

## **Small Firm Growth, Group Selection and the Struggle of Competing Identities**

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### **Abstract**

In this paper I use a theory development approach to investigate the role played by competing group identities in a growing small firm. Using a longitudinal ethnographic approach I study the emergence and changing identity of groups within a hi-tech spin out over an eight year period. First I show that group identities are resilient to change over time. As individuals become part of an 'in-group' and conform to the group identity through a process of depersonalization, opportunities for change via individual differences are reduced. Between-group competition further acts to strengthen the commitment of individuals to group identities. Second I show that growth involves the creation of an ecology of groups within the organization, whose behaviors, competences and identities can address the changing needs of the external selective environment. This involves a continual struggle for survival between competing group identities. The paper thus presents an alternative to the view of organizational growth as one in which individuals are recruited to fill knowledge gaps.

*Key words: Small Firm Growth; Identity; Evolution; Group Selection*

### **Introduction**

Small firm growth is an important socio-economic phenomenon linking the start-up behaviors of entrepreneurs to the creation of social structures underpinning organizations. Scholars have conceptualized growth as a process through which knowledge and competences are acquired and assimilated within the firm (Macpherson, 2005; Macpherson and Holt, 2007). Growing firms thus overcome key challenges and changes in the environment by acquiring resources and competences (Phelps et al., 2007) changing the very essence of the venture (Bamford et al., 2004; McKelvie and Davidsson, 2009). However, growth is a social phenomenon, and this process of socialization has been underdeveloped in these accounts. Acquired knowledge and competences need to be subsumed within emerging social structures in order for the organization to develop as a socially cohesive entity. Growth thus involves a process of collectivization, of moving from the individual to the group, and ultimately the organization. Some have studied such processes through the notion of identity (Drori et al., 2009; Miller and Le Breton-Miller, 2011; Zellweger et al., 2011), which defines not only who we are, but the behaviors, practices and levels of motivation (Hogg and Terry, 2000; Nag et al., 2007; Turner et al., 1987) of groups within the organization. Identity has central and enduring characteristics (Albert and Whetten, 1985) and in this sense it is the glue that holds a company together. Focusing on competence gaps alone in the process of growth, thus overlooks an important social element. Competences do not neatly fit into organizational voids like missing pieces in a jigsaw. Instead they are laden with social significance and

closely aligned with supporting identities. I argue that this notion of ‘we-ness’ or ‘organizational glue’ is key to understanding how acquired competences are assimilated within the growing organization. Identity not only underpins the practices and behaviors of the firm, but ways in which the organization strives to achieve legitimacy within the marketplace (Zimmerman and Zeitz, 2002). This study thus builds on our understanding of the process through which new knowledge is assimilated into the organization, by unpacking the multi-level dynamics of changing identity in growing small firms.

Some have called for research on small firm growth to explore the processual and longitudinal nature of the phenomenon (Davidsson et al., 2010; McKelvie and Wiklund, 2010). To address this gap, in this research I use a theory development approach to unpack the growth process (Gioia and Chittipeddi, 1991; Van Maanen, 1979). Using multiple methods of enquiry, a longitudinal ethnographic approach is adopted to study the emergence and changing identity of groups within a hi-tech spin out over an eight year period. Nag et al (2007) note, there is a need for identity research to extend beyond leaders to include all those who engage in daily practices. This is even more critical in growing organizations as collective identities emerge over time. Therefore contrary to previous studies of growth and identity, I examine the emergence of group identities in the organization, and how this changes over the course of the organization’s life. I conceptualize the growth of the organization through the metaphor of an evolutionary process (Abatecola et al., 2015; Aldrich and Ruef, 2006; Breslin, 2010; Breslin, 2012; Dobson et al., 2013), and I argue that groups, and with this group selection is a key building block in this process.

I make two key contributions to research in this area. First I show that group identities are resilient to change over time. As individuals become part of an ‘in-group’ (Sober and Wilson, 1998) and conform to the group identity through a process of depersonalization (Turner et al., 1987), opportunities for change via individual differences are reduced. Between-group competition (Richerson and Boyd, 2005; Sober and Wilson, 1998) further acts to strengthen the commitment of individuals to in-group identities (Stryker and Burke, 2000). Second I show that growth involves the creation of an ecology of groups within the organization, whose behaviors, competences and identities can address the changing needs of the external selective environment. This involves a continual struggle for survival between competing group identities. As they compete for dominance, differentiation of identities, and with this conformance to those prototypes is further strengthened (Hogg and Abrams 1988; Hogg and Terry, 2000; Stets and Burke, 2000). The study thus highlights the enduring (Albert and Whetten, 1985) and resistant qualities of group identity, with change being brought about by the creation of new multiple identities through the acquisition of new staff, skills and competences. This presents an alternative to the view of assimilating new arrivals (Penrose, 1959). While the creation of multiple identities can allow an organization to create a diversity of views inside and external to the firm (Pratt and Foreman, 2000), it present difficulties in managing competing sets of interests.

The paper is therefore structured as follows. The paper begins with a review of recent literature using an identity approach to study small firm growth. This is followed by an outline of the research method. First and second order themes over the course of the study are presented in the findings section. In the discussion section, a model of identity in small firm growth and implications for the study of growth is given. Finally implications for practices and conclusions are presented.

