

Explaining Lock-in Through the Concept of Hegemony: Evidence from Fiat's take-over of Lancia in 1969¹

Giuliano Maielli

Queen Mary, University of London

g.maielli@qmul.ac.uk

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Abstract

The paper intends to contribute to the debate on path dependence by exploring the possibility of using the concept of hegemony to analyse the relationship between initial conditions of path dependence and lock-in. Indeed, attention has been increasingly paid to the analytical distinction between initial conditions of path dependence and lock-in, which represents a heuristic step forward towards a better understanding of path dependence as a phenomenon. On the other hand, more empirical and theoretical work is needed to analyse and understand the elements triggering shifts from initial conditions to lock-in.

By looking at the case of the merger between Fiat and Lancia, this paper addresses the relationship between meta-routines and the conceptualisation of useful knowledge, and investigates the hypotheses that dominant managerial groups might resist changes of routines (and related changes in process/product design) if those undermine their ability to control the process of knowledge reproduction and institutionalisation. Routines are seen as the “material base” for knowledge reproduction, which in turn underpins hegemony. The defence of dominant positions (and the knowledge base underpinning hegemony) is seen as a possible trigger of the shifting process from initial conditions of path dependence to lock-in. In this context, the concept of “domination *with* hegemony” as opposed to “domination *without* hegemony” is investigated.

¹ Fiat is the largest Italian car manufacturer. Lancia is a brand owned by the Fiat Group since 1969.

Introduction

The paper intends to contribute to the debate on path dependence by exploring the possibility of using the concept of hegemony to analyse the relationship between initial conditions of path dependence and lock-in. This relationship is a key element in explaining innovation or the lack thereof. Indeed, attention has been increasingly paid to the analytical distinction between initial conditions of path dependence and lock-in. In particular, Sydow, Schreyögg and Koch (2009) conceptualise path dependence as a social process characterised by a pre-formation phase, a formation phase and a lock-in phase. Indeed, the analytical distinction between initial conditions of path dependence and lock-in represents a heuristic step forward towards a better understanding of path dependence as a phenomenon. On the other hand, more empirical and theoretical work is needed to analyse and understand the elements triggering shifts from initial conditions to lock-in (van Driel and Dolsfma, 2009, p. 52).

This paper seeks to analyse the connection between routines, knowledge accumulation and cultural and organisational hegemony, in relation to the dominant role of specific occupational groups within organisations. To this aim, the paper focuses on product development at Fiat after its acquisition of Lancia in 1969. The case is relevant because the two companies embedded very different technical and managerial cultures. Fiat was very competitive in the lower end of the market while Lancia had an international reputation for high quality and high performance cars. Thus, the acquisition of Lancia represented the chance for Fiat to break the company path towards the specialisation in the design and engineering of small utilitarian cars. However, after an initial attempt to shift upmarket (Maielli, 2005b), Fiat remained locked in the lower segments of the market (as is still the case today) while Lancia lost its brand and technical specificity along with its internationally acclaimed reputation as a manufacturer of high quality and high performance cars.

The hegemonic role of Fiat product and process designers as opposed to Lancia engineers and Fiat marketing managers is at the centre of the analysis. In particular, historical evidence from the Fiat-Lancia case will help to highlight the relationship between the development of meta-routines for decision-making, the accumulation of operational routines, the conceptualisation of “useful knowledge” and the specialisation of intangible assets in specific types of products. The process by which occupational and social groups conceptualise, reproduce and institutionalise “useful knowledge” is central to the concept of hegemony, which revolves around the

relationship between the division of labour, material production, reproduction of knowledge and social leadership. This paper addresses the relationship between meta-routines and the conceptualisation of useful knowledge, and investigates the hypotheses that dominant groups might resist changes of routines (and related changes in process/product design) if those undermine their ability to control the process of knowledge reproduction and institutionalisation. Routines are seen as the “material base” for knowledge reproduction, which in turn underpins hegemony. The defence of dominant positions (and the knowledge base underpinning hegemony) is seen as a possible trigger of the shifting process from initial conditions of path dependence to lock-in.

The process of path dependence and routines

As suggested by Sydow, Schreyögg and Koch (2009,) path dependence is supposed to mean much more than a cognitive rigidity and structural inertia, while without a careful analysis of its process, the notion of path dependence might lose its specific meaning and become a “ready-made explanation for inertia”. Accordingly, they proposed a theory conceptualising a three-phased social process. Phase one is shaped by contingent choices leading to a critical juncture (Mahoney, 2000). Phase two is governed by positive and self-reinforcing feedback loops shaping patterns of actions and repertoires that progressively exclude alternative choices to the extent that can potentially lead, in phase three, into cognitive, normative and/or resource-based lock-in (Sydow et. alt. *ibid.*).

There are a number of key elements in this framework. Firstly, it helps to frame path dependence as a process where it is clearly possible to distinguish between initial conditions for path dependence (phase one and two) and lock-in. Secondly, within the initial condition of path dependence, the relationship between routines repertoires and positive feedback helps to address the relationship between routines and knowledge accumulation. Finally, the outcome of the process is uncertain because the positive feedback loop that characterises phase “two” might or might not lead to lock-in.

