Complexity within Management Accounting – Examples from the car industry

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(Please do not quote)

Introduction

Mergers and acquisitions have been a common strategy in the automobile industry since its earliest days. Growing technological complexity and ever shortening product life-cycles have, for a long time, forced automobile producers to various kinds of alliances and production networks with the goal to bridge inter- and intra-firm boundaries. During the 1990s and forward, limited organic growth potential and industry overcapacity of more than 25 per cent worldwide (KPMG, 2010) led many car companies believe that mergers & acquisitions were the only option to realize their growth targets. According to MacNeill & Chanaron (2005) and Orsato & Wells (2007), increased competition among automobile producers, which put pressure on prices and

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favored consumer demand on a wider variety of car models, has only increased that pressure. As profit margins for many vehicle manufacturers have dropped, economies of scale and reaching high plant utilization has become even more crucial during the new millennium.

Automobile firms have typically tried to bundle rather than destroy brands, which could be the reason why consolidation issues in the car industry may not have been as obvious to customers as in many other industries. In 2005, for example, the three car companies General Motors, Ford and DaimlerChrysler alone accounted for around 30 different brands (www.OICA.net). Thus, it has for quite a long time been, and still is, essential for acquirers to integrate operations and processes across brands while the customer would not notice something negative to their favored brand. As a result of shrinking margins, the drive towards economies of scale across different car brands within the same company with help of commonality and carry-over parts has therefore become an increasingly important strategic weapon during the last decades.

The new millennium, perhaps stronger than ever, also revealed a new trend since several large car companies, which had collected some of the finest car brands under their consolidated financial structure, had to get rid of their brands, often with heavy losses and to almost unknown car manufacturers in the east or to capital investment firms. Only during the last decade, several unsuccessful partnerships have become evident. The following are only some examples: BMW got rid of the troublesome MG Rover Group with a large loss in 2000. GM, on the other hand, had to buy its way out of

the ‘put’ option held by Fiat in 2005, and DaimlerChrysler divested its interests in Hyundai and Mitsubishi before they separated in a remarkable reverse in fortune in 2007. Most notable, however, might Fords last few years affaires have been, as they sold Aston Martin in 2007, Jaguar and Land Rover in 2008, and finally Volvo Cars in March 2010 in what has been called ‘China’s biggest overseas auto deal’ (Kinnander & Naughton, 2010).

The above exemplifies that merged multi-brand car companies in practice often fail to achieve the intended cost-savings and scale-economies, and miscarried and inappropriate integration of fairly technology based automobile consolidations often are the reason for destroyed rather than created value. The major cause for the break-up of the DaimlerChrysler *marriage* in 2007, for example, was that top level management overestimated the synergies possible between Mercedes’ premium position cars and Chrysler’s more mainstream cars (Bradford, 2007 and Krebs, 2007). There was simply too little overlap in order to gain scale economies. That the two were not treated equal, as proposed from the beginning, and that the importance of intercultural communication was underscored heavily by management contributed further to the divorce.

Similar reasons can explain the break-up of the Ford brand family that was built mainly during the 1990s. In 2010, the American car producer, who only three years earlier was the proud owner of the four premium brands with European heritage Aston Martin, Jaguar, Land Rover and Volvo, was left with their ‘almost residential’ premium brand Lincoln, after the phase out of Mercury. In both cases, aligning and integrating brands

with different strategic positions (cost leadership versus differentiation) together with different cultural heritage of the key stakeholders in question seem to have been major obstacles.

The scene and aim of this chapter

FORD and the *Volvo Cars Corporation* (from now on called *VCC*) also make out the scene of this chapter. Focus is on the stakeholders working in the management control function[2] at the Swedish automobile manufacturer, that was acquired by *FORD*, the about ten times larger American car manufacturer, in 1999. The acquisition of *VCC* was the starting point for a great series of projects within the accounting and finance area at above all *VCC* with the intention to integrate the area of management control of the two companies. In extension, this was supposed to lead to better accounting and calculating methods in order to support and improve above all brand integration, common product development, but also to find the optimum level of product variety of the two brands.

Organizations normally differ due to the specific internal and external environment and the stakeholders within. Combining dissimilar ways of communicating and different logics is therefore the common ground for most activities needed after mergers & acquisitions (e.g. Vaara, 2001 and 2002). Therefore, two interconnected communication

[2]Broadly defined, management control is 'everything managers do to help ensure that their organization's strategies and plans are carried out or, if conditions warrant, that they are modified' (Merchant, 1998:xi). Thus, it is a logical integration of different management accounting tools used to gather and report data and to evaluate performance (Horngren et al., 1996).

issues are presented in this chapter, whereas the first has to do with the inherent logic of the two brands' different Part Numbering Systems (PNS) and the needed communication in-between these systems. The second issue deals with the communication in-between the system designers, who are the actors at stake in this case, which includes Swedish *VCC* actors and newly arrived expatriates from the old *FORD* sphere. Ultimately, this case is also about different actors' way of looking at and describing the reality as experienced during the integration attempts, something that has a fundamental impact on all decision making and thus the outcome of mergers & acquisitions.

Prior empirical merger & acquisition research has focused strongly on issues related to system integration (e.g. in Brown et. al. 2003; Carlsson & Henningsson, 2007; Granlund, 2003) or human and cultural integration (e.g. documented in Cartwright & Schoenberg, 2006 and Shimizu et. al. 2004). The diversity of problems involved when both parts are studied simultaneously has habitually been overlooked though. In addition, there is little empirical merger & acquisition research focusing on management accounting and control issues (Beusch, 2007) although problems arising from mergers & acquisitions often have to do with declining financial performance as the result of integration problems that are concerned with management issues, both on the system side and people related.

The aim of this chapter is to illustrate some of the complexity involved when the integration of the two brands *FORD* and *VOLVO* was at stake and to highlight

difficulties that proved to arise when stakeholders on both sides tried to achieve economies of scale and scope. Thus, the chapter intends to demonstrate that sharing parts after acquisitions, above all when the companies pursue different major strategies (cost leadership versus differentiation), does not only include benefits associated with product development costs and life-cycle time reductions but also enormous challenges in form of finding a common way to deal with product variety and complexity costs. The reasons behind this are, however, mainly connected to the fact that rather rational planned and thought of areas, such as product development, consist of only little technique but a lot of communication (Bragd, 2002:2). This is the case because the in-built product logic is the result of the interaction of, in many cases, generations of different stakeholders outside and, above all, inside the organization, such as system and car designers, engineers, but also finance and accounting people.

