an impact on a market by launching high-end products or technologies before they trickle down to lower, less sophisticated levels. Usually it also emerges in advanced, developed world economies and later spreads to developing countries. The Kwid, a low-cost Renault car, has done the opposite. It was designed and manufactured in India, and is starting to win a market share on other continents. In so doing, it is raising questions about standards and manufacturers' processes, and developing new paths in order to move forward. I documented this unprecedented experience during the first three years of its development with my colleagues Bernard Jullien and Yannick Lung in our book 'Rethinking Innovation and Design for Emerging Markets: Inside the Renault Kwid Project'[1].

How the project began: from the Logan to the Kwid

Gérard DETOURBET: The Kwid is the culmination of a car platform project which began a long time ago. When I was in charge of the Dacia programme which saw the launch of the Logan, Sandero and Duster, I was already thinking about creating in each market segment a low-cost car which had a large interior and used simple technology. For various reasons, it did not come to fruition. However, a turn-around took place at the end of 2010 when Carlos Ghosn, the president of the Renault-Nissan Alliance, asked Renault and Nissan to consider manufacturing an entry-level car in all the large continents. Arnaud Debœuf, who had just developed the Duster, was in charge of this think-tank.

Initially, Renault and Nissan chose to explore different avenues. Nissan set about re-using existing material, including a former platform developed by General Motors and AvtoVAZ in Russia, and the Nissan Micra platform in South America. In India, Nissan wanted to work with a local subcontractor, a group of experienced companies, but this lacked the necessary coordination. Needless to say, this did not work out. Renault, on the other hand, worked on a smaller version of the Logan platform, but without a great deal of success. The result was an 'amalgamated' car whose manufacturing costs were too high. Consequently, Arnaud Debœuf and I had the difficult job of persuading the president to build a new infrastructure rather than salvage former premises and materials. At the end of 2011, Carlos Ghosn decided to launch the CMF-A (Common Module Family - Alliance) platform jointly developed by Renault and Nissan.

We then had to choose a country where the costs were attractive. Having worked in India with the Logan programme, we knew that Indian industrialists, who worked essentially in family-run businesses, were extremely fastidious about their expenses and investments. Wages were moderate, and therefore enabled the development and production costs to be reasonable. Nonetheless, we were aware that this would not be easy as we would be facing strong competition from Suzuki Maruti whose sales accounted for more than half the Indian car market.

Up to this point, Renault occupied a place in the Indian market at the top end of the price scale, with its cars costing approximately 10,000 Euros. To put this in context, I should say that today more than 70 % of cars sold in India cost less than 5,000 Euros. Our initial strategy, which may appear surprising, was dictated by the models which we were manufacturing at that time. It prevented us from producing large volumes and therefore from creating a broad network.

Once we had decided that we wanted mass production, we had to target the entry-level car and therefore we put ourselves in direct competition with Maruti, and also Hyundai whose presence in the market was growing. These two manufacturers represented 75 % of the market.

1. Christophe Midler, Bernard Jullien and Yannick Lung, 'Rethinking Innovation and Design for Emerging Markets: Inside the Renault Kwid Project', Taylor & Francis, NewYork.

I should add that for Indians it is rather unusual to own a European car. Therefore, our products had to be instantly recognisable and innovative in order to justify a purchase which was out of the ordinary.

This was the starting point in our requirement specifications.

Our watchword: reducing costs

The project began in 2012 in Chennai. We quickly realised that our car should look like an SUV (sport utility vehicle) in order to fit in with the global aesthetic trend. Nonetheless, we still wanted to set ourselves apart from the other cars in this sector including the most symbolic, the Suzuki Alto, which was a cheap entry-level car but which had an out-dated design.

Pooling investments

The most important aim was to minimise investments as much as possible. This is where the Alliance came into play. We set about creating a shared platform which included the manufacture of parts which are not visible from the outside (such as the floor, chassis, engine, gearbox, and behind the dashboard) for Renault's Kwid and its Japanese twin, Nissan-Datsun's redi-GO car. Consequently, each company was able to cut its entry costs in half. A fully-equipped mechanical factory was constructed, and 100,000 copies of each model were produced every year. The design of the platform, the construction of the two cars, the manufacture of the engine and the gearbox cost a total of 400 Million Euros, in other words, a cost which was three times less than if we had used the usual circuit in Europe.