McKelvey and Holmen (2006) also emphasised the uncertainty of innovation processes. The two authors point out that complex organisations feature flexible operations alongside more conservative ones. Therefore, “flexibility” and “stability” tend to coexist within organisations, while the outcome of the innovative process

depends upon the relationship between these two forces and, as such, it is unpredictable (McKelvey and Holmen, *Ibid.*). Here, the interesting element is the reference to the frictional relationship between innovative and conservative operations reflected by the continuous change in the direction of the dynamic interaction between flexibility and inertia. Nonetheless the two authors did not theorise about the forces or the mechanisms that cause flexibility to prevail over inertia or vice versa. In this light, the relationship between routines for production, reproduction of knowledge and hegemony becomes relevant.

As already pointed out, the emergence positive feedback loops in the second phase of the path dependence process highlights the relationship between routines and knowledge accumulation (Sydow, Schreyögg and Koch, 2009). While a wealth of empirical studies explained self-reinforcing dynamics in relation to economies of scale, network externalities, learning effects, adaptive expectations, coordination effects and complementarities (David, 1985, Kats and Shapiro, 1985), Sydow et al (*ibid*) emphasise that the dynamic process of path dependence involves other dimensions such as emotional restrictions, cognitive biases and political processes.

Van Driel and Dolsfma (2008, p. 52-53) argue that “routines as an analytical instruments bridge initial conditions and lock-in mechanisms” and emphasise that not only resources but also values or philosophies within and without the organisation are likely to express themselves as meta-routines hence affecting initial conditions. Thus the two authors emphasise the relationship between routines, knowledge reproduction and values. This is an important point with reference to the relationship between routines, knowledge accumulation and hegemony.

Similarly, Maielli’s study on intangible specialisation at Fiat (Maielli, 2005b) emphasises the relationship between selection mechanisms (meta-routines), routines underpinning process and product design and the development of a company ethos underpinning the definition of what had to be regarded as good management and excellent engineering skills. Such an ethos worked as a reinforcing mechanism driving the specialisation of intangible assets towards the optimisation of the design of processes and products geared towards cost and speed as a priority performance objective. This in turn, reinforced the ability of Fiat engineers to excel in the design of small utilitarian cars that best suited Fiat’s routines for cost control.

Thus, intangible specialisation also emphasises the relationship between routines, knowledge accumulation and values, and works as reinforcing mechanism

hence limiting the number of possible options for change. Yet, an explanation is still needed for how and why Fiat's intangible specialisation resisted internal and external pressures to change during the 1970s, in spite of the acquisition of Lancia. By contrast, Volkswagen was able to effect a complete change of its technological platform and reposition the output mix upmarket by profiting from the acquisition of Audi,² which shows yet again that paths do not necessarily lead to predictable outcomes. It is in this respect that the relationship between routines, knowledge accumulation, values and hegemony becomes relevant

Hegemony and knowledge reproduction

The concept of hegemony is central to Gramsci's writings, which are mainly situated in the in the development of what the philosopher himself defines as Americanism and Fordism. Yet, it influenced many contemporary debates in Post-Fordism and postmodernism (Landy, 1994), including cultural, political and management studies (with reference to managerial styles and leadership). Nonetheless, the conceptualisation of hegemony is deep-seated in the relationship between the division of labour and power, which is intrinsically connected to the process of knowledge reproduction. On these bases, it seems reasonable to argue that the concept of hegemony is also relevant to the literature on technological and organisational innovation.³

In general terms, the concept of hegemony revolves around the idea that a social group's power is exerted in two different yet interconnected ways, as "domination" and as intellectual and moral leadership (J.A. Davies, 1979, p. 50). A social group becomes dominant by exercising hegemony. Thus, hegemony is the process of a social group's struggle for identity and political power (R.J.F. Day, 2005, p. 6) through the reproduction of intellectual and moral leadership, while domination is the outcome of hegemony. Domination without hegemony would lead to the

² The comparison between Fiat and Volkswagen goes beyond the scope of this paper. However, it seems to be appropriate to highlight the opposite trajectories taken by the two companies during the 1970s and , in particular, the 1980s

³ Due to the "non-systematic" nature of Gramsci's writings, the relationship between knowledge reproduction and hegemony is not confined within any specific part of his work, nor is the relationship between division of labour and knowledge reproduction. On the contrary, these relationships underpin the whole body of Gramsci's writings in relation to the "organic intellectual" and its contribution to shaping and turning "class consciousness" into political praxis and social change.

decline of the dominant class, which therefore needs to continue to exert its hegemonic role over time (J.A. Davies, *ibid.*).

It is important to underline that the conceptualisation of hegemony was inspired by the social context of the industrial town of Turin in the 1920s. In the context of the rise of the “industrial worker” as social subject, the Tayloristic separation between process designers (operations managers) and workers implied that the latter were excluded from the process of reproduction of technical knowledge (the exclusive domain of process designers). The particular event of the workers’ occupation of the Fiat factories in 1921 and the subsequent reinstatement of management in their role highlighted the relationship between the ability of management to control knowledge reproduction and their hegemonic role in the factory.⁴

In Gramsci’s thinking, Fordism was a modality of knowledge reproduction within the society at large.⁵ The issue of knowledge reproduction was intrinsically connected with the issue of specialised knowledge. By controlling the institutions of higher education, dominant classes were able to control the process by which the boundaries of specialised disciplines were designed (medical knowledge, legal knowledge, engineering knowledge, etc.) and their usefulness to society was demonstrated.⁶ The separation between process designers and process operators in the factory resembled the process by which the dominant classes controlled the reproduction of specialised knowledge. The definition of disciplinary boundaries and specialisation implied the definition of useful knowledge.⁷

⁴ The occupation of Fiat’s factories in 1921 lasted about six months and led to a regime of self-management under which the workers tried to carry on with production. Indeed, one of the main reasons why the self-management experiment failed was the lack of technical knowledge, which forced the workers to allow the Fiat managers back into the factories and back into their role (Castronuovo, 2000).