Thus, this chapter intends to make a contribution to merger & acquisition research on inter-firm relations, owing to product variety and branding reasons. This will be achieved by illustrating some of the difficulties involved when support related systems were supposed to become integrated by stakeholders with different perspectives and cultural heritage. Focus is on the experiences of two different stakeholder groups; system designers who represent their old owner, *VCC* respectively *FORD,* and thus, applying particular mindsets and logic. The chapter aims further to contribute with new insights that illustrate the difficulties when the adjustment to the new owner's strategy is

at stake, at the same time as situational adaption and the own brand strategy are to obtain.[3]

The remainder of this chapter is organized as follows. The next section shortly introduces some methodological and theoretical foundations of the case, which is followed by an introduction to business strategy differences and the in-built structure and logic of the two car companies, which is the main reason for problems to arrive. Evidence of the areas of product variety and brand integration, tasks that were of key importance after the acquisition, follow then. Further challenges, however, lied in the different PNS, which are illustrated in the section thereafter, before the complexity of the PNS *alignment* work and the system solutions chosen will be outlined in the subsequent two sections. This follows a more detailed discussion and analysis of integration work with help of a model of Norreklit et al. (2006), which to some extent will be discussed in the methodology section below, before the closing section will provide final comments on what happened to product variety and brand *alignment* work at *FORD* and *VCC*.

[3] System and process integration with *FORD* was a goal at *VCC* that seems extraordinary today as people, in- and outside the company now, in 2011, are working on the de-coupling of structures and processes. The reason for this is that *VCC* already is part of the Chinese manufacturer Geely, which is a curiosity that might add a particular flavor to this study.

Methodological and theoretical foundations of the case

The material in this chapter emerged from interviews with 31 key financial stakeholders,[4] 22 Swedish and nine expatriates from *FORD*, at the acquired organization *VCC*. 25 interviewees were determined in a single conversation with two integration managers, an expatriate and a Swede, based on the criteria that they would have key knowledge and responsibility in management control related issues and the merger. The other six were proposed along the way. The interviews were conducted between 2003 and 2006. Each interview lasted between 45 minutes and two hours and all were tape recorded and transcribed. Loosely structured interview techniques were applied, mostly asking about the interviewees' experience of what is and has been going on, relevant to the acquisition and the post-acquisition work. In addition to conducting the interviews, company reports and other written materials were studied to capture the explicitly stated corporate values and ideologies that normally appear in such documents (Schein, 2001). Thus, it is important to notice that the re-conceptualizations discussed in this chapter are the result of different kinds of data and the talk to different actors in order to determine the different positions of the objects, the different experiences related, and the different ways of describing the same, or even different things.

[4] All 31 interviewed actors at *VCC*, except one who was a HR head, had responsibility for integrating financial and business control issues; there was a CFO and a chief controller, some were accounting heads, some project managers in order to integrate accounting and finance related issues, and most interviewees were members of the 'Finance Leadership Team', hence responsible for the modeling and implementing of a new management control system at *VCC* that was supposed to be 'as integrated as possible' in *FORD*.

In contrast with most research within the area of mergers & acquisitions and management control, the content of this chapter is based on the assumptions that reality combines (at least) four aspects, namely, 'facts, possibilities, values and communication', which need to be integrated in order to address validity (Norreklit et al., 2006:42). Hence, this chapter builds on the presumption that reality is an integrated construct when applied pragmatically in organizations or other social settings and when dealing with situational relevant activities, problems, thoughts and actions, such as integration work after acquisitions, by Norreklit et al. (2006:42) called a 'pragmatic constructive approach'. The key essence of this approach is to truly understand the distinction between physical and social phenomena, and to be able to describe human action, organizational activity and social relationships as something stakeholders are actively involved in. The opposite view is the one of more mechanical and passive stakeholders, then neglecting that people have a free will and want to be motivated intrinsically rather than extrinsically (Jakobsen et al. 2011).

Business strategy, product variety and brand integration tasks

FORD and *VCC* are both old companies founded already at the beginning of the last Century. Historically, *VCC* was a Swedish company that began with a European distribution channel that, from the 1970s onward, became a global network of strongly empowered marketing and sales companies. Management at *VCC* was strongly anchored in Sweden and the historical background had promoted certain types of behaviors while restricting others. Placing power out in the markets and where business

was conducted together with wide latitude for freedom of action and applying the concept of trust was an important factor in the control philosophy of *VCC*. *Output control* or controlling ends rather than means was the viewpoint applied and as long as managers 'drove home the money' things were accepted since this was thought to generate a feeling of 'doing good business' and 'being good business men' at most places. Because the *VCC* brand was supposed to be perceived as part of the premium segment, the core strategy was to keep this premium price position. The role of finance and accounting was to help support and to sell solutions to business areas, and the accounting and finance actors were seen as financial business partners to other functions.

In strong contrast to all this, *FORD* was a typical American company that had revolutionized the way cars were produced already around and right after the First World War. Particularly with help of *FORD*s centralization of all areas and functions, with rigorous standardization and above all with the help of assembly-lines, mass-production took over the entire industry and *FORD* became one of the world's biggest manufacturers with global presence already after the Second World War. *FORD's* cost leadership strategy also resulted in management control functions that still today were strongly formalized and centralized, which in turn also meant that data needed to be as standardized as possible. Due to all this, accounting and finance in general and information technology and system issues in particular seemed to play a much stronger role in *FORD* than *VCC*. Hence, product ideas at *FORD* were perceived to be the result of financial and infrastructure (e.g. IT & systems) capabilities. At *VCC*, on the other

hand, actors felt that the characteristics of the products manufactured were the core issue and the infrastructure, to which finance and IT was counted, had to be adapted to these core characteristics.