## **Organizational Growth, Groups and Identity**

Researchers have conceptualized the process of small firm growth, with a focus on how organizations acquire and assimilate knowledge to meet the changing challenges of the external environment (Phelps et al., 2007; Macpherson, 2005; Macpherson and Holt, 2007), either by developing it internally or acquiring it externally. As organizations grow they face crises, and the firm's ability to overcome these crises depends on its ability to obtain and implement new knowledge (Macpherson 2005; Phelps et al., 2007). Such tipping points include changes in strategic orientation, the formalization of systems and the transition from entrepreneurial to professional management team. Growth thus involves the continual adaptation of the organization to match internal knowledge and competences with changing customer needs (Levie and Lichtenstein, 2008). Studies of evolving knowledge and competences within small businesses thus unpack key barriers to growth in response to changing environmental demands. However, there are additional social factors which affect the changing dynamic of the growth process that a focus on knowledge alone fails to capture. Group-level processes provide the glue that integrates individual-level competences and knowledge, as emerging collective behaviors are thus laden with social significance.

The process of organizational growth has been conceptualized through models of life stages (Greiner, 1972), or even metamorphosis from caterpillar to butterfly (Penrose, 1959). While these approaches loosely draw on an evolutionary metaphor, more recently scholars have sought to study and understand specific co-evolutionary dynamics associated in growth (Abatecola et al., 2015; Aldrich and Ruef, 2006; Breslin, 2010; Breslin, 2012; Dobson et al., 2013). These latter approaches seek to unpack changes in competences (Aldrich and Ruef, 2006), patterns of behaviors (Breslin, 2010; Breslin, 2012), and opportunities (Dobson et al., 2013) through the evolutionary mechanisms of variation-selection-retention (Campbell, 1965). Therefore growth is conceptualized through the variation, and selective retention of competences within the organization (Aldrich and Ruef, 2006). The assumption inherent in many of these accounts is that the evolutionary process is driven by external selective forces, or in other words the changing demands of the marketplace, where the latter is the organizational equivalent of 'natural selection' (Darwin, 1859). However, selective forces also inside the organization shaping the changing constitution of groups during growth (Clarkson, 2014; Miller, 1999; Penrose, 1959). Therefore understanding multi-level selective forces is a key endeavor in unpacking the growth process. In studies of cultural evolution, researchers have identified the importance of selection at the level of the group as a key mechanism on the dissemination of culture (Richerson and Boyd, 2005; Sober and Wilson, 1998). These authors argue that the ability of individuals to imitate and learn from the behaviour of others, allows them to develop collective norms, values and identities, and develop a closer "resemblance" despite genetic differences. This "resemblance" can be maintained despite the arrival and removal of individuals from the group (Sober and Wilson, 1998), and indeed is maintained by moralistic punishment and conformist bias (Richerson and Boyd, 2005). The more individuals within groups cooperate the stronger the influence of group fitness over individual fitness in environmental selection (Sterelny, 2007). Sober and Wilson (1998) argue that the more these norms and identities develop within groups, and as a consequence, the more separate groups differ from each other in terms of behavior, the greater the chance of group selection. In other words for group selection to take effect, there must be variation between groups, which results in differential competitive fitness levels and inter-group competition (Richerson and Boyd, 2005), and the differential fitness of groups must be great enough to overcome the differential fitness of individuals within groups (Sober and Wilson, 1998). In this way, the evolution of behavior is more conducive to group selection than genetic evolution (Sober and Wilson, 1998).

Drawing on this multi-level view, organizational growth is conceptualized through an alignment of external selection forces, and internal group selection. Group identity is shaped by this inter-group competition, as one group views themselves in terms of the other. Through this process an individual identifies with the identity of the organization, as their self concept is subsumed within the latter (Dukerich et al., 2002; Dutton et al., 1994), where self concept is the interpretive structure that mediates how people behave and feel in a social context (Dutton et al., 1994). By accepting a social identity, the individual accepts the values and behavioral norms of the group (Scott and Lane, 2000), creating a sense of we-ness. Through self-categorization the individual accentuates perceived similarities between the self and other in-group members, and likewise perceived differences between the self and out-group members (Hogg and Abrams 1988; Hogg and Terry, 2000; Stets and Burke, 2000). As the individual identifies with the group and sees oneself as the embodiment of the group prototype, individual-level identities are less salient through depersonalization (Turner et al., 1987). Prototypes thus “embody all attributes that characterize groups and distinguish them from other groups, including beliefs, attitudes, feelings, and behaviors” (Hogg and Terry, 2000). Some have examined entrepreneurship through the theoretical lens of identity theory (Drori et al., 2009; Miller and Le Breton-Miller, 2011; Zellweger et al., 2011), and this study seeks to extend this line of inquiry to examine the growth process. Hoang and Gimeno (2010) develop the concept of founder role identity, and examine how changing identity can affect a nascent entrepreneur’s transition to venture start-up. They explore the importance of the founder role to the individual, through the dimension of identity centrality. They further argue that the more diverse and rich an individual’s conception of the role, then the more able that person can handle the challenges of the start-up process (Hoang and Gimeno, 2010). In effect such identity complexity buffers the entrepreneur from external negative feedback. However growth involves more than a reciprocal relationship between individual founder and wider organizational identity. Growth is a collective phenomenon, and exploring the changing nature of group-level identities can thus lead to a richer multi-level longitudinal understanding of growth phenomenon.