⁵ If within the Fordist factory the separation between process designers and process executors prevented the latter from reproducing useful knowledge, outside the factory there were also marginal fringes of the bourgeoisie (artists, philosophers and intellectuals) whose modes of cultural reproduction were no longer considered relevant in the emerging society of mass production and mass consumption. The role of the organic intellectual was to disclose the political impact of knowledge specialisation as the basis of political hegemony and to facilitate a process whereby the masses could be brought to the centre of knowledge reproduction. In this sense, Gramsci’s conceptualisation of the organic intellectual was also an attempt to bring intellectuals back to the centre of political praxis.

⁶ Universities were an example of what Gramsci called “bunkers of bourgeoisies”.

⁷ The concept of useful knowledge is implicit in Gramsci’s analysis although, as a definition, “useful knowledge” is exogenous to Gramsci’s vocabulary. The concept of specialised knowledge is much more organic to it.

However, Gramsci's analysis remained confined within the relationship between intellectuals and the working movement in relation to the dissemination of knowledge and the creation of social consciousness and identity. Thus, while the concept of hegemony captures the relationship between knowledge and power, and connects it to the division of labour (the material base of hegemony), the actual mechanism of knowledge reproduction remained undisclosed and unidentified. In this respect, it is reasonable to argue that knowledge reproduction and the design of routines are intrinsically connected and that the concept of routines can provide the conceptual tool to bridge the process of production (the material) to knowledge reproduction and hegemony (the superstructural and the ideological). As already pointed out, the accumulation of routines not only influences inscriptions and the institutionalisation of knowledge but also the conceptualisation of efficiency and professional profiles (Maielli, 2005b). At the same time values and philosophies can express themselves as meta-routines and can potentially be both internal and external to the firm (van Driel and Dolsfma, 2008, and Sydvol at lat. 2009).⁸

Thus, if routines are connected to knowledge reproduction and knowledge is the basis of hegemony, changing routines (innovation) would trigger social dynamics of consent, resistance and negotiation where dominant positions across the managerial hierarchy are at stake. Incumbent dominant groups of managers would tend to resist changes in routines that would trigger a new and different process of knowledge accumulation hence undermining the knowledge base underpinning their hegemony.

In this respect, it is important to refer to Gramsci's distinction between domination with hegemony as opposed to domination without hegemony. Dominant social groups might exert power *without* exerting hegemony but only for a limited period time. In fact, non-hegemonic groups will eventually succumb to pressures from new social subjects expressing new forms of hegemonic culture. Thus domination with hegemony leads to social stability, while domination without hegemony leads to social change.

This is an important point because it implies that, in the long run, dominant groups and stable institutions are not necessarily those that *always* exert decision-

⁸ Because Gramsci did not see knowledge accumulation as the accumulation of routines he did not capture the process by which workers might well replace inscriptions by developing tacit knowledge and routines hence undermining the hegemonic role of process designers. This is a major limitation of Gramsci's analysis of Fordism.

making power but rather those that *manage* to retain their grip on the process of knowledge reproduction.

The next sections of this paper will show that traditionally, Fiat *process designers* not only controlled the routines for *process design* but also the power to select *new product design* (product-renewal decision-making power). When in the late 1960s Fiat's top management decided to shift the output mix towards upmarket units, *process designers* had to give up their product renewal decision-making power (as new product design was now selected by strategic and marketing managers). However, they retained their grip on the development of routines regulating process design and technology selection. This allowed *process designers* to control the reproduction of useful knowledge to marginalise Lancia's engineers and to keep exerting hegemony. By contrast marketing managers exerted power (product renewal decision-making power) without hegemony. As will be shown, this affected output-mix decision-making and ultimately locked Fiat in the lower end of the market. Fortunately for Fiat, the new cycle of product renewal was consistent with the development of domestic demand throughout the 1980s, with sustained demand in the lower segments of the market (Maielli, 2005b).

The Fiat trajectory: from phase one to reinforcing mechanisms. The emergence of *process designers*' as hegemonic group

Fiat was established in Turin (Italy) in 1899 by Gianni Agnelli Senior and other venture capitalists. Throughout the 1910s and 1920s cost control remained a paramount objective due to the rather backward domestic market. Since 1908 Agnelli had designed the techno-structure by separating the role of Director of Product Development - Direttore del Servizio Progetti - from the role of Director of Operations - Direttore dei Servizi di Produzione (Castronuovo, 1999; Giacosa, 1988). The move was a central one in the definition of design hierarchies.

A set of informal and formal routines ensured cost control. The most important informal routine regulated the selection of new designs for new product development. Formally, the Director of Product Development and the Director of Operations were both asked to advise top management on the most suitable design for new cars. Actually, Agnelli consulted first with the Director of Product Development and then with the Director of Operations. Accordingly, the Director of Operations had the actual power to reject a new product design if it was considered too complex to be

manufactured efficiently. This implied a design hierarchy where product designers held a subaltern position as opposed to process designers. This also led to the emergence of implicit routines for career progression.

Young engineers started their career at Fiat as product designers and then had two possibilities: one was to progress their career within the Product Development Office up to the grade of Director of Product Development (Direttore Servizio Progettazione), while the other was to shift from product design to process design and then to progress up to the grade of Director of Operations. Both were explicitly recognised career paths. However, there was also an implicit element shaping career paths. In theory, both the Director of Operations and the Director of Product Development could progress into top management positions and sit on the Administration Board. Actually, until the early 1960s that only happened to Directors of Operations (Giacosa, 1988).