After the acquisition, *FORD* and *VCC*s goal was to share components and production processes across families of products at the same time as finding the 'optimum' or 'appropriate' level of product variety that leads to increased market shares due to the better serving of heterogeneous market segments. This seems to be one of the central questions within the auto industry in general (Scavarda et al., 2009), at *FORD* and *VCC*, however, this meant something very special as these organizations persuaded different business strategies. Whereas commonality is the key approach above all for mass-producers, product variety is about offering the customer a greater range of different products, hence, is a differentiation strategy mostly. Finding the right mix with the right products therefore seemed to become the main challenge for the two organizations.

Principally, the way to achieve cost savings at *FORD* and *VCC* after the acquisition was to cut down on numbers of platforms and to modular assembly. Basically, a platform is the floor of a vehicle along with some major components such as suspension sets. When a car model uses a different platform, this also means that it requires dedicated engineering, general tooling, and assembly elements.

Variety, on the other hand, is characterized by the number of different designs of a part, a system or a product, and the larger this complexity, in general, the bigger is the total cost to manage it. Product complexity affects all company functions and activities from R&D to after-sales and even recycling, which also makes out the entire chain for costs. Therefore, in order to find economies of scale and scope with help of communality but also the right product variety, *FORD* and *VCC* needed first to find out which the parts were that added customer value, and which did not.

In order to optimize commonality among the different articles that were part of different variants of cars produced, *VCC* as well as *FORD* stakeholders had, during decades, developed rather sophisticated models that fitted the particular organization and structures. One such model, the article governance model, developed above all during the 1990s at *VCC*, had as a main goal to increase the application of part number management, hence the measurability and accountability of parts in order to achieve optimal communality and cost efficiency. Parts and articles, which were supply units with own classification numbers in a particular coding system, were structured in groups according to 'common, similar, or unique'. 'Similar parts' were seen as the most dangerous ones since they added low customer value but significantly to costs due to high complexity.

To enable the assignment of costs to the different parts, products and finally total cars at *VCC*, above all system technicians realized the mapping of the 'system footprints' on a system basis, which was separated in around 50 different domains (i.e. engine, tank,

cooling, etc.). The results of this mapping were four unlike types of areas, ranging from low customer need for variety combined with low cost of complexity to high values on both. Later, the status of variety offered for each product became included into this, which together resulted in a variety-complexity picture as illustrated in Figure 1 below.

The area with low complexity cost and low customer value, called *Minor Proliferation* in the Figure, included systems that had low potential for a cost saving variant reduction (ex: Battery, Fuel Tank, and Insulation). Despite low complexity costs, systems in the *Profitable Proliferation* area gained high customer value and were therefore profitable for the manufacturer since the customer was willing to pay for special options (ex: Wheels, Radio, Lighting). Systems with high complexity costs but low customer value had a high variant reduction potential and a low customer value; hence *Commonality* was a must for these systems (ex: Wiring Harness, Tailgate). Finally, the potential for cost reductions was, regardless high complexity costs, relatively low for systems within the *Platform Strategy* area because these systems contained high customer value and therefore strong strategic implications (ex: Engines, Seats, Body-In-White).

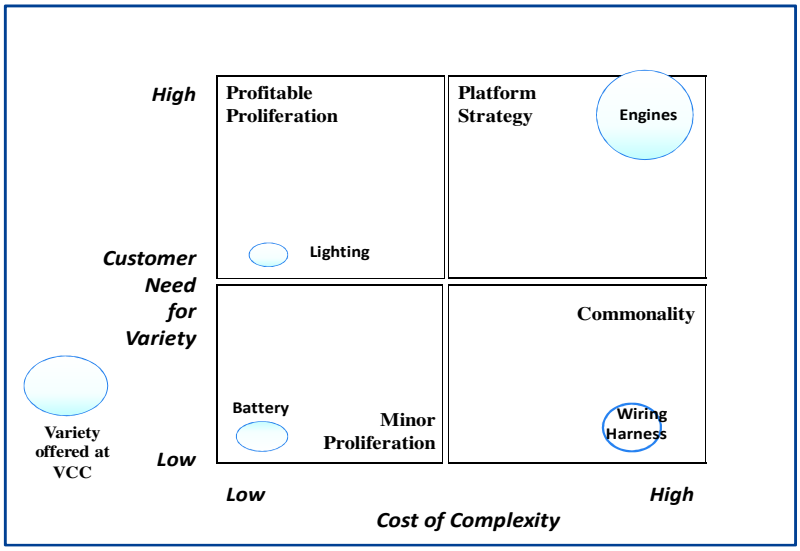

Figure 1: System Portfolio including product variety and complexity costs

Complexity, as described above, drives costs and at *VCC* and *FORD* it significantly correlated above all with the degree of customization in the products, the number of parts that needed to be handled, the products that had to be manufactured in small-sized batches, and the through-put time that was needed. Legal requirements on different markets, but above all design questions and property choices, determined the different parts and articles to use and as such the part complexity as well. A further important determinant for complexity costs was the number of system variants and part numbers overall, but also sales volumes and number of production plants. In addition, the required spare part strategy determined the level of service to customers. This in turn affected the number and the geographical dispersion of the storage places, and had an enormous impact on flow complexity and thus the overall complexity. Therefore, the

sum of the product variety costs or complexity costs could be seen as the sum of all systems, markets and plants.

Business strategy differences and the in-built structure and logic

Part number management, hence how to deal with all different parts with help of their numbers, was looked at above all from a value chain perspective in order to know, in the handling of parts, which activities that added customer value and where in the organization that costs occurred. *FORD* historically had focused stronger on rationalizations around the production function due to their entire 'cost leadership strategy' and size than *VCC*, which also meant that they had applied a similar system for production more or less globally. *VCC* on the other hand had different systems within different production facilities, mostly in order to be able to focus on later parts of the value chain towards the customer, connected to the differentiation strategy, which meant that the sequences differed to a significant extent.

VCC stakeholders estimated that about 20 to 30 per cent of the total cost of their cars was attributable to complexity, and they assumed that there existed, at least in theory, an optimum variant scenario with a maximum profit, i.e. with a maximum difference between revenue and costs. Comparable numbers within *FORD* seemed to be lower, but the comparison of the value-chain of *VCC* and *FORD* provided difficulties and appeared unfair due to main differences in the business strategies (cost leadership versus differentiation).