Managing the changing identity of the organization is clearly important for the organization, not just in terms of acquiring and assimilating knowledge and competences, but in terms of managing its organizational image. Organizational image relates to how organizational members want external stakeholders to view the organization (Dutton and Dukerich, 1991; Whetten and Mackey, 2002) and developing a legitimate image is key to small firm growth (Zimmerman and Zeitz, 2002). Researchers have studied the iterative and reciprocal interaction between organizational image and identity, and how they evolve over time through the actions of the organization and stakeholders (Gioia et al., 2000; Ravasi and Schultz, 2006; Scott and Lane, 2000; Whetten and Mackey, 2002). Management can thus act to change the organizational image through communication with stakeholders, and by embedding themselves in this wider stakeholder community (Whetten and Mackey, 2002). Similarly, Zimmerman and Zeitz (2002) argue that organizations can increase legitimacy by adapting their structure, management team or business model. Equally management needs to react to stakeholder responses, by acting to change either the image, or organizational sense of self and identity (Gioia et al., 2000). However, this research stops short at exploring the interaction between changing external image and layers of identity within the organization. Small firm growth involves key transitions from the individual founder to groups of employees within the organization. Therefore it is argued here, that by carrying out such a multi-level investigation is to unpacking the complexity of this process.

## **Research Method**

In light of this overview, this study sets out to investigate the changing nature of group identity within a growing organization through an understanding of multi-level selection processes. A key gap in the literature on organizational growth relates to the changing and evolving nature of management behaviors over time (Phelps et al., 2007). Growth is context specific, with paths followed being unique and idiosyncratic to the organization in question (Dobbs and Hamilton, 2007; Phelps et al., 2007). Furthermore growth is a temporal process, and studies should focus on the processual and longitudinal nature of the phenomenon (Davidsson et al., 2010; McKelvie and Wiklund, 2010). Therefore to address this gap, in this research a longitudinal ethnographic (Macpherson and Holt, 2007; Wiklund and Shepherd, 2003) and a theory development approach (Gioia and Chittipeddi, 1991; Van Maanen, 1979) are taken to study the emergence and evolution of different group identities within the chosen organization. This longitudinal study focused on the growth a high-technology university spin out, MotionTechnics, over a period of 8 years. MotionTechnics was established in 2008 to exploit market opportunities derived from a core technology emerging within a university research group. The core technology related to transmission systems, with potential commercialization opportunities in a vast range of industries from aerospace to automatic. Given the very early stage of development, the technology at this time was classified at having a low level of industry readiness, with significant investment needed in order to develop it further towards commercialization. The Founder had a wide range of start-up experience across a range of industries, from engineering to domestic cleaning. He had started working at the university as part of a team looking at commercializing research opportunities, and through this role had come into contact with the founding group. The start-up was part-funded by a university venture capital group.

By tracking this process over an eight year period, the unique and idiosyncratic path followed by MotionTechnics is studied in-depth. As noted by Macpherson (2005), understanding growth involves unpacking the emerging and changing social processes and relations within the growing team of employees. Therefore key individuals within the organization were included in the study, to allow the researcher to capture multiple perspectives on the changing group identities within the firm. A number of different means of inquiry were used over the course of the study including participant observation, in-depth interviews and company documentation such as ;internal reports and meeting minutes, external press releases and marketing materials. This analysis consisted first in identifying key themes drawn directly from interview responses given by participants, observation field notes and daily log records (Eisenhardt, 1989; Yin, 1994). From these concepts in use, second-order relationships were identified between and among these emerging themes. This involved a process of constant comparison in which comparisons were made between participants and observations, and over time in both stages of the research. In this way, a convergence in theoretical relationships was identified. These themes and relationships were further analyzed and compared with key concepts in the extant and enfolding literature as discussed below.

## **Findings**

Key findings are presented to reflect the changing nature of identity within MotionTechnics over the seven year period. The following section has been divided into three key time periods; the start-up period [2008-10], the mid-life crisis period [2010-12] and the later rise of the automotive application [2012-14].

### *The Start-up Period [2008-2010]*

### External Selective Environment

In the early years following start-up, the organization was pursuing the broad strategy of getting the 'technology out there' (Founder, 2009), and as such followed up enquires across a wide range of industries, from automotive, to aerospace and petrochemical.

...MotionTechnics' technologies can potentially be exploited in a vast range of applications... At present there are no plans to focus exclusively on one market and to develop a manufacturing business to address it... (Business Plan, 2008)

In many ways this lack of strategic focus was dictated by the early stages of technological readiness of the company's core products. As such enquiries involved working with the R&D departments of different manufacturing organizations. The founder determined 'strategic groups' based on key technical performance characteristics of the prototypes as opposed to defining characteristics of the industries. In brief, the strategic direction of MotionTechnics in the early years focused on exploring a wide range of applications of its technologies across a broad range of industries.

### Internal Selective Environment

Given this wide strategic focus and corresponding demands of customers to explore technological boundaries, MotionTechnics' operation centered on the activities of the founding research group. The founding team comprised the Founder, Tech Leads A-D and Senior Mechanical Engineer A, all of whom worked together within the same university research group. Members of this group described their working ethos as one, in which technological boundaries were pushed. The group prided itself on being able to find design solutions for a challenging and wide range of sometimes unorthodox technological applications, which they believed were beyond the capabilities of more established organizations. In this way, individuals were encouraged to be creative and push boundaries.