The separation between the functions of process and product design combined with the formal and informal schemes for career progression became the means of cost control, design and technology selection. Because manufacturability was the main criterion for new product design to be approved, process designers were able to establish their production-oriented knowledge and routines as “useful knowledge” throughout the hierarchy. Accordingly, product designers had to contain the complexity of their design in order to increase manufacturability and minimise costs. This ultimately led Fiat designers to specialise in the design and manufacturing of small cars entailing lower product/process complexity.

Because only a product designer with a good record of approved projects could shift to process design and eventually to higher managerial roles, technical knowledge geared towards cost control was considered “useful” not only by the company as a whole (in relation to the definition of cost as the most important performance objective) but also by individuals aiming to improve their position within the hierarchy.

Here the role of formal routines for cost control is also central to understand the relationship between the design of processes and the reproduction of conceptualisations of useful knowledge, which is central to the concept of intangible specialisation (Maielli, 2005b). One routine that is certainly worth mentioning is that

of calculating revenues per kg,⁹ which Fiat developed from Ford's routine to measure output in weight (kilos). In the interwar period, steel represented the most expensive input and calculating production in units as well as weight enabled production managers to control for the efficient use of raw material (Giacosa, 1988). If the increase in the percentage of units produced was larger than the increase in the percentage of weight produced, by definition raw material had been used efficiently while design had been optimised to reduce the weight of cars. This led to the routine of calculating of revenues per kg, which regulated a major strategic activity, namely product renewal.

In the preliminary stages of a new project, the top management set the selling price of the new car to be designed, which usually was slightly higher than the selling price of the existing model to be replaced. Once the design was completed and the bill of materials (and therefore the weight of the car) defined, engineers calculated revenues per kilo by dividing the price by weight. If revenues per kilo were lower than those of the existing model, too much raw material had been used and engineers had to go back to the drawing board (Giacosa, 1988).¹⁰ This routine had a massive influence in forcing Fiat engineers to develop design skills geared to lightweight design, which in turn had a positive effect on the performance of Fiat's city cars.

This highlights the relationship between routines and hegemony. Good engineering at Fiat meant the ability to find the clever technical solution that could reduce production costs. Indeed, production engineers at Fiat had reproduced an engineering "ideology". This ideology is well reflected by Giacosa's conviction that the role of Fiat was to produce cheap reliable and enjoyable cars for the people rather than expensive luxury cars (Giacosa, 1988).¹¹ This was a major ideological and cultural underpinning of the intangible specialisation of the Fiat techno-structure in the efficient design of small, lightweight and comparatively high performance vehicles (Maielli, 2005b).

⁹ Evidence of this and other connected routines emerges from the minutes of Fiat Administration Board Meetings. The routine of calculating revenues per kilo is also mentioned extensively by Dante Giacosa (Giacosa, 1988).

¹⁰ There are also many references to this routine in the verbatim reports of the meetings of the Fiat Board of Directors.

¹¹ Dante Giacosa was Director of Product Development for the automotive sector at Fiat from 1927 to 1970. His most acknowledged work is indeed the Fiat 500 from 1955.

The Lancia trajectory: a different modality of knowledge accumulation

Lancia was established by Vincenzo Lancia in 1906. He was an enthusiastic engineer and racing driver who had worked until he founded his own firm (Amatori, 1990, p.77). Lancia cars were characterised by complex design geared to maximise the performance of the vehicle. Initially Lancia focused on innovating chasses, gearbox and transmission, but soon started to investigate sophisticated solutions for the engine too with the introduction of head valves that enabled better engine performance. Quality was the implicit performance objective that informed the culture of a company geared towards innovation. Lancia was considered a wizard of innovation and technical intuition (Foschi, 1990, pp.188-189).

Interestingly, this did not simply mean that Fiat and Lancia focused on different product ranges. In the 1930s, the Fiat Balilla (1000cc) and the Lancia Augusta (1200cc) were both aimed at the lower end of the market. Nonetheless, the Augusta cost twice as much as the Fiat model (Amatori, 1990, p.77.) as its design reflected a different ranking of process performance objectives and a different specification of product competitive factors for small cars. Even in the lower end of the market, Lancia focused on quality as opposed to cost and the pace of production at Lancia was much lower than at Fiat.

Most importantly, Lancia was a technical icon, a brand strongly supported by an elite of customers from the aristocracy and rich bourgeoisie that was able to appreciate unconventional style as well as technical sophistication. Interestingly, as the set of cultural and technical values established by Gianni Agnelli informed routines and architectural knowledge at Fiat well after the death of the company founder in 1946, so was the case with Lancia. After the death of Vincenzo Lancia in 1937, the company retained its focus on quality and innovation. After Lancia's death it was the company focus on quality that helped it to preserve the integrity of the organisational structure and the brand values associated with it (Amatori, 1990, p.38).

However, after the end of WWII, Lancia experienced a progressive decline of economic performance leading to a crisis in the 1960s. The decline of Lancia was driven by several reasons, including the low scale of production and unfavourable regulations penalising the company in the market for heavy vehicles (Foschi (1990)). In some respects, Lancia was yet another victim of the German car industry. As pointed out by Clark (2006) the shift to mass production of quality large saloons operated by German carmakers was a turning point in the organisational configuration

of the car industry, which found traditional quality car manufacturers such as Rover – and we would argue Lancia – totally unprepared for the new strategic challenge.