The main challenge had to do with two different sorts of complexity, namely internal and external complexity. Internal complexity included, at least at *VCC*, what the customers not really perceived (i.e. different designs of exhaust systems) and this area was where economies of scale were best possible along different brands. It was also here where engineering, planning, and production processes were core functions within the manufacturer to look at. For this reason, internal complexity, or put in other words, internal efficiency or, as a Swedish *VCC* actor called it, 'the financial logic' was the area where mass-producing systems (e.g. *FORD*) did have their strength compared to premium brand systems. Here, most value was produced in the beginning of the value-chain.

External complexity, on the other hand, was what the customers recognized, i.e. instrument panel, engines, etc., and within this area, market needs, company strategy, design, styling and image issues were more essential, thus leading a competitive advantage for premium car producers (e.g. *VCC*). This was by the same stakeholder called the 'market logic' and was a measure how 'effective' an organization actually was.

It was also seen as important to have knowledge about how parts management internally and externally affected suppliers' and customers' costs and how activities and links could be better managed and executed. A major difference here was that *VCC* produced and delivered mostly on a global basis but *FORD* of Europe, which was seen as the new

standard for *VCC*, did produce and deliver on a European scale only, which in turn was the reason why coordination later became difficult and why the first common platforms under development were for Europe only but not globally, which was seen as a major drawback by *VCC* stakeholders.

Another big difference appeared in the way to account for costs of the parts and products. Standard costs were during 2005 still applied at *VCC* and many stakeholders within development and production were responsible for material variance costs only. The major feature of the VCC product costing system was the 'full-cost-model', which meant that VCC actors were obligated to push simply as many different types of costs as possible out to the sales companies. The primary justification for this was that 'finance people in Volvo wanted marketing people to understand how much a product really costs'. This pushing of costs to the sales people was explained to be one of the main strategies used to preserve the premium brand as the particular products produced were believed to be part of customer segments that were less price-conscious. Hence, such a strategy was supposed to help the marketers focus on the tendency of prices to increase in the future, and with that focus, the premium price position would automatically be maintained, at the same time as costs would be covered.

Due to the 'gross profit' way of calculating product costs, *VCC* stakeholders believed to have small margins at the end of the chain, which in turn was supposed to have a strong impact on different stakeholders' behavior, as expressed in the following:

…the profit margins become very small - at its top somewhere around 5-6 per cent, sometimes even as low as close to zero - and this in turn results in a cost consciousness throughout the company.

(Swedish Finance Integration Project Mgr.)

Swedish stakeholders, over and over, used the word '*kostnadsmedvetenhet*' (cost consciousness) to describe their way of dealing with product costing. Apparently, this consciousness was raised by management's signals, specifically danger signals, that there were only very small margins to play with, which was valued and 'deeply supported by all [Swedish] members of the organization'.

According to the new *FORD* management, however, this was unsatisfactory and criticized as working according to 'gut feeling' only. It moreover did not hold people accountable enough for their actions and *FORD* managers saw the importance of standards within the *VCC* system as conflicting with their own philosophy of being able to track down 'actual costs'. For decision making purposes, it was important that the calculation of parts costs was accurate in order to make the right product related decisions. From the view of *FORD* stakeholders, however, *VCC* was basing too many decisions on subjective judgments. More 'facts and figures were needed', which an expatriate described as '*FORD* being the last communist society on earth since they planned everything in detail'.

Comparisons of cost documentation print-outs doubtlessly illustrated that the *FORD* approach included the measuring and documentation of costs 'at a much more detailed level per car'. Apparently, *FORD* could track different costs and they were very proud they could establish a, to them, clear connection from total costs to the lowest level of the different components. These 'actual costs', however, were not interpreted in the same way by all Swedish stakeholders, as some simply could not believe that you could measure all materials, for example, at 'actual cost'. The following quote illustrates this:

> *When they [FORD finance people] say that they are measuring materials at actual costs, I cannot understand how they can do that. Yeah, they say that this is possible, but I don't believe that. This would mean that, for every day and every car that leaves the factory, you have to know exactly where the material that is in the particular product has been bought and at what price, every little part of the entire product, which could be many thousands. You also need to know what this particular part would cost today. I don't think this is possible. They need some sort of standard as well, maybe one that will be changed after a shorter time period, but still there must be some sort of a standard.*
>
> *(Swedish Finance Integration Project Mgr.)*

In addition to this, *FORD* wanted, with a particular project, different *VCC* finance people to be responsible for different line-by-line-items on the Income Statement and Balance Sheet, something that was new and was interpreted by *VCC* stakeholders as working with 'watertight bulkheads' as everybody started to look at his area only 'and gave a damn in what others were doing'.

FORD stakeholders further criticized the rather volume-based allocation, which was seen as leading to subsidizing effects among different categories of parts. More facts and figures regarding the use of resources and reflecting causality were needed, then separated and classified more clearly and understood by all involved more properly. Such a model should then take into account that costs are caused by the level of complexity in different categories of parts which create different demands on support activities needed for the handling of the parts.

Here, however, *FORD* and *VCC* did apply rather different views as *VCC* actors always were talking about the handling of parts across the value chain and in terms of horizontal processes (e.g. in the creation of the parts: *VCC*-suppliers → Pre-assembly *VCC* → Assembly → After Sales) and then costs involved for IT-support systems and activities during this stage. It was all about the flow through the value chain that should matter but *VCC* stakeholders admitted that the description of this flow was not well enough. *FORD* on the other hand was much stronger functionally driven, which *VCC* managers feared to implement as it 'would destroy their entire pull system'.

The need for a common Part Numbering Structure

During most cost comparisons made in order to find out about the optimal product variety and brand integration possibilities there was one major draw-back evident at *VCC*, which was the two non-compliant part numbering structures (PNS). PNS is a way to describe and identify the different raw materials, parts and products, and this is done with codes using numbers and letters, often between 6 and 36 digits long.[5] A typical car contains more than 30.000 parts and, thus, part numbers are seen as the key to all flows of materials from production to distribution and, thus, as a major component when talking brand integration and optimal product variety.