...Each project pushes the boundaries and that is one of our key strengths...We do think outside the box when we design and solve problems. Everybody here is creative. Nobody is a plodder. Nobody sits and stays safe... (Tech Lead B, 2010)

... What I enjoy here is the variety. I did enjoy the university, and here its similar work but more variety. At the university I was doing one project at a time, always working on the same thing and I quite enjoy the variety... (Senior Mechanical Engineer A, 2014)

This distinctive range of technology-pushing competences within the founding team allowed MotionTechnics to further develop the core technology across a wide range of industry applications. The need to push boundaries was central to the founding group, which in turn shaped the emerging organizational identity.

### Organizational Groups and Identity

As with other start-up organizations, the structure of MotionTechnics at this time was informal, with all team members working together on a range of projects, and little specialization on industrial sector or function. Team members worked on many tasks from enquiry handling, to engineering design and prototype manufacturing/testing. For example, all members of the founding team were involved in the assessment of customer enquiries, which typically involved a group decision making process. The founder put together an 'opportunity assessment grid' to support the process of handling enquiries. While the grid helped rank enquiries in terms of technological and strategic characteristics, a wide range of opportunities across many sectors were pursued. The team was located close together in a small open plan office working through problems together, and communicating continually

throughout the working day. Project functions were equally interchangeable, with the same individuals being assigned different functions on different projects.

...it's multi-disciplinary and everybody's got certain expertise, we do tend to work more as a team, rather than it becoming one person's ownership. We might project manage it or take a technical lead on it, but then using other people... Quite often [Tech Lead A] might do a lot of the technical work, but I would be the project manager, because I'm better to manage... (Tech Lead B, 2010)

The informal structure reflected the flexible and inclusive nature of the team, as they worked on a wide variety of projects. In many ways, this perpetuated a modus operandi and identity which had endured within the group when they worked together as a university research team.

As part of a university research team, the group had historically been self reliant in terms of developing needed skills to complete a project, or 'learning on the job'. This reinforced the core identity of being flexible noted above. There was thus a perhaps naïve belief that the group could deal with a wide range of functions from handling enquiries to prototype development. Furthermore the organization believed that in the event of a major order, they could easily key outsource design and manufacturing activities.

...MotionTechnics recognizes that it does not have all the technical skills in-house to complete the design of the system. We have therefore identified the following companies that we intend to engage on a subcontract basis to provide specialist support... (Grant Application, 2010).

Having been recruited from the same research group necessarily limited the availability of such a 'rare skill set' (Tech Lead B, 2010). A view thus emerged that the maintenance of the group's identity was linked to finding individuals with the same identity, history and skills set.

...As the company does grow there will be a difficulty in keeping this ethos. We've got a certain size group... its still very much a small group mentality, were you can chat to someone, can you do that for us etc. And that will be difficult to organize when we get bigger... (Tech Lead C, 2010).

In summary in the early stages, the organization's strategy of developing the core technology for a number of different industrial applications, created an external selective environment which prioritized the exploration of technological boundaries. This in turn created an internal selective environment which acted to reinforce the salience of the founding group identity (Stryker and Burke, 2000) within the organization. For example, the interchangeable roles, and frequent communication between members facilitated the cross fertilization of ideas, stimulating variety and innovation. Formal roles and procedures might be seen to constrain this free movement of thought and ideas. The lack of strategic focus and informal structure acted to maintain the central and distinctive characteristics of the group, and organization. This focus on variety is also seen in the emerging organizational image. As noted above, organizational image refers to how organizational members want external stakeholders to view the organization (Dutton and Dukerich, 1991; Whetten and Mackey, 2002). Early documents (e.g. business plans, marketing material and grant applications) placed a heavy emphasis on the technological innovation and potential of MotionTechnics' inventions and patents. These were frequently described as 'disruptive technologies'. Thus the innovative and game-changing aspect of the firm's technologies is highlighted as being central and distinctive. These company documents also emphasized the academic credentials of the founding team. For instance, the 2008 business plan prioritized key academics above the Founder and members of the board of directors. Similarly, marketing materials at this time

typically focused exclusively on the technical aspects of the firm's technologies, placing little emphasis on targeted industrial sectors.