While Fiat was successful in exploiting economies of scale in the lower end of the market, Lancia occupied a distinctive niche in the medium range. Crucially, as demonstrated by German manufacturers, the medium range offered opportunities to combine product quality with large volumes. In this sense, the BMW engineer represented a perfect balance between quality, as a performance objective, and speed. Lancia was not able to make the transition into the new configuration achieved by its German competitors. In this respect, it is interesting to note that in 1958 the Lancia family lost control of the company, which was taken over by Carlo Pesenti.¹² Nonetheless, the focus of the techno-structure on quality remained unchanged. Thus, although Pesenti appointed Aldo Fidanza as CEO in order to restructure the company towards producing larger volumes, the configuration of Lancia as a niche manufacturer did not change. Actually, after two years a new CEO was appointed, as the Board of Directors feared that Fidanza's focus on expanding production was going to be detrimental to quality (Foschi, 1990, p 230). The hegemonic status of the *product* designer in the firm prevented the organisation from shifting focus from product to process innovation. The costly and unnecessary routine of designing an entire new engine each time a new model was developed was an example of the extreme way Lancia engineers understood product development. By 1967, Lancia was on the brink of collapse. Fiat, on the other hand, was flourishing as it dominated the Italian market with an output mix skewed downmarket.

As will be shown in the next paragraph, after 1966 Fiat management started to discuss the possibility to shift upmarket in response to the maturation of the domestic market and the abolition of intra-EU tariffs. Although the takeover of Lancia was partly a Fiat response to Government pressure, it was also consistent with the new Fiat output-mix optimisation strategy based on the increase in the output of medium and large cars. Lancia know-how could have been used with reference to specific components such as engines and suspensions and with regard to the overall styling of upmarket cars.

¹² Carlo Pesenti was President of Lancia from 1958 to 1967.

Strategic Management: Marketing v. Operations Managers

One of the most important features of Fiat from 1899 to 1966 was the incredible stability of the managerial hierarchy. When Gianni Agnelli senior died in 1946, the role of President of the Group was taken by Vittorio Valletta, who had been Agnelli's right-hand man since 1922. Valletta ran the company with the help of Gaudenzio Bono, an operations manager who started his career at Fiat in the 1920s.

In 1966 Valletta retired, leaving Fiat's presidency to Gianni Agnelli junior, the grandson of the company founder. Giancarlo Minola, the former Director of Marketing, was surprisingly nominated Director of the Fiat Automotive Sector. The move reflected the influence that Agnelli junior started to exercise on decision-making at Fiat. Agnelli had been educated in the USA, was a lawyer by training and his managerial culture was very different from the one reflected by the process-oriented business model operated by Valletta and Bono.

Minola was convinced that in order to better profit from the European Market Fiat should increase sales in the upper segments of the market. This is confirmed by the minutes of the meeting of the Board of Directors held in January 1965.

"The task for the Fiat commercial network is clear. We do not have to feel satisfied (sic!) only by the increase in the quantity of sales but we have to increase the tone [quality] of them, and [we have to increase] the per unit revenues from sales and, therefore, the profitability of sales. So far, our balance sheets [revenues from sales] have been too much affected by the sales of the 500."¹³

The 500 was the smallest car in the Fiat output and indeed the one produced on the largest scale. At the time the Fiat 500, 600 and 850 (all competing in the lower segments of the market) represented more than 70% of the output mix. Minola's argument was based on the assumptions that a) demand in the medium and upper segments of the market was going to expand more rapidly than the demand in the lower end of the market, and b) per unit revenues in the medium and upper segments were higher than those in the lower end of the market. The first assumption was sound as both the European and the domestic markets were expected to reach their maturity phase. The second argument was much less convincing because per unit margin depended on the price mark-up and on the structure of per unit costs. Crucially Fiat was the price leader in the lower end of the market but a price follower in all the other segments.

¹³ Archivio Storico Fiat, Administration Board Meeting Report, January 1967, Book 37, p. 155.

On this basis, Dante Giacosa (director of product development at the time) maintained that the long-term survival of Fiat was dependent upon the company's ability to maximise the creativity of engineers towards the design of small, light and manufacturing-friendly cars (Giacosa, 1988). This was supported by the results from cost analysis and reverse engineering exercises, routinely carried out by the director of the Lingotto plant, Antonio Crescimone. These showed that production costs of the Fiat 124 (segment C) were 27.2% higher than those of the Fiat 850 (segment A).¹⁴ However, the selling price of the 124 was 35.5% higher than that of the 850, so that the company enjoyed an extra 8.3% profit for each 124 sold in comparison with the 850.¹⁵ This proves that Giacosa's concern about the higher costs of manufacturing larger cars was consistent with the actual dynamic of Fiat costs, but also proves that, given current prices, larger cars were providing better margins, as Minola thought.

However, the analysis of the production costs (carried out by Crescimone via reverse engineering) of the Peugeot 204, the closest competitor of the Fiat 124, shows also that the manufacturing costs of the French car were lower by 6.3%, and that the cost saving was mainly due to better design, enabling Peugeot to cut lead time.¹⁶ This had not been a problem until 1965 because the domestic market had been protected by tariffs. However, in a context of straight price-based competition – which was expected to emerge after the abolition of tariffs in 1970 - the selling price of the 124 would have been 6.3% lower in order to remain competitive with the price of the Peugeot 204. Accordingly, the per unit margin of profit of the 124 compared with that of the 850 would have been just 2% higher (the difference between 8.3% and 6.3%). Considering the different scale of production and sales between the two models (the output of the Fiat 124 was considerably lower than that of the Fiat 500), this would have reduced considerably the profitability of the 124 relative to the 850.