Straightaway Renault made it known that it did not want to have this sort of platform just in India. Of course, we would have to incur similar costs to those in India, but we wanted this structure to be developed in other areas, and especially in the most restrictive region, Europe. The Logan experience taught us that differentiated models could share the same base. This desire for distribution to other countries was met with disagreement from Nissan who wanted to limit itself to the Indian market, and did not want to aim on a global scale because they feared additional costs.

The Kwid was based on four key factors. First of all, it was a break from traditional cars because of its user-cost which was greater than its sales price. In India, 90 % of car purchases are possible because of loans because the purchase amount is not as important a factor as the money spent on using the car. The Kwid was different from other cars because of its design and modern characteristics. Thirdly, it offered connectivity: we were the first car manufacturers to introduce a seven-inch touchscreen navigation system to the Indian market. Today all new vehicles are fitted with this feature. Lastly, despite being a compact, the Kwid has more space in the passenger compartment than average.

The timing was quite tight: the preliminary study finished in mid-2012, and everything should have been finalised by mid-2015. We had to extend the deadline by three months in order to achieve the desired costs.

Strengthened and supple organisation

To develop this project, we organised ourselves into levels. I was the sole person in charge of four hundred colleagues, and I was given the power to make decisions across the board. I was also in charge of department heads who, generally speaking, had risen up through the ranks at Renault or Nissan. They brought the know-how and provided training about the use of car design tools. Apart from the forty expats, the three hundred and sixty Indians in the team had varying degrees of skill and years of experience, often three or four years' experience, which is very little in the car industry.

There were two chief engineering , one for the design of the Kwid, and one for the redi-Go. I managed all the technical teams on the platform. Organisation therefore was tight, very active, and interspersed with ritual and sometimes strained meetings every Friday.

Working with our suppliers began very early on in the process in each sous-plateau including the undercarriage, the chassis, the electronics, and so on. As well as a manager, each of these teams had design engineers, purchasers and experts in cost price, as well as logistics specialists and stylists. This method of working was extremely concentrated. The team rapidly identified with its product and carried it forward proudly. To my great surprise, members of the team did not jump ship after production got underway.

In terms of organisation, our main concern was to remain independent without having to refer back constantly to engineering head office, or have to comply to their constraints because we respected the basics of the design. There were plenty of disagreements both at Renault and even more at Nissan. Although Renault was used to this sort of approach due to the Entry Programme (in which I took part), Nissan was new to it and found the approach inconceivable. The organisation only became more fluid when I was officially allowed to take all the decisions, without having to ask anyone else.

Fractal innovation

Christophe MIDLER: One should emphasize the achievement that the Kwid project made by cutting investment by one-third compared to usual processes, and halving the cost price compared to the Dacia Sandero (which itself had already halved the cost price compared to the standard Renault in 2005).

The 'design to cost' approach was devised from a predetermined sales price from which costs were adjusted as one went down the hierarchy in relation to the desired profitability. The first costing, which corresponded to a Sandero adapted to the Indian market of small cars, was 30 % more than the target price. Therefore, all the parameters were adjusted downwards.

No standard taken for granted

There was in increase in costs at the beginning of the financial year: either certain items were omitted, or the subcontractors' offers exceeded the expected level. Because suppliers represented 80 % of the cost and purchase prices, they were crucial leverage in order to reach the target.

Costs were reduced because of an original and wide-ranging innovation which I would call fractal. Ordinarily innovations are associated with technological breakthroughs or significant architectural feats. This was not the case with the Kwid which is simply a normal car manufactured at an abnormal price. The Kwid challenged all the usual corporate practices in the creation of a car which was adapted for the market, technologies and Indian processes. This context made the team think 'outside the box'. Let me give you an example of this. An Alto (the most popular model in India) was sent to the French Technocentre to be benchmarked in terms of comfort, performance and braking. Head office's verdict was that this car was unsellable! This merely goes to show why the standards of customer service, the basis of the car industry in the developed world, should be called into question and adapted accordingly.

Work on the technical aspects was meticulous. The slightest details were examined, even going as far as to check the screwdrivers on the assembly line. Similarly, wheels with three (as opposed to four) fixing points were devised. The cost and weight of cabling was halved compared to the Sandero because of the adjustment of a large number of elements such as the diameter of the cables, the insulation, the alternator, the fan blades, and so on. Reconfiguring certain components, even the most basic, helped significantly to improve performances. Over a period of six months in the division of electrical cabling alone, between two hundred and fifty and three hundred ideas were studied.