*Mid-life Identity Crisis [2010-2012]*

External Selective Environment

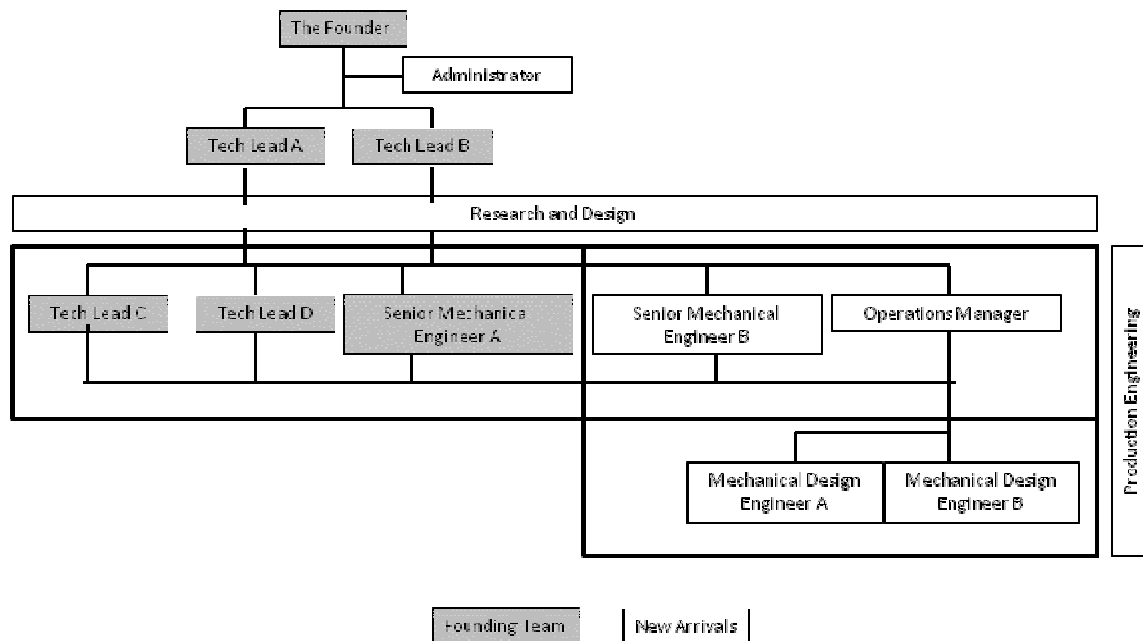
Following the first few years of operation, MotionTechnics managed to develop applications of their technology at a basic engineering level. Potential customers were now keen to see MotionTechnics' technologies proven in the lab, through extensive prototype testing. While the organization continued to explore a wide range of applications, they were now dealing with both R&D departments and increasingly procurement groups. As a result the demands of customers shifted from a pure focus on pushing theoretical technological boundaries, to proving such concepts in the lab. Therefore between 2010 and 2012, the company acquired venture capital funding to develop working prototypes for specific industry applications. As the founding group lacked skills needed to develop these prototypes, MotionTechnics recruited four new members of staff, from outside the university research group. These engineers had design and manufacturing experience across a broad range of industries, which the founder felt matched the broad range of enquires being dealt with.

Internal Selective Environment

While the skills the new recruits brought were clearly needed, the organization continued to be dominated by the founding team. As such the internal selective environment continued to promote the informal processes of the latter. The new recruits were located in the division labeled the Production Engineering team, distinct from the founding Research and Design team (see figure 1). While this emergent structure gave the organization the semblance of formality, the roles and responsibilities of these engineers were both ambiguous and broad. For instance, Mechanical Design Engineer A (who joined in 2010) was expected to fill a very wide range of functions in engineering, procurement and manufacturing. Equally, as noted above these new arrivals were seen to be separate from the core group. For example Tech Lead B described how Mechanical Design Engineer A 'services' the team, and is 'fed' work by the 'core team'. On the one hand, the Production Engineering group was not assimilated into the founding team due to both physical and structural divisions of working spaces and roles respectively. On the other hand, the diversity of backgrounds and ambiguity of roles and responsibilities prevented the newly formed group from developing its own identity. This made it difficult for the new group to achieve legitimacy internally in the organization.



**Figure 1 Organizational Structure of MotionTechnics in 2011**



### Organizational Groups and Identity

As noted above the new arrivals struggled to be assimilated into the organization. In internal communication in 2010, it was recognized that recruiting outside the university research group would result in new arrivals having a ‘different ethos’. Tech Lead B described Mechanical Design Engineer A as an ‘unknown entity’

...The unique culture we have is hard to maintain... Everybody was a known entity... Mechanical Design Engineer A was the first person that was recruited from outside that gene pool... It was a big risk and it always is, taking on somebody external. But on the flip side, we’ve got to be very careful that we don’t suffer from in-breeding, by sticking to the same people... (Tech Lead B, 2010)

The in-group solidarity of the founding team thus acted to constrain the assimilation of the new recruits, which was further exacerbated by physical, with new arrivals located in a spare room on the floor above the founding team.

...those stairs, they might as well have been like a 200 mile road, people didn’t go down there. And the engineering team did start to feel a bit isolated. And started going a little bit cynical. It felt like a little bit of a splinter faction you know... (Operations Manager, 2014)

This failure to assimilate the Production Engineering group resulted in identity conflict with the founding team. Moreover, project failures were increasingly blamed on the Production Engineering team, with Mechanical Design Engineers A and B later being ‘let go’ (Operations Manager, 2014). So, while these new arrivals filled key competence gaps within the organization, they failed to create an identity which had legitimacy. As operational failures mounted, they became an easy target for the more dominant in-group. This finding highlights the importance of group identity as a building block for growth. While MotionTechnics filled competence gaps during this time, a failure to create a legitimate and supporting identity left those new arrivals vulnerable.

*The Rise of the Automotive Application [2012-2014]*

External Selective Environment

Following 2012, while the company continued to explore opportunities in three key markets, the strategic focus shifted decisively towards one application in the automotive industry. Within the founding team there was a realization that previous mistakes were partly attributable to the strategic naivety of the group in the early days, including choices to pursue applications in unprofitable markets (Tech Lead A, 2014). This narrowing of strategic groups was driven by a 'focus on customer needs rather than technological specifics' (The Founder, 2014), and by a drive to further develop this application further towards commercialization. Tech Lead A referred to this as a switch from 'wonder' to 'certainty', or from a changing focus on 'crazy stuff' to 'nuts and bolts'.