The difference between marketing and production managers in interpreting and mastering routines for product decision-making illustrates the hegemony of Fiat process and product designers in controlling not only the process of production but also and more importantly the process of knowledge reproduction towards the definition and use of useful knowledge. Production engineers were influential in

¹⁴ Archivio Storico Fiat, Fondo Crescimone (Crescimone File), Production Services Department corda 55/7.

¹⁵ Ibid.

¹⁶ The information on the Peugeot 204 costs, as well as the information on the costs of many other models, was obtained via reverse engineering, the process of analysing the technology of competitors by analysing their product.

strategic decision-making because they could actually calculate efficiency and costs and on that basis accept or reject a specific strategy. On the other hand, costs were also a reflection of the design and technological decisions that production engineers were taking in order to optimise the process. Those decisions were a reflection of their intangible specialisation.

Operations managers were, at the same time, those who had to provide cost analysis for decision-making, but also those who determined cost through their operational routines. This was basis of the operations managers' cultural hegemony that was clearly connected with the fact that engineers had the control of both product renewal and process design. From the point of view of engineers, the struggle to maintain hegemony was, in practical terms, the struggle to retain both product renewal and process design decision-making power.

This is central to understand the operations managers' struggle for hegemony in the 1970s. At this stage is worth noting that the very basis of the operations managers' hegemony provided a disincentive for product and process designers to support the Minola strategy. In order to adjust the output mix upmarket, as suggested by Minola, Fiat should have increased the level of efficiency in manufacturing medium-range cars as suggested by Crescimone's study. To do so Fiat needed to acquire external capabilities that would have undermined the power of the existing design hierarchy. More importantly, accepting Minola's suggestion would have implied that process and product development had to be subject to marketing decisions. Operations management would have lost the control of the reproduction of useful knowledge. Unsurprisingly, Giacosa used Crescimone's argument to argue against a shift upmarket (Giacosa, 1988) rather than in favour of a restructuring of the techno-structure towards acquiring new capabilities.

Strategic Decision-Making in the 1970s. From “phase two” to lock-in

When Minola retired at the end of 1967, Agnelli appointed Minola's former deputy director of Marketing, Giammario Rossignolo, as Director of Strategic Planning and Control. Rossignolo was not a production engineer. He was an economist who shared Minola's view that Fiat had to become a demand-driven organisation. In order to do so, Rossignolo tried to introduce Strategic Marketing at Fiat. To design new models in the upper range of the market became a priority in order to respond to the maturation of the European market (Maielli, 2005b).

In this context, Rossignolo masterminded the acquisition of Lancia as a key element in the new Fiat marketing and product development strategy.¹⁷ More importantly, the new organisational structure meant that for the first time decisions on product renewal and approval of new design were no longer taken by *process designers*.

The discrepancy between Rossignolo and Fiat's production engineers emerged in the evaluation of a trade-off between synergies and brand identity. Rossignolo saw Lancia as an independent company developing its own technology and model ranges within the Fiat Group. Lancia would have increased the reputation of the Fiat Group, something that hopefully would have also helped the Fiat brand in the upper segments of the market. Lancia design could have been also used for components used by Fiat (i.e. suspension). By contrast, Fiat engineers insisted that the success of the strategy depended on the ability to reduce costs by maximising synergies. Their operational strategy was based on technical synergies between Fiat and Lancia, resulting in the fitting of Lancia cars with Fiat engines (units above 1300cc.), gearboxes and other technical components. This was detrimental to Lancia's brand identity. Indeed, it was worth noting that the contrast between Rossignolo and Fiat's production engineers reflected the same contrast between the Fiat and Citroën management that led to the collapse of the merger between the two companies.

The rift between marketing and operations managers led to a compromise where the former acquired decision-making power over product renewal (decisions concerning the market segments in which to renew products) while the latter retained the grip on operational decisions. Thus, while marketing managers were in charge of strategic marketing, and therefore in charge of decisions concerning the type of cars to be designed and developed, production engineers remained in control of decisions concerning production processes, synergies, platform and component sharing. They remained in control of routines for setting operation performance objectives and selecting technology. Cycle time minimisation rather than quality optimisation remained a priority in process design. Cycle time remained below 60 seconds even in the production lines for upmarket units while robotics was implemented selectively

¹⁷ He also masterminded the attempted acquisition of Citroën, this time without success. Interestingly, the attempt to take over Citroën did not succeed because of the opposition of Citroën managers, who refused Fiat's industrial plan based mainly on technical synergies and the utilisation of Fiat engines and gearboxes in future Citroën designs (Volpato 1996).

only in those segments of the process where speed was suboptimal. The potential flexibility of robotics was not fully exploited, while most of the processes were designed by following a trade-off logic similar to the one underpinning process design in the 1950s and 1960s (Maielli, 2005a; Maielli 2005b).

On the one hand, process designers and operations managers gave up substantial *decision-making power* (in relation to product renewal and new design approval); on the other hand they retained their grip on the process of reproduction of useful knowledge by controlling the design of routines regulating *product* and *process* design. While Rossignolo was exercising *decision-making power*, operations managers remained in control of the mechanism of *knowledge reproduction*. Rossignolo was exercising domination without hegemony. This was reflected by the changes in the output –mix and by the outcome of his strategy.