The usual timetables associated with vehicle development were also turned on their heads. Generally speaking, engineers and technicians are only called upon once the design has been decided. In the present case, the design freeze took place very early in the process in order to develop 'design to cost' solutions straightaway. However, at the same time, a certain amount of leeway was granted to work on the style of the car according to the costs.

Also, meetings with suppliers took more time than usual. Suppliers intervened very early on in the process and were only designated once target costs were reached.

Another unusual feature of the project is that it was carried out with Indian partners and not multinational subsidiaries, as is often the case. India has a large number of manufacturers who do not necessarily deal with international companies. Working with Indians gave rise to original solutions, including technological solutions. For example, the brand-new engine factory has no walls! The reason is simple: like other Indian infrastructures, an open factory space encourages natural ventilation which is essential because of the heat in Chennai. In the old, traditional Nissan factory which is close-by, all the doors are left open to let the air circulate.

Renault's manufacturing choice, inspired by the local environment, is therefore the opposite of a conventional factory transplant in which a technology which is considered to be superior is cloned in different countries. It results in a more efficient and less expensive solution.

Intrusive management

The 'design to cost' approach was accompanied by 'intrusive' management. This adjective is intentional, despite its seemingly pejorative connotation. This management was characterised by its ability to analyse and act on situations at all levels with all the factors. There was also a systematic Concurrent Engineering (CE) approach where all good ideas, regardless of their source, were welcome.

The project team was able to rely on the complete skills it had in all the departments. This expertise was necessary to determine to what extent the standards could be infringed. For example, engineers wanted to reduce the thickness of the seat slide device which already existed, but no-one understood why. However, when they examined Renault's archives, engineers discovered that in the 1960s an expert had decided that a Bic cigarette lighter should not be able to slide under the seat. Since then, in every subsequent project the same norms were applied without anyone raising objections.

The organisation showed that it was able to explore and to learn rapidly. When developing a conventional product, inertia leads to conformism. Because every solution has to be correctly validated, it is much easier to choose a standard solution rather than an original and untested alternative. Kwid's notorious Friday meetings, the weekly rendezvous for perpetual innovation, removed any form of inertia between exploration and implementation because solutions discussed at these meetings were implemented the following week.

Finally, there was an exceptional response to the project in the face of questions raised, and also risks which are inevitable when one bypasses the standards. In the case of the Kwid, there were two rather delicate subjects; resistance of the car to impacts (because the car was very light), and soundproofing. Safety standards changed during the course of the programme, and therefore it was necessary to adapt the project accordingly. The team managed this in three months: this would ordinarily have taken a year in the usual vehicle development cycle.

A changing car innovation process

This project marked a change in the history of car innovation processes. During the first three decades after the Second World War, innovation was a major preoccupation in the development of new cars: the Citroën DS is a shining example of this era because it had revolutionary aspects. However, this was not without problems relating to quality, deadlines, and costs.

At the end of the 1980s, differentiation strategies created a separation between innovation and vehicle development. Greater power was given to the function of a project in its role as a means of integration (as was the case with the Twingo), and subsequently innovation was handled earlier on. In other words, development, and its demands in terms of quality, cost and deadlines, was judged to be too important for innovators to be part of it. This encouraged the development of numerous projects and at the same time cut the length of the process time in half and made it easier to control quality.

As we know, the need for innovation has continued to grow and supported differentiation strategies in markets which are increasingly saturated. At the end of the 1990s, when vehicle development engineering became industrialised and even automated, innovation management moved upstream. Numerous attempts were made to rationalise anticipated creativity including the creation of co-operative laboratories and communities of innovators; the implementation of Concept-Knowledge (C-K) theory and 'design thinking'; and the early economic assessment of innovative ideas. Nevertheless, this reasoning had its pitfalls. It was difficult for innovative ideas to break through the barrier of fixed development which was considered to be a major obstacle to the commercialisation of innovations and which impaired their performance because it applied standard solutions. In contrast to this, the Kwid project illustrates a process of creative development where innovation work continues on a scale which cannot be explored early on because it is too detailed and involves too many variables. This is what we refer to as fractal innovation.