The more *FORD* and *VCC* started to work together with the common platforms, the bigger the problems became, not only calculation wise, but also in the production because, as a Swedish stakeholder noted, 'FORD factories are built for FORD products.' The different PNS remained to be a major obstacle for a long time as they were the basis for the information put into most systems, also within production. As soon as a new part number was created for a *VCC* and *FORD* common part, this new number would have had to be integrated into the old system in order to make real sense, which was not possible as these systems differed in their construction logic.

[5] As an example, the *FORD* part numbering system for a trunk weather-strip: D0AZ-6543720-A. The prefix is D0AZ, the basic part number is 6543720, and the suffix is A. To decode the prefix, D0AZ, the first letter represents the decade of the part; in this case D is the 70's. The letter A is used for the 40's, the letter B for the 50's, etc. This way all letters and numbers in the entire chain have a meaning.

Not only were *VCC*'s product codes and their 'product development language' different compared to *FORD*'s, but even within *FORD* of Europe, there existed some nine different ways to describe vehicles. At *FORD* of Europe, however, the situation was functionally different (e.g. marketing and sales had a different language and a whole set of different codes than the warranty people had) since these systems had developed differently in different function.

For the consolidated reporting, on the other hand, *VCC* needed to use the global code of suppliers of the acquirer, which meant that they needed to translate everything into *FORD* format. In this case, they were using around 1000 suppliers to perhaps 6-8 business units and including 40-50 manufacturing and around 40 shipment entities. Therefore, when they attempted joint programs, they had huge translation problems and consequently also huge costs:

> *There are approximately a hundred people in FORD of Europe whose entire job is to convert between these languages. All they do, day in and day out is to translate and decode data from one system into another so that the process is moving. And that is extremely inefficient. If we reorganize and we re-engineer so that we only are using one set of codes and one language, than those jobs can go away and we will have a lot more accuracy and a lot fewer problems that are caused by all this inefficiency.*
>
> *(Swedish Finance Integration Project Mgr.)*

Hence, a total PNS system change or the continuous translation was therefore in the long run unavoidable, most managers on both sides agreed, and a stakeholder underlined that it was here the key to success for the entire car industry was.

> *We have to find a way to have common part numbers, common structures! It is where the real difficulties are in the car business. It is bringing two car companies to use common product development systems, etc., etc. That is where the opportunity is for the business.*
>
> *(Accounting Mgr., Expatriate)*

The PNS change process

A common part coding structure after an acquisition might seem like a good idea. Between the PNS of *FORD* and *VCC*, however, there were huge differences that, still in 2005, gave way to the following statement:

> *The part numbering system,… that is a very fundamental issue, a basic building block, fundamentally different concepts. It is so fundamental that it gets into everything, and it is enormous. So I am not sure if we can really comprehend what it takes to change it. And of course, the FORD guys say Volvo should just do it. But if you walked into Dearborn [HQ of FORD] and said, yeah well, we would like you to change the part numbering system; people would be jumping out of windows and all sorts of things. It is so fundamental.*
>
> *(Top Finance Mgr., Expatriate)*

FORD wanted to establish common systems and processes overall but also within the area of PNS already from the early beginning, since they believed this to be a business necessity. Sharing the PNS, they supposed, would enhance e.g. the ability to maintain historical data and provide forecasts, enable faster transmission of information, and was simply seen as necessary for e.g. EDI, integrated supply, supplier stocking, and all sorts of inventory reduction programs. Most of all, however, for future common product development, it seemed to be a necessity in order to find the optimal product variety. Swedish actors, on the other hand, were not as convinced of the need for commonality:

> *Common systems and processes are what easily can be understood as something that is necessary. They [expatriates] wanted us to do that, but we asked why? We questioned things, we have different attitudes.*
>
> *(Swedish Finance Integration Project Mgr.)*

Seemingly, Swedish stakeholders expected explanations and sound reasons while expatriates expected more cooperation. They were surprised that Swedes behaved reluctant and wondered if they 'forgot that they are wholly owned by FORD'. Many expatriates felt that, for about the first three years, their initiatives were generally refused, almost regardless of the impact they would have had, which led to little change overall. The problem of having different perspectives appeared to be a major issue causing conflicts. What might be best from the view of the entire *FORD* enterprise on the subject of PNS integration might not be the best for *VCC* only:

… that [PNS change]is a huge step because that is such a fundamental system language that it would drive changes to all the other systems within VCC. And if we change that, a lot of other systems downstream will have to change, and so the cost is huge. And VCC does the calculation and they say: Well, we don't think there is a good pay back on that, it costs too much, there is not enough product improvement, so why should we do it. But FORD does the calculation on an enterprise view that says. Well actually, it will be a lot more efficient in terms of communication across the brands. So as an enterprise such an investment makes sense. But if you just put on your VCC hat, that investment doesn't make sense.

(Finance Head, Expatriate)

Because of size difference, *FORD* actors generally assumed that *VCC* should, more or less mechanically and despite their different main strategies, adapt to their system applications. These actors had difficulties in understanding why Swedish stakeholders believed that there could be another way than to simply align their systems to the *FORD* systems. It was rather 'impossible to think in other terms' since 'the tail simply cannot wag the dog'. However, *VCC* was a large organization itself, and therefore the situation was to some not as clear-cut as it appeared to others. A Swedish stakeholder with far-reaching insights into IT questioned such 'predetermined physical laws':

It is not easier to change a system in an organization with 30.000 employees compared to changing it in an organization with 300.000. It is exactly the same job that must be done. Hence, it costs the same amount of money to change at VCC as it costs to change at FORD, so to speak, because it is the same job and involves the same obstacles.