...you started off at sort of mission impossible and then you refine that down to being nuts and bolts... Well I guess we are not doing as much of that now, the real wacky stuff... (Tech Lead A, 2014)

The increasing technological readiness shifted the strategic emphasis towards proving the technology, and gaining credibility and legitimacy with key customers, most of whom were the procurement department of major industry players. In contrast to the early years enquiries were now handled by a newly recruited Business Development Manager who came to the organization in the second half to 2012 from the automotive industry.

Internal Selective Environment

Following the problems of 2012, the board structure of MotionTechnics changed with venture capital investors calling for a broadening of membership to include outside executives and non-executive directors with automotive experience. This changing board decided that the organization would invest heavily in the recruitment of new talent to fill key skills gaps within the organization, with 24 qualified and experienced engineers recruited between 2012 and 2014. These new recruits were predominantly from large automotive organizations, and with considerable manufacturing and production experience.

...We needed finance to further production engineer our innovative products to demonstrate their robustness and suitability for series manufacture... The funding meant we could take our proven technology and prepare for production... (The Founder, 2013, Press Release)

These moves marked a clear shift in the internal selective environment. First, decisions were now made by a board with wider external membership, as opposed to the founding team. Second, the renewed focus on developing manufacturing capabilities within MotionTechnics prioritized the creation of a manufacturing division and supporting structure. The days of dominance by the founding group were now over. The dilution of the board membership, MotionTechnics set in motion the conditions for the emergence of a new identity. This new identity would be created from the shared experiences and identities of new arrivals and centering on the automotive sector and manufacturing.

Organizational Groups and Identity

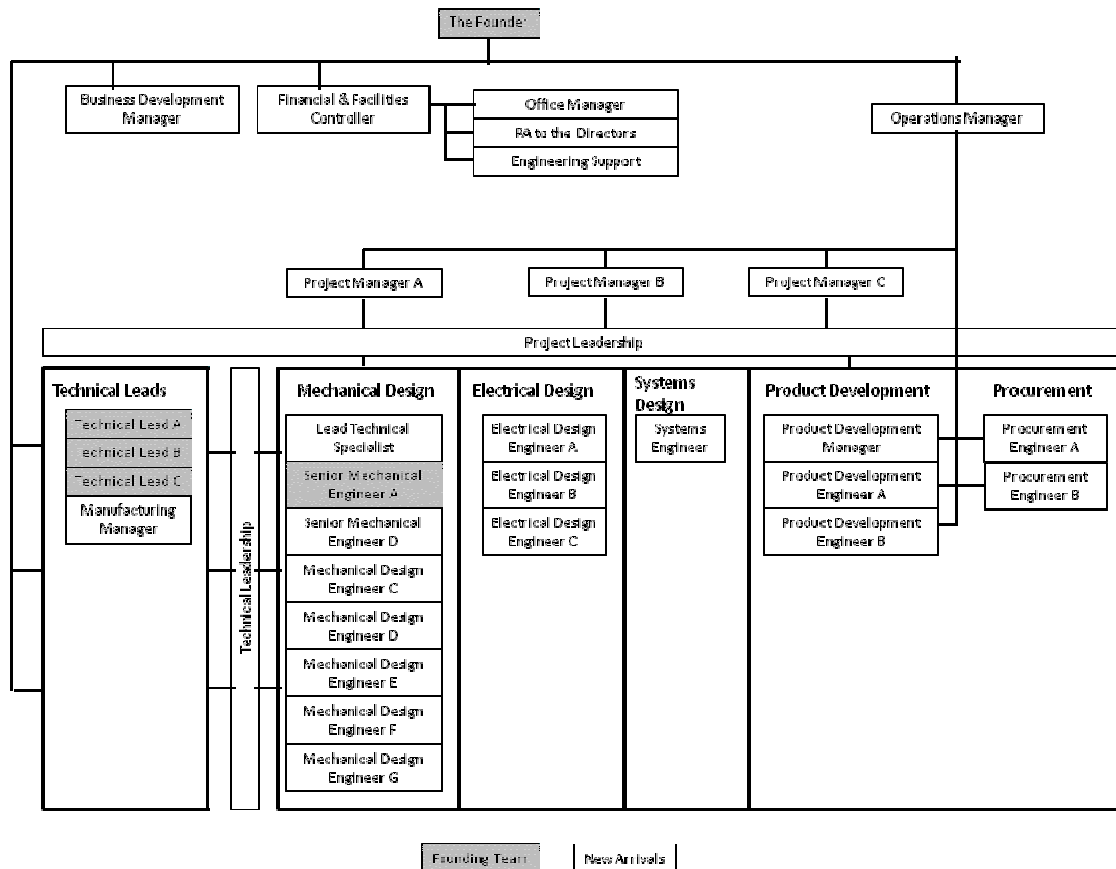
Alongside this new recruitment drive, there was a clear division of responsibilities within MotionTechnics organized through a formal project matrix structure (see figure 2). For example the founding research team would now focus exclusively on fundamental technological development.