Between 1970 and 1979 the output mix of Fiat actually shifted upmarket, with 50% of the output mix consisting of cars with an engine size below 1300cc (segments A, B and C) and 50% of larger cars (above 1300cc). This was the result of a product renewal strategy favouring the segments above 1300cc in both the Fiat and Lancia ranges (Maielli 2005b). However, by 1982 Fiat's output mix had returned to the same structure the company had in the 1960s, with small cars accounting for more than 70% of the output (see Figure 1 in the appendix).

In 1978, Lancia was incorporated into Fiat Auto. Rossignolo resigned and a production manager, Vittorio Ghidella, took charge of Fiat Automotive. In terms of product renewal, during the 1980s Fiat developed “in-house” cars competing in the lower and medium segments, while those competing in the upper segments were developed in partnership with the Swedish specialists Saab. As already mentioned, the output mix shifted back downmarket. This was consistent with the intangible specialisation of the Fiat techno-structure. Table 1 in the appendix shows the loss of Lancia know-how was reflected in new product design. This contributed enormously to the loss of brand identity as far as Lancia was concerned. However, the most important consequence of the incorporation of Lancia into Fiat Auto was that now production engineers were again controlling not only of the routines for process design but also those for product renewal. Ghidella himself was a production engineer.

Conclusion

The paper looks at the role of Fiat's operations managers to explain why the company remained locked-in the lower end of the market in the 1980s in spite of a strategic attempt to shift upmarket in the 1970s. It is worth noting that this attempt had been masterminded by the Director of Strategic Planning and Control with the full support of Agnelli and the administration board.

On one level, the paper contributes to the Business History of the Italian car industry by putting one of the most recognised strategic weaknesses of Fiat, namely an output mix skewed towards the lower end of the market, into historical perspective. On another level, the paper contributes to the theoretical debate on path dependence by using the concept of hegemony to analyse the relationship between initial conditions of path dependence and lock-in.

Sydow, Schreyögg and Koch (2009) address path dependence as a three-phased process. In the second phase, positive feedback induces reinforcement mechanisms that could create the condition for lock-in. However path changes are still possible. In the case of Fiat, phase two has been identified in the 1950s and 1960s when the success of the company as a mass producer induced a positive feedback in relations to routines for cost control regulating process and product design. Those routines were at the basis of the success of Fiat and its intangible specialisation in the design and manufacturing of small and affordable utilitarian cars (Maielli, 2005b). However an opportunity window opened up after 1965 as a consequence of two factors. First of all there were significant changes at the top end of the managerial hierarchy. Secondly, there were increasing expectations of changes in the structure of demand as a combined effect of the maturation of the Italian market and abolition of the intra-EC tariffs. Both factors led to the acquisition of Lancia and valuable know-how in the design of high performance and high quality cars.

Part of the top management started to see Fiat's intangible specialisation in the lower end of the market as a liability, while the techno-structure still saw intangible specialisation as Fiat's best asset. At that point, as contemplated by Sydow et al (2009) phase two might or might not have fed into lock-in while shifting to phase three of the evolutionary process. Nonetheless, in the case of Fiat, stability prevailed and the company remained locked-in the lower end of the market.

In order to explain this outcome, and more in general the process by which the lock-in prevails vis a vis internal and external pressures to change, this paper tries to

bridge the literature on routines with the concept of hegemony. This revolves around the relationship between the process of production and knowledge reproduction. Social stability occurs when dominant groups exert not only power (decision-making) but also cultural and moral hegemony, which is reflection of the ability to reproduce knowledge perceived as useful by society at large.

Knowledge reproduction is intrinsically connected with the reproduction of routines. In general terms, incumbent dominant groups might resist changes in routines, and the related changes in product and process design, if discontinuity threatens their ability to control the processes of knowledge reproduction underpinning their own hegemony.

In the specific case of Fiat, process designers tried to resist the strategic shift upmarket that had been masterminded by strategic planning managers and strategic marketing managers. In fact, the new strategy implied that *process designers* had to give up the power of selecting new product designs (product renewal decision-making), which had been their prerogative as a result of an implicit meta-routine developed earlier on in the history of the organisation. More importantly, the new strategy, if fully implemented, implied a substitution of those routines for the ranking of performance objectives and therefore technology selection that had been at the basis of the way *process* designers had been reproducing the knowledge underpinning their hegemony.

The rift between marketing and production managers resulted in a compromise whereby the former acquired decision-making power over product renewal but the latter retained the control over processes and thus controlled the reproduction of routines for technology selection and process design. In strategic terms this meant that the techno-structure preserved its intangible specialisation in the design and engineering of small cars (which remained very competitive) in the lower end of the market, while the attempt to shift upmarket failed. In “socio-political terms” between 1969 and 1978 marketing managers exercised power (decision-making over product renewal) without hegemony (the ability to influence routines for process design, technology selection and performance evaluation). As implied by the concept of hegemony, power cannot be exerted in the long run without hegemony. In 1978 the Fiat Group restructured its automotive sector by establishing a public company, namely Fiat Auto S.P.A. This incorporated both Fiat and Lancia. The new CEO was a former production manager, meaning that once again new product development was

under the control of process designers. More resources were allocated to the development of small cars in order to maximise Fiat's intangible specialisation while the output mix shifted back to the structure of the 1960s with about 70% of the output consisting of city and compact cars. The development of demand throughout the 1980s supported Fiat's strategy (Maielli, 2005b). However, since the early 1990s the specialisation of Fiat in the lower end of the market and its inability to make an impact in the medium and upper segments has been increasingly perceived as a weakness.