(Swedish IT-responsible within Finance at VCC)

Ownership or company size was for many original *VCC* actors not reason enough to require information system changes. Rather than that, they preferred evaluations of the quality features of the two systems as the basis for negotiations in accordance with their conviction that *VCC* had superior systems in many respects. The general belief of Swedish stakeholders was that their organization's system applications, which were strongly cross-function-oriented, to a large extent, were superior since they integrated between the functions far better than the *FORD* system did. They observed this was a major reason *FORD* had not changed the systems during the first years following the acquisition. Hence, their attitude was: 'You are big, so what? - we are good', which in general permeated most discussions at *VCC* and led the path for (missing) integration work:

> *I mean you do not like to change [system solutions] for your company for the worse. When you are going and changing one thing at the time, then you at least want to be at the same level afterwards or preferably at a better level. That is something an acquired organization has to guard against.*
>
> *(Swedish Project Mgr. for a large change project)*

Swedish stakeholders mostly felt that while they did not want to change to something worse, they recognized they had to make some changes. Still, the changes had to be in the right order, 'piece by piece' or 'the way this is done in Sweden', rather than all at once, which was seen as the common approach of Americans. To Swedes, a 'grand

solution' was impossible because the organization had to keep on going during the time of changes:

> *It is like doing a jigsaw puzzle, so to speak. It's about to know, which is the smartest way to complete the puzzle, which piece to take first. Of course, you would like to take everything at once, now we have this and we go there. But that would mean that one company would have to take time out for a year, and that of course is not possible. That is why we have to work, piece by piece, so to speak.*
>
> *(The same Project Mgr.)*

Change managers often also experienced that due to insufficient knowledge in the different areas, which was mostly the result of the high turnover of staff, people rather often did not know what to do. Therefore, for at least a quarter of a year, the organization almost did not know where they were financially. Moreover, systems were interconnected logically, and when you broke that chain the wrong way, big risks were involved:

> *If you pull on one end there is a great risk that the whole house falls apart, unless you are thinking of the entire building block…There are lot's of consequences for product development, purchasing, etc. etc.*
>
> *(The same Project Mgr.)*

And it furthermore seemed to become a financial adventure with nothing alike:

> *If we would change all systems we use within VCC towards FORD, it would cost many hundred millions of dollars, and everything would be under transition during several years.*
>
> *(The same Project Mgr.)*

Also from a practical view and despite all disadvantages it may have, some managers believed that faster changes simply were not possible:

> *It never gets easier the longer one waits. It only becomes more difficult and more expensive. But the tactic of VCC so far still has been to take one step at the time and to change systems when it fits into the car programs and when the financial situation allows it. But of course, FORD would have liked to do the changes much faster.*
>
> *(The same Project Mgr.)*

The problem, like often, appeared to be what is better and what is worse, who decides, at the bitter end, and on what basis such decisions were judged and made. Some actors' preferred attributes of particular 'system-technical' support tools at *VCC* were enlarged, less desirable characteristics, however, were left out in order to advance the superiority of the favored system.

A large and confusing issue furthermore was that most, if not all, actors argued for their preferred system as it existed in its original setting only. This was predictable since they had worked only with their own systems. The argument was also made that as systems normally were constructed to fit a certain setting, the major problem was how to evaluate different systems' functionality in different environments, and when pursuing different main strategies. When such evaluations were made, 'culture' became a problem in 'system-technical' issues.

> *…culture comes into the picture when people judge the different systems' superiority or not; there it is where the culture comes in, when you have to evaluate, from both points of view [VCC and FORD]. I mean, one is looking at this objectively - what do we have, what do our colleagues have, which one is better. But of course the subjective thing with this always is that one's own system is better in one's own environment, which is something one always arrives at.*
>
> *(Swedish IT-responsible within Finance at VCC)*

The foremost problem with this type of 'objective comparison' appeared to be that in such evaluations, actors tended to conclude a particular system to be better simply because they judge it themselves in their particular environment, an environment they as examiners furthermore were quite familiar with.

Time passed but things did not look the way *FORD* expected since acceptance to move on was needed of the key actors at *VCC*, in many cases still originals, who to their satisfaction and pride, felt that they had won some 'battles'. On the other hand, they also acknowledged defeats:

> *…certain things simply must be done. That is the way it is as you never can win all battles, that is never possible in any dialogue. Nonetheless, you must try to keep some fixed points unwaveringly.*
>
> *(Swedish Finance Head)*

Apparently, these 'battles' were normally fought in groups of 'three to five people on each side', as there were always some with about 'the same ideas when it came to four or five certain core things'. This way of 'fighting battles' was seen, by Swedish stakeholders at least, as a good negotiation process since the two sides then were able to achieve a balance among these different core ideas but also because this kind of consensus helped convince the 'other team' and resulted in ten core ideas that, most likely, were good for everyone. Expatriates at *VCC*, however, often came into trouble with *FORD*, since they could not understand why it was taking so long. What they could not see was that their 'agents' had 'to sit with people whether at lunch simply discussing stuff and to reason with them to get them understand, that is the way we are going to do this'.

The system solution: A cross-road and the two step-model

During 2006, stakeholders on both sides experienced a 'cross-road', but in rather different directions. To *FORD* managers, it was imperative to implement real changes and to get truly integrated in many more areas as it was the case so far. This meant that Swedish stakeholders simply would have to accept most proposed changes. Swedish managers, on the other hand, considered that the last possible moment had come to return to their roots by doing what they did best, namely, focusing more on the processes and streamlining them further.

Apparently, Swedish stakeholders had, to some extent, succeeded in explaining the danger in eroding the *VCC* uniqueness. A new organization, called 'Process & Operations Excellence', was therefore created within *VCC* with the purpose of recapturing and strengthening this process view. Finding ways to 'converge' the different mindsets and ways of working was the goal of the new organization and it was notable that the word 'convergence' had replaced the word 'integration' in most illustrations and narratives. From now on, the guiding idea was that *VCC* and *FORD* should meet somewhere in between.

So far, many considered the change process overall to have been difficult, and one of the major problems was that numerous key stakeholders had left the company (e.g. five out of the eight key IT and business managers had left the company) and this missing

competency was difficult to replace. Partly as a consequence of this, the work load was enormous during periods and the moral of the remaining staff low:

> *We went through one quarter of absolute pain [during 2004], anxiety, criticism from operating management, etc. It was really painful. It was horrible….The hours were ridiculous, the morale was low, and we still suffer from that a bit today [end of 2005]. We have recovered somewhat but we have lost a lot of people from my department because during the really busy period people worked an awful lot overtime. Since we loosened up a little bit, they relaxed a little, and they thought, oh well, let's try something else. But we lost a lot of good people from the company who just thought, oh hang on, that is not the way I want to live my life, with the workload, and stress and pressure the way a North American company expects. And they think, hang on, we are going to go back and work for a Swedish company.*
>
> *(Accounting Mgr., Expatriate)*

The integration process, by the end of 2006, when the last interviews were held at *VCC*, had taken around seven years that far. Yet the *VCC* management control system still looked about the same in many areas, particularly in the system and technology parts. System-technical changes had not yet been realized to the degree *FORD* had hoped for, mostly due to the complexity of the different PNS, and plans had to be made for the next four to five years in order to align them further and to facilitate other integration tasks.