Extending creative activity into the development phases and even the market deployment phase constitutes a major change compared to innovation management prevalent in the 1990s and 2000s. This is a necessary change in order for break-through projects like the Kwid – but also electric cars and, in the near future, driverless cars – to overcome obstacles. This was the case for Tesla which improved its products after their sales launch, taking advantage of the ability to up-grade autonomous driving software.

This movement is transforming departments of the car industry which until then were not very involved in the innovation process, such as the sales and marketing divisions.

When the Kwid becomes international

Gérard DETOURBET: The launch of the Kwid forced our competitors to lower their prices. However, Maruti remains very successful in India. Hyundai has recovered after a bad sales period in the first months after the Kwid was launched. Today Hyundai's cars are being sold at the same price as when they were first marketed five years ago, in other words 25% less than current prices. At the same time, Renault is raising its prices and increasing its margins. We produce one hundred and twenty thousand vehicles a year, and soon we will be launching versions which have very attractive designs.

Generally speaking, the market has increased by proportions equivalent to Kwid's volumes. The situation is therefore favourable for Renault for the time being, but the war has only just started. It is essential for us to update and reinvent ourselves constantly. Every six months we are launching a new version of the Kwid with important changes, and a small, limited series every three months. We can never be complacent when we are face-to-face with a giant competitor like Suzuki which has a 55 % market share, and represents 90 % of vehicles. In even the most remote parts of India, there are only Suzuki repair mechanics who have been there for decades. There is no point in trying to find spare parts for the Kwid in these circumstances! We need time to build our presence here.

At the same time, we are exporting the Kwid from India to South Africa, Sri Lanka and soon Brazil. No-on has done this before. It is rare for car manufacturers not to export from their national base, in other words, Japan, the United States or Europe.

We are also working on an extension of the platform as we are programming four new vehicles. There will be different undercarriages for Renault, Nissan and Datsun, which will be used in many countries. This is truly a global project. Renault had always intended this expansion to take place straightaway, whereas Nissan wanted to restrict itself to India. Today the project is changing form.

In accordance with our initial aims, we anticipate selling one million vehicles per year throughout the world, a volume which is comparable to that of the Logan and its different models. These programmes could mean total sales of between 2 and 2.5 million cars per year for Renault and Nissan.

I am sure that the Kwid will find buyers in Europe like the Sandero did, but this is not really our aim. We would prefer to have a market share in countries where the car market is not yet mature, for example in countries

in South-East Asia or Africa, or in Brazil where half the cars there cost less than a Sandero. We think that there are real opportunities here for the Kwid.

Innovation in an alliance

Breakthrough projects like this need sponsors. When Louis Schweitzer was CEO of Renault he took on this role for the Logan. For the Kwid project, support from Carlos Ghosn was essential for the success of the programme despite all the breaches of the procedures. Cost constraints did not allow us to follow the parent companies' development models scrupulously. We had to shake up the usual way of thinking and constantly take very unconventional decisions. For example, a team in charge of the brand's image, hastily brought in to Chennai, had insisted that the Kwid should not be sold as a Renault. One of its numerous complaints was the Kwid's wing mirrors, but people in India never use them! To get out of this situation, we had to ask for support from a sufficiently powerful sponsor who was able to silence everyone. But we also had to make sure that we did not call on him too often in case he got bored with us.

Carlos Ghosn had to intervene firmly on two occasions. A few months after the project began, there was still opposition between the Renault and Nissan teams as each one wanted to impose its own ideas. The collaboration appeared to be turning sterile and the project was starting to fall behind schedule. As I explained to the president of the Alliance, I could not keep dragging two dead-weights when I needed active partners. It was decided that the teams would report to me and not to the parent companies. The Nissan team were not happy about this decision as they were not used to this sort of project and did not understand either my method or my management approach. Until then, I had tried to divide the roles between Renault and Nissan equally. I decided to change my organisation and made myself the sole person in charge of decision-making by taking over the management of all the departments. The organisation was recalibrated and a cohesive structure has emerged.

A reverse, enriched and transnational innovation

Yves DOZ: The Kwid questions the conventional typology of innovations which identifies five models.

In the traditional model, which was historically used by Renault and Nissan, innovation emerges in the country of origin, in an important technical centre. The know-how which is developed is then disseminated to the rest of the world.