...The project managers run everything... So everything is a project at MotionTechnics... everything comes under a project manager... the lead engineers

will give technical leadership but they are not making commercial decisions or any sale... (The Founder, 2013)

All other engineering design and prototype development functions would be carried out by newly recruited, industry-experienced engineers, managed by experienced project managers. As a result, four new divisions were set up, namely Mechanical Design, Electrical Design, Systems Design and Product Development/ Procurement.

**Figure 2 Organizational Structure of MotionTechnics in 2014**



The shifting strategic emphasis towards automotive and manufacturing experience, acted to undermine the legitimacy of the founding team identity, whilst promoting an emerging manufacturing identity within MotionTechnics. As noted above the company focused its recruitment on engineers who had both experience in major automotive organizations, and also ‘hands on’ experience in manufacturing.

...the new engineers that we have taken on are not the same type of engineers that we have employed previously. So they are not you know PhD research engineers anymore, they are time served manufacturing engineers, senior mechanical design engineers, production technicians, project managers, procurement people... (The Founder, 2014)

In so doing, MotionTechnics sought to create an enduring identity linked with the experience of its staff, and stressing connections with established automotive companies. Production, above all, was prioritized through internal and external communication, increasing the

salience of this new Automotive Application identity. For example the Operations Manager stressed the 'hands on' nature of engineers, alongside their manufacturing 'competence' and 'professionalism'. Spearheading the emergence of this new identity was the Product Development Group who was responsible for building and testing prototypes. The Product Development Manager reported directly to the Operations Manager and Founder (see figure 3), bypassing the project management structure, and was described as a "battling and dependable warrior" (Operations Management, 2014).

...it is like the beach scene in Saving Private Ryan sometimes with these guys... (Operations Manager, 2014)

The language used by the new recruits reflected an emerging between group tension. Reflecting the metaphor of 'growing up' noted above, the Production Development Manager referred his group's 'massive role' in the success of the organization (a term also used by the Founder). In this way the previous manufacturing effort of MotionTechnics was described as a 'little workshop' compared to the 'massive' scale and complexity of the new operation. The Product Development Manager also remarked on the incompetence of the 'desk-bound' design group, and the importance of his group within the organizations. He described how the project managers supported him, and how he 'lets' others make decisions for him.

...the lead engineers didn't want much to do with it... They wanted to just do their designing and I had to try and negotiate my skills into the design teams... Because they had designed it but never had to build things... I come from a massive automotive company... So my role is quite massive really compared to others like the design guys, they just design it... (Product Development Manager, 2014)

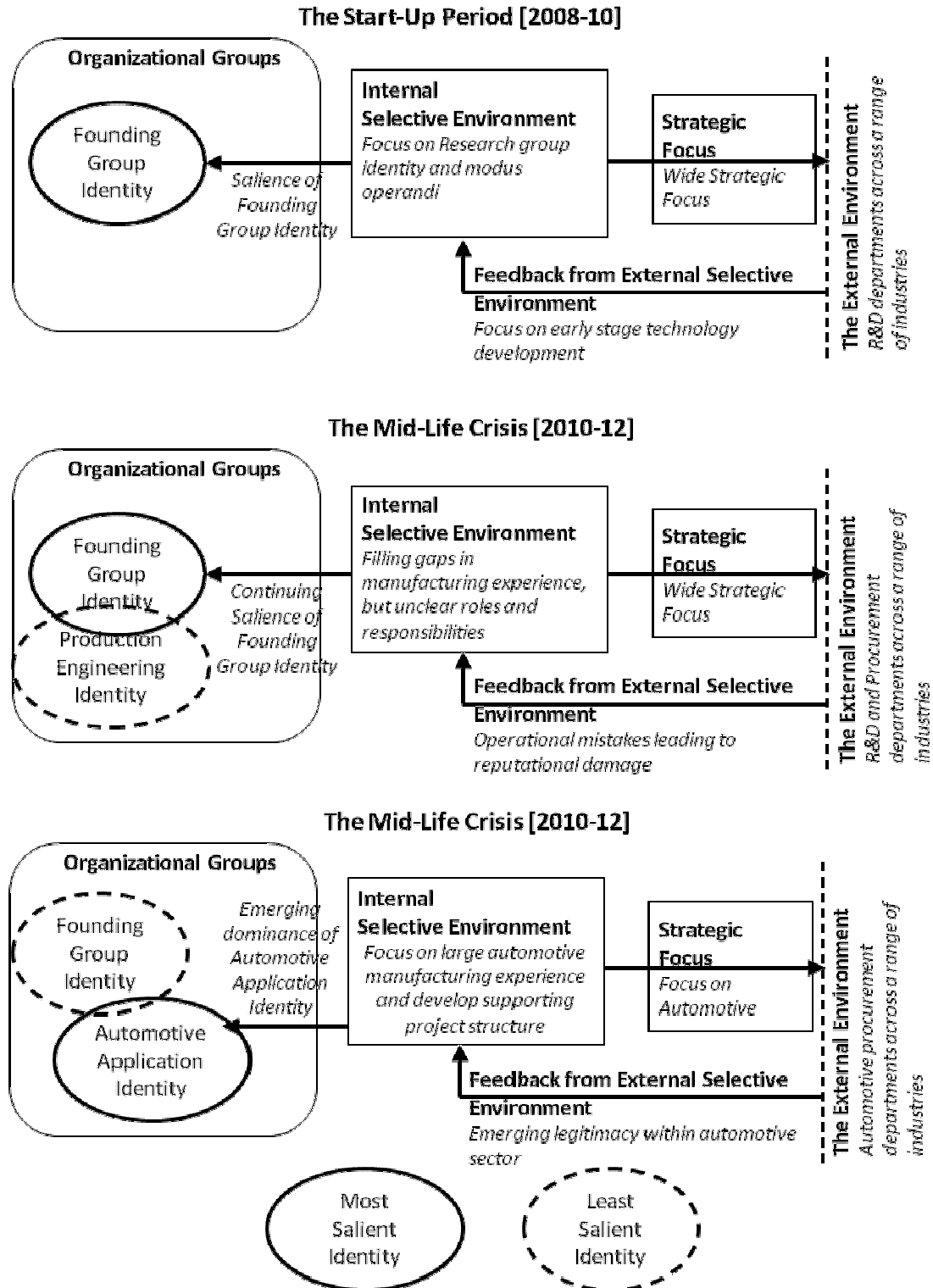
The focus on both the automotive application and technology readiness acted to undermine the cozy fit between the founding identity of MotionTechnics and the expectations of the market. The externally-facing organizational narrative no longer highlighted a range of 'disruptive technologies', but on the robustness and reliability of the chosen automotive application. MotionTechnics was searching for credibility with major automotive organizations, and therefore the central and distinctive feature of the firm was becoming more focused on one product, and its suitability to be integrated into their complex supply chains. This in turn opened up the possibility for new 'better fit' identities to emerge within the organization.