In 2006, the two organizations agreed, after long discussions and evaluations, that the only solution appeared to be to align the systems in two steps. The first step would align different processes and practices within the entire sphere of *FORD* and *VCC*. The second step would then de-fragment and consolidate information technology solutions within the entire sphere. Even in this second step, two more steps would be needed: first, collecting all systems within *VCC*, mostly in a newly implemented system solution, and second, align with *FORD*. Once all these steps were accomplished, the entire data structure, including the PNS, was supposed to be in a format that could be aligned with the *FORD* system if, but only if, they made new system applications in several areas.

These change implementations were planned to last at least until 2010, but these were changes on both sides simply because a one-sided approach appeared 'system-technically' but, apparently, even more from a human-perspective impossible to accomplish. Moreover, these planned changes would take time, to some extent because the changes started as late as they did, but more likely 'because issues of this complexity and importance simply take a long time'. Several stakeholder from both sides also believed that it was not even possible to really grasp what all this would have meant, and none would have understood it, during an earlier stage of the process, and therefore, there was basically no other option.

Discussion and analysis of the integration

As mentioned earlier, research on mergers & acquisitions to date generally has focused either on system-technical issues or on socio-ideological issues whereas this study has tried to shed light on the issue combined. The stakeholders' narratives illustrate that complexity in practice increases a great deal when companies with different business strategies and cultural heritage merge. The reason for this is that the change of simple transaction oriented systems (e.g. PNS) to achieve synergies and save costs is not possible because meaning is attached to each field in the number chain. Hence, the system is in most cases logically linked to certain products, particular processes and specific organizational structures. In addition, these systems are closely tight to each other and often understood only by particular stakeholders with specific preferences.

The different part numbering systems at *FORD* and *VCC* were the generators of many problems experienced within most areas where different actions might have solved the problems. Typically, historical data and experiences are raised by organizational members in order to discuss necessary changes. Such data often is presented in the form of gathered empirical evidence, hence 'facts' as mentioned in Norreklit et al. (2006). *FORD* managers, for example, provided the empirical 'facts' that *FORD* of Europe employed around a hundred people every day to translate and decode data from one system into another, at a cost of much money and time. This was also a 'fact' or an epistemological objective statement (Searle, 1995, p. 8). In this case, these were 'facts' that probably were recognized by most actors on both sides, independent of who had to pay for the resources since the evidence seemed rather obvious. In many other cases,

however, there may have been in-depth and long discussions about the validity of certain facts as some people may have had an interest in showing larger or smaller numbers in order to achieve a certain purpose.

Mistrust of facts might be very common after mergers & acquisitions and particularly during the first years people from the different brands questioned certain 'facts' as the evidence given did not convince everyone. The 'facts' presented were moreover the products of different accounting techniques and different arrangements resulting from dissimilar costing methods. Hence, what was behind the facts made the difference and not the facts themselves. The same numbers therefore did not automatically mean the same thing because they had been produced by different systems and different actors.

Apparently, the validity (the word 'validity' is derived from value!) of facts never is independent of the constructors or the observers of these facts. Therefore, the great challenge during these post-acquisition processes seemed to be that facts always needed to be recognized and established first by the different actors from the different sides in order to be called facts. This could precisely be one of the greatest challenges following mergers & acquisitions because the lack of trust in people and in numbers may be the rule rather than the exception.

'Facts' are past (and present) events and we see their results relatively clearly, which is why some believe such results already constitute reality. The past itself, however, never

is reality and facts alone never constitute reality themselves (Norreklit et al., 2006). It is not really helpful knowing that we have spent a certain amount of money or time doing something in the past without having some idea why this information is relevant and useful for the future. Hence, 'facts' have to be brought into contact with possibilities, a meeting that cannot be accounted for empirically. 'Logic' comes into play here as people start to systematically reflect upon what should be done and what the possible options are.

In this case, it appeared as if most stakeholders from both sides at *VCC* agreed on future action. Most faced a crossroad simply because the problems of having different product and system languages were obvious to them. These actors now started to construct certain possibilities that were based on the 'facts'. These were "factual possibilities" that derived from the facts with the help of reflection and logical operations. Factual possibilities are likely what Searle (1995:8) would categorize as 'epistemologically subjective matters' as they already are dependent upon the managers' attitudes, feelings, and values.

In the case of the PNS, one possible alternative, in short, was to align them quickly towards *FORD* of Europe. This was an alternative favored among former *FORD* managers because it was quite logical since only 20 per cent had to change in order to fit into the other 80 per cent. A different logic, however, seemed possible from an IT-viewpoint, as apparently the same effort was required to change systems and processes for organizations employing 30.000 people as for the ones employing 300.000 people,

This probably was a ‘fact’ to the knowledgeable manager (IT-expert) who expressed this view, less so to the others though, as they might not believe it.

Another alternative was to align towards the *VCC* systems as their ‘Part Numbering Methodology’ had great advantages since it apparently was more process-oriented than that of *FORD* of Europe. This was a solution that seemed to be the most logical one if *FORD*, as an entirety, intended to become more process-oriented in the future. A further logic that supported this alternative was that you normally did not change towards something worse, an argument Swedish’ stakeholders often made. It made no sense to change to a poor alternative, they believed, illustrating the similarities between logic and sense-making. In the long term, however, this logic appeared illogical, particularly to *FORD* stakeholders, as you had to give up a small part now in order to get back something larger in the future (if there was a future together).