With a reverse model, innovation flourishes in different countries irrespective of the nationality of the car manufacturer. In fact, this model often comes with frugal innovation, both between the talents of the country of origin and the country to where the innovation is disseminated, in a mutual exchange between the centre and the periphery.

The Kwid illustrates this frugal innovation approach, but also the so-called 'reverse enriched' model in which know-how gathered from other markets, such as Brazil, is taken into consideration. The Renault example does not go as far as the global model characterised by a system which is entirely decentralised and polycentric. Nestlé's method of operation displays characteristics of this reverse enriched model, but it is not without its difficulties.

The Kwid programme is symbolic of a return to a transnational model (largely documented by Sumantra Ghoshal and Christopher Bartlett) and a polycentric model in which each division has a unique centre of excellence which is located in a different country. This was the case of Alcatel whose various divisions were each associated with a specific country, for example, underwater cables in Norway, IT systems in Spain, and public communications in Belgium. As the Kwid range grows, India appears to conform to this model. Not only is the Kwid programme's centre of innovation not situated in the country of its parent company, but it is also targeting a global (as opposed to local) market. This programme constitutes the first real relocation of a Renault global innovation activity.

Clearly Renault played a leader role in this Alliance approach. This is largely due to the efficiency of those who were behind this project and its management methods, but also its strategic ambition which looked beyond

the Indian market. Renault has also built on the experience learned from the Entry range programme (sold under the Dacia brand in Europe).

Another characteristic of the project is that it relied on Indian suppliers and not subsidiaries of multinational companies, apart for very specific elements like glass. Renault calls this suppliers' management method 'intercontinentalisation', a further example of which is the vehicle assembly in Brazil of components from India.

When the Kwid project began, the partners' priorities were not the same in terms of the market, product and timing. Added to this were divergences in procedures and project management. Gradually a new method of innovation emerged which was adapted to simple and cheap products, but which was neither Renault's nor Nissan's method. Consequently, the relationship between the company headquarters and the subsidiaries changed. Since most Japanese companies have a centralised control system which is quite directive and burdensome, it is likely that this programme prompted questions to be raised about the internal workings of Nissan.

A few keys for success

I think that the success of this project was based on clear objectives, at least from Renault's side, and also an ability to reconcile continuity and change. Each car component was the object of radical innovation in the light of a global vision of the product in its context. Because of its experience with the Logan range, Renault was sufficiently knowledgeable about Indian manufacturing and consumer habits to anticipate the uses of the Kwid on a daily basis. Among the other factors contributing to success are strong and credible project management, direct reporting to the president of the Alliance, and a detailed knowledge of each element of the vehicle.

One must also highlight the speed with which the process was implemented as well as the ability of the project managers to distance themselves from conventional situations. Even before the head office was able to measure an infringement, the project team had already moved on to another element! I admire the capacity which Renault demonstrated to reinvent itself with this programme.

Discussion

Question: *Can you describe your working relationship with the Indian suppliers?*

Gérard Detourbet: Our Indian suppliers all have similar characteristics. They were all family-run companies managed by the father who was assisted by his eldest son for technical issues; his younger son handled sales, his youngest son commercial prospects, and his daughter finances. They were generally 'small' companies (often with ten thousand employees) and were very adaptable and had a huge capacity for work. I appreciated their reactivity and their ability to make decisions. Sometimes a supplier would be able to suggest three or four changes for a part in just a few days! This is the opposite of a multinational subsidiary where all decisions have to be validated by regional or central organisations, and this could take two to three weeks.

Invariably, these companies functioned in similar ways. Their engineers began by working in the project team as well as with their own colleagues. When a solution arose, their manager came to meet me and we made a decision. These managers closely supervised the technical aspects, a practice which has almost disappeared from our large companies.

Before deciding on the final choice of suppliers, I organised a video conference for them with Carlos Ghosn which lasted nearly three hours, and which explained to them the programme's strategy. This was the first time

that a CEO had ever spoken to them like this. This 'meeting' gave them confidence in the project and convinced them to get into work mode. I think that this intervention helped us to make a saving of 3 %.