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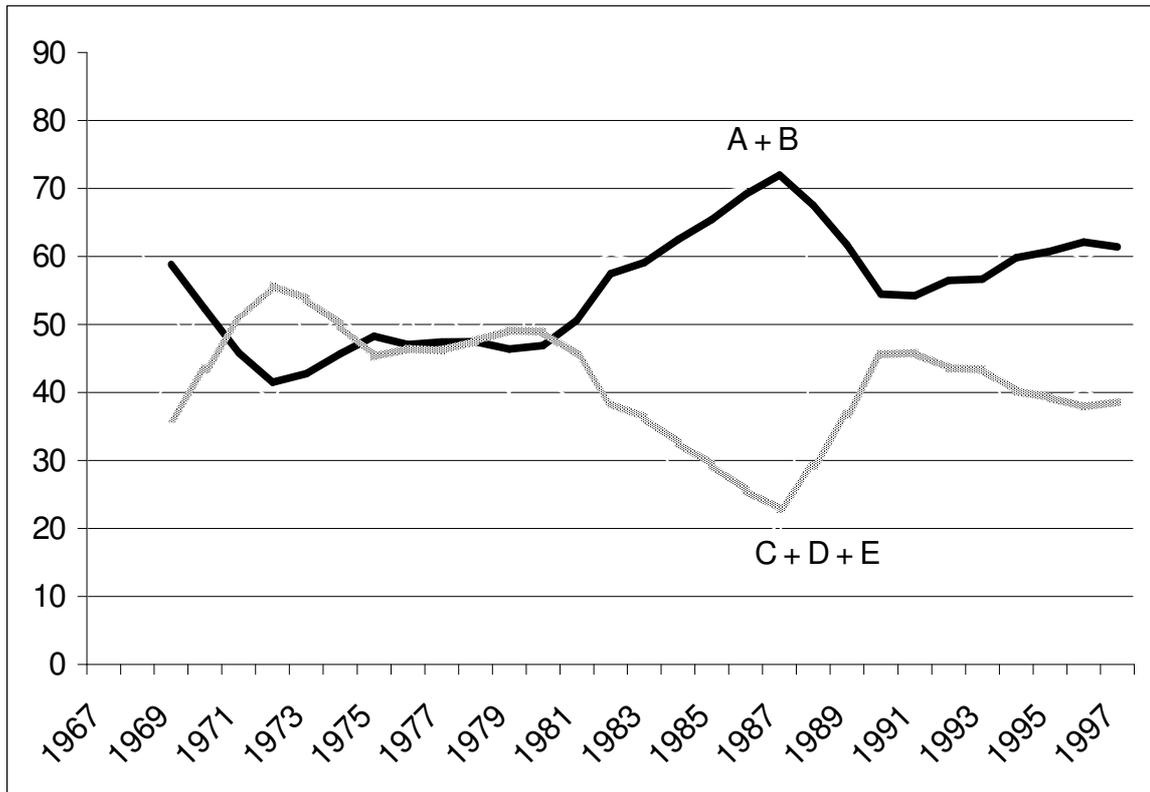
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Appendix

Figure 1: Segment share of total output (percentage), by grouped segments (A+B; C+D+E), 1968-1997 (3-year moving average)



Source: Maielli 2005b, p255. Vehicles have been grouped in lower-segment units (A and B) and upper-segment units (above C). This reflects the same criterion used by Fiat management to distinguish between lower and upper segments. The 3-year moving average has been chosen to smooth the line from contingent peaks and troughs. Segments are defined as follows: segment A includes vehicles from 500 to 850 cc, segment B includes vehicles from 850 to 1100 cc, segment C includes vehicles from 1100 to 1300 cc, segment D includes vehicles from 1300 to 1600 cc, and segment E includes vehicles from 1600 to 2200 cc

Table 1: Lancia product development, 1967-1994

Model	Fulvia	Beta	Gamma	Delta	Prisma	Thema
Segment	C/D	C/D	E	C plus	D	E
Years of production	1963-1974	1972-1984	1976-1984	1980-1999	1982-1989	1984-1994
Chassis	Lancia design	Lancia design	Lancia design	Fiat Ritmo	Fiat Regata	Saab Project 4
Aluminium chassis components	Doors	None	None	None	None	None
Engine	Lancia 1300-1600cc	Fiat 1300-1600-2000cc	Lancia 2000-2500cc	Fiat 1300-1600cc	Fiat 1300-1600cc	Fiat 2000cc Petrol/Turbo 2500 Turbo-diesel
Power	95-115 HP	75-100-115 HP	115-140 HP	74-85 HP	74-85 HP	115 /150 HP 100 HP
Engine layout	Longitudinal 4 cylinders Narrow V (16 degrees)	Transversal 4 cylinders In line	Longitudinal 4 cylinders Flat (180 degree)	Transversal 4 cylinders In line	Transversal 4 cylinders In line	Transversal 4 cylinders In line
Drive	Front wheels	Front wheels	Front wheels	Front wheels	Front wheels	Front wheels
Transmission	Lancia	Fiat	Lancia	Fiat	Fiat	Fiat
Suspension	Lancia	Fiat design on the front, Lancia design on the rear.	Lancia	Fiat	Fiat	Fiat

Sources: Elaboration of the author on various sources.