Despite the fact that most actors felt some action was required, the alternative of doing nothing and continuing with the problems was still logical since new problems would arise as changes were made when fitting the pieces of the jigsaw puzzle together. Not doing anything was logically valid since change projects of this kind required enormous amounts of money, ‘probably hundreds of millions of dollars’, and great amounts of time. At *VCC*, several actors believed to be forced to put on hold all production due to such a change project. Everyone in the sphere of *FORD* also feared expenses, in the progressively deteriorating financial situation more than ever, it seemed. This choice

also appeared a logical option as neither company, *FORD* nor *VCC*, knew for certain how long their relationship would last and what the pay-back period then would be.[6]

These few alternatives, but there would be many more, demonstrated that possibilities did arise through the constructive use of logical operations and the recognition that such possibilities were then largely automatic and the result of previous learning (Norreklit et al., 2006). The alternatives also showed that logic seemed to correlate strongly with the positions and perspectives of the particular actors involved, in this instance, as an employee of either the acquired unit or the acquiring unit. The logic that also appeared to be strongest was the socio-economic one where actors simply wanted the financially best solution for their favored entity, represented by their brands and connected to the particular strategy and situation but not standardized. For the expatriates at *VCC*, this entity was *FORD* and not *VCC*, however, since the integration mission was more strongly visible in the narratives of the actors than in some newly gained brand loyalty.

The case study exemplified very clearly the stakeholders' different values and what was at stake for them when they needed a reason to choose between the different alternatives and possibilities. Hence, 'values' were the motivating force and gave these managers the energy to search for 'new facts' in order to make even stronger arguments for, and better evaluations of, the different possibilities (e.g. in Norreklit et al., 2006; Searle,

[6] This uncertainty after mergers & acquisitions, by the way, always seems to be a disadvantage compared to organic growth investments, as 'not really belonging to the family' appears to be part of many actors' day and night.

1995). The stakeholders furthermore worked with these arguments afterwards as they 'polished' them in order to position themselves later when they wanted to 'win the battles', as often had been the case at *VCC* during the period after 2003.

Different issues where at stake for different stakeholders. In this respect, one saw clearly that *VCC* actors' preferred to value their PNS as process-oriented; their system therefore played a fundamental role in delivering products that satisfied customers. This structure had to be defended at almost all costs since a change for the worse could jeopardize the entire diversifying strategy, they believed. Overall, *VCC* managers' values were closely tied to the process that resulted in particular product characteristics in most questions, which followed the premium brand strategy as described earlier. Most *FORD* managers, on the other hand, applied their value scheme more directly to finance technicalities and costing techniques, hence the cost leadership strategy. In taking such a pragmatic view, former *FORD* members therefore could not really understand all these 'value-laden' arguments of the *VCC* members. The PNS was then mostly about achieving the same numbers, which of course was difficult, and it was less about customers and different ways of steering the processes and ultimately the company.

Nevertheless, values themselves, in the same way as facts and logic, did not have any value unless interrelated with meaning, facts, and logic (Norreklit et al., 2006). And it was here that the last of the four elements of reality likely came into play most strongly, namely, 'communication'. This took place when the actors used language and

communication tools in general, or other kinds of support tools, in order to package and deliver a message or idea to other individuals and groups with the intention of establishing some sort of inter-subjective reality. At *VCC* it appeared, from around 2003, that three or four influential stakeholders in high finance and accounting positions, needed to share this inter-subjective reality if they were to have a chance to 'win battles'. Hence, individual reality was not enough. You had to move to a higher level, namely, to common reality in groups, if you wanted to influence the integration process in this question (e.g. PNS) and in many, if not most, other questions as well.

Apparently, to achieve real changes, inter-subjective reality was required since formal power was not legitimate enough in many questions to effect change. Hence, inter-subjective reality in groups was necessary to execute the actions you wanted, but also, and this was even more obvious at *VCC* during the years between 2002 and 2004, to halt unwanted actions. Language and communication as such had the unique ability to generate new status functions or new institutional facts.

Final comments and what happened to product variety and brand alignment

The interview period only lasted until 2006 and insight knowledge regarding the real outcome of the brand alignment and product variety investments, but also the integration of the part numbering structure, is not possible in this chapter. What can be summarized though is that the PNS story illustrated a typical 'Catch 22' situation.

Whatever moves the stakeholders at *VCC* would have chosen, it would have led to trouble, it seems. Apparently, part number structures, because of a set of inherently logical rules and conditions, work between two organizations in a way that often is illogical. Therefore, a desired integration outcome or solution is difficult to attain after mergers & acquisitions.

The time after 2005 has been tumultuous mostly for *FORD* as sales numbers dropped to low levels and the financial situation began to look even worse than earlier (which became even poorer during the financial crisis in 2008/2009). In 2006, the company announced *The Way Forward* that included the closure of seven vehicle assembly plants and seven parts plants by 2012, the loss of around 30.000 further jobs, and a reduction of material costs of at least $6 billion by 2010.

Today, in 2011, *VCC* is part of the Chinese company Geely, sold by *FORD* for $ 1.8 billion, hence around $ 4.6 billion less than what they paid for in 1999. Internal and external memos at both *VCC* and *FORD* account for the great achievements during the 11 years together as *FORD* and *VCC* apparently have helped each other to grow in different ways. *VCC*, it is noted, received a different (better?) styling but above all has the company's vehicle lineup grown from seven models up to 10. The increase was mostly within the bigger car segments and, thus, on more profitable markets. This might be the result of good cooperation within product variety planning but maybe also because they had applied better costing methods and standards (or more accurate numbers). *FORD*, on the other hand, provides the impression to have profited most

from the platform sharing strategies as they have become much better when it comes to safety standards.

The above indicates that it is not easy to judge an acquisition deal of this size and character as successful or not. At the end of the day, however, it often is the bottom-line that counts, and there, one can see a red figure indicating a $ 4.6 billion loss for *FORD*, although this number is strongly attributable to bad timing, as *FORD* was forced to sell *VCC* during a deep recession. Thus, this chapter again seems more to have been the story of a somewhat miscarried and inappropriate integration that destroyed rather than created value. Clearly there are many interrelated reasons for this value destruction, but a key explanation obviously is the underestimation of the complexity involved when trying to achieve economies of scale and scope at the same time as product variety is at stake. Integrating two brands with different main strategies and combining stakeholders with different customs and traditions but also interests in different brands is no easy task, particularly when these stakeholders, but also the systems involved, speak different languages. The major implications from this case for practitioners are not to overestimate the benefits of scale and underestimate the complexity when working with brand variety and brand integration.

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