Q.: *How do you explain the absence of Indians in the programme's management team? This makes it look a little like a colonial approach…*

G. D.: The three hundred and sixty Indians in the team came from various backgrounds. Some came from the Renault Nissan Technical Business Centre and were used to car engineering and the habits and customs of the Alliance. Others had worked in the subcontractors' design offices. Others came from the consultancy which Datsun had employed to try to create the first vehicle which met Carlos Ghosn's product specifications. All these colleagues had a wide variety of knowledge, but not one of them was able to design a car entirely from scratch. They knew how to create plastic or mechanical parts, but were incapable of putting them into a vehicle or engine. It was the job of our forty expats to 'make bridges' between these individual skills and to assemble collective knowledge. For a year, the Indian members of the team were almost like subcontractors. It is only today that they have taken on another role. They are still with us even though I had imagined that they would be snatched up by our rivals. On the new platform, about twenty employees from the Kwid project are now competent designers and have replaced the expats.

Q.: *The Nano, an entry-level car developed by Tata when Renault was designing the Kwid, did not have the same success as the Kwid. How do you explain this difference?*

G. D.: From my point of view, the Nano project could have had greater success if it had not made a few mistakes. For example, the Nano was clearly presented as the 'car for poor people'. Secondly, its rear engine resembles a rickshaw. Its interior space is quite large, but its shape is not at all modern. Lastly, the clients which Tata had potentially targeted for the Nano were in fact unable to afford the car, and they were refused bank loans. Tata decided to offer loans, but this quickly came to an end as the risk was judged to be too high. Since then, the Nano's value has been increased by the installation of a diesel engine and electric windows. However, this is unacceptable because it is more expensive than the most basic Maruti and still has its original faults. I do not predict a great future for the Nano.

Q.: *Are your innovations the result of the habits and uses of Indian drivers?*

G. D.: We made sure that we removed everything from the Kwid which did not interest the Indian public. For example, the airbags are optional: initially, they were in half of the Kwids whereas today they are in just one-quarter. This is easy to understand when one realises that 65 % of our clients used to drive a motorbike before driving the Kwid. As far as the Indians are concerned, changing to a car was already a huge jump in terms of safety. We equipped all our cars with a 7-inch GPS touchscreen despite the fact that in India geographical maps are very imprecise. We realised that this was an ostentatious sign which was important to customers.

Q.: *Does the difference between Indian rules and European rules in terms of safety have an effect on the costs?*

G. D.: When the project was launched, we followed the Indian norms at the time which themselves corresponded to the rules in Europe twelve years ago. If we had been more up-to-date than that, we would have increased the weight of the car by thirty kilos and its price by 15 %. This would have penalised us by comparison with Suzuki. We should say that the Kwid's engine meets the European norms in terms of CO2 emissions. At the end of 1994, the NCAP (New Car Assessment Programme: the body which assesses the safety of cars) looked into the Indian models. The results from European head-on car crash tests were atrocious, regardless of brand. We anticipated that these results would force manufacturers to conform to norms, and so we decided to see if we could be awarded three stars by the NCAP (the highest level of security being five stars). This proved to be the right action to take because India is currently catching up. By 2019, India will conform more or less to European norms in terms of vehicle resistance to impacts.

Lessons to be learned from the change

Q.: *Has the Kwid project generated any feedback to Renault or Nissan?*

G. D.: Unfortunately, feedback is not complete. The same was true for the Logan where the Alliance did not learn from the breakthrough innovations. In a project like this, one is likely to be unorthodox all the time and for every part, however, the car industry cannot tolerate undue unorthodoxy. It needs to have a solid base of design and production standards, especially for vehicles which have complex functions. The Kwid had a simple design and so could have a certain degree of leeway.

We could make sure that certain lessons learned from this project could be applied in-house. However, there was both internal reticence as well as reticence from our suppliers.

Christophe Midler: As far as management is concerned, the Kwid project benefited from feedback generated by the Logan programme. This explains why Renault, more so than Nissan, agreed to give great autonomy to the programme director and was open to change.

Q.: *Since the programme has got underway, has the Alliance resorted again to Indian suppliers for vehicles other than the Kwid?*

G. D.: Yes. As far as the Kwid is concerned, we worked with Indian suppliers who until then were unknown to Renault and Nissan, but who had already worked with other European manufacturers. There was a large number of companies to discover, sometimes by using rather roundabout methods. For example, we had asked a supplier to give us a quote for pistons assembled with his segments. Once our engineers and the supplier's engineers had carried out the technical work, the supplier introduced himself and the president of a subcontracting company which manufactured the segments. The very next day, I received a telephone call from the president of this company offering me a discount of 5 % on his segments. Needless to say, I bought the pistons and segments separately.

C. M.: In terms of collective organisational learning, Donald Schön and Chris Argyris identify a process which has a single loop and a double loop. The example which Gérard Detourbet has just mentioned perfectly illustrates the double loop. Project management was able to carry out examinations and conclude business with suppliers who were not on Renault's 'approved' list and were not recognised by the Renault purchasing department. The learning would have been a single loop if it had only been a question of listing new suppliers.

Q.: *How do you explain the fact that Nissan's redi-GO has been less successful than Renault's Kwid?*

G. D.: This is because of the size of the redi-GO which is smaller than the Kwid or a Suzuki. Nissan was very strict with its specifications – 'to make the cheapest car possible' – but unfortunately this is too evident in the end result. The redi-Go is undeniably less attractive than a Suzuki. As far as we were concerned, when we realised that we had kept to our cost objectives, we added on aspects to the Kwid because of the savings we had made. When the Kwid was presented to journalists, they labelled it a top-of-the-range car. Today, the redi-GO sales volumes are 40 % of the Kwid's sales. This share should increase because the model is currently being redesigned.

Q.: *Renault recently had two exceptional experiences the success of which was essentially due to people. They are the alliance with Nissan due to Carlos Ghosn, and the manufacture of the Kwid due to Gérard Detourbet. Do you think that we underestimate the human factor too often in the success of projects?*

C. M.: It is certainly the case that the human factor is decisive. In fact, as well as the exceptional qualities of Gérard Detourbet, the managers of the sub-divisions also displayed outstanding skills. However, Gérard Detourbet would probably have a problem if he worked at Nissan. One of the characteristics of innovation management is to mobilise intelligence which is both very personal and collective.

Yves Doz: One regularly finds people of exceptional moral fibre who are able to shield innovation projects from the pressure and conformity at central level. The person in charge of the transformation of Hewlett Packard in Singapore became president of Singapore Airlines; the head of Fuji Xerox was put in charge of the Japanese Employers' Federation and led employment reform in his country. These individuals combine brave decision-making with highly organised leadership. They know how to reconcile the individual with the group, and to overcome bureaucracy without acting like a loose cannon, which would only marginalise them. They take part in the system but stand to the side. The Kwid programme is a magnificent example of this.

Presentation of the speaker

Gérard Detourbet: began his career at Renault in 1971. Having carried out various jobs as analyst and project manager in France, he was closely involved in entry-level vehicle projects in 2001 and was head of the Dacia project, and Entry programme director in 2005. In January 2012, he was appointed managing director of the Renault-Nissan Alliance A-segment development unit in charge of the creation of a new platform shared with Nissan and all cars using this platform.

Yves Doz: professor at the INSEAD Business School. He is a graduate of HEC Business School and Harvard. He has written a number of books about multinationals and innovation including his most recent work entitled 'Managing Global innovation' written with Keeley Wilson (pub. HBR Press, 2012).

Christophe Midler: CNRS research director at the Centre de recherche en gestion (CRG I3) and professor at the École Polytechnique. His work focuses on changes in large industrial companies in the field of innovation strategy, project organisation, and design of new products. He has published numerous articles and books on these subjects including 'Management de l'innovation de rupture – Nouveaux enjeux et nouvelles pratiques' jointly published with Sihem Ben Mahmoud-Jouini and Rémi Maniak (pub. Éditions de l'École polytechnique, 2012); 'Réenchanter l'industrie par l'innovation, l'expérience des constructeurs automobile' with Rémi Maniak and Romain Beaume (pub. Dunod, 2012); '*L'épopée Logan, nouvelles trajectoires pour l'innovation*' with Bernard Jullien and Yannick Lung (pub. Dunod, 2012); '*Management de l'innovation et globalisation*' with Sihem Ben Mahmoud-Jouini and Florence Charue-Duboc (pub. Dunod, 2015); and 'Managing and Working in Project Society – Institutional Challenges of Temporary Organizations' with Rolf A. Lundin, Niklas Arvidsson, Tim Brady, Eskil Ekstedt and Jörg Sydow (pub. Cambridge University Press, 2015).

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