## **Discussion**

Abstracting from the findings given above, the growing organization is conceptualized through multi-level selection processes. Internal selection forces, driven by external selection pressures, acted to change the salience of competing group identities. This processual model can further be illustrated through case of growth at MotionTechnics. In the early stages of growth, MotionTechnics adopted a strategy of pursuing a wide range of opportunities across a number of sectors. The focus here was on early stages of technology development, pushing conventional boundaries of application. As a result, few formal systems and flexible structures were put in place. These choices promoted the characteristics of the founding team identity (see figure 3), which as a result became strongly aligned with the wider organizational image. During the mid-life crisis years (2010-2012), there was growing pressure from various customers to develop the core technology towards industry readiness. In response MotionTechnics recruited staff with much needed skills in manufacturing. However for a number of reasons this fledgling Production Engineering group failed to create a legitimate group identity. At the same time, a lack of supporting formal systems and structures led to key operational and project failures. Given the continuing dominance of the

founding group identity, these failures were blamed on the fledgling Production Engineering group. Following 2012 there was a clear choice to change core aspects of the organization's strategy, structure, systems and skills, in order to address the problems faced in the preceding years. The organization thus focused on developing a working application for the automotive sector, put in place formal systems and project structure, and crucially recruited staff with similar backgrounds in automotive manufacturing. This change was driven by the need to achieve legitimacy through the company's projected image, and on developing relationships with key organizations in the sector (Gioia et al., 2000; Ravasi and Schultz, 2006; Scott and Lane, 2000; Whetten and Mackey, 2002). A new Automotive Application identity emerged which was increasingly aligned with the organizational image being projected externally (Hogg and Terry, 2000). At the same time the founding team identity becoming increasingly sidelined and contained (see figure 3).

**Figure 3 Group-Level Selection and the Changing Salience of Group Identities over Time**



In this account, growth is conceptualized as a struggle between competing and emerging identities within the organization. Management presented a changing narrative to external stakeholders aimed at increasing the legitimacy of the organization (Hogg and Terry, 2000; Zimmerman and Zeitz, 2002), and adapted its strategy, structure, systems and skills to suit. These changes did not alter specific group identities, but instead altered the legitimacy, and with this the salience of competing identities over time. In other words, once formed these group identities did not adapt to changing organizational pressures. This resistance to change is also seen in Drori et al.'s (2009) study of changing identity and legitimacy in a start-up organization. Drori et al. (2009) showed how organizational scripts at start-up became institutionally embedded in the company, and later prevented the adaptation and modification of more appropriate scripts to suit changes in the environment. To further understand this phenomenon one must consider the enduring, central and distinctive characteristics of identity (Albert and Whetten, 1985). Through the quality of endurance identity has longevity, as it is central to an individual's understanding of how they are. As individuals experience a shared history, they become increasingly committed to the group identity (Stryker, 1980; Stryker and Burke, 2000). This commitment acts to defend the group against threats from competing groups, resulting in resilience to change. Second, identity is characterized by the distinctiveness of its beliefs, attitudes, feelings and behaviors with respect to other groups (Terry and Hogg, 2000). As it competes with other groups, this distinctiveness becomes more pronounced, with the group becoming increasingly defined in terms of its difference with competing groups (Terry and Hogg, 2000). In this study, the automotive group described itself as 'massive', 'hand-on' and 'competent', as opposed to the 'small scale' founding group, with their 'wacky', 'seat of their pants' modus operandi. Furthermore in the face of increasing group competition, individual conformance to group prototypes is strengthened (Hogg and Abrams 1988; Hogg and Terry, 2000; Stets and Burke, 2000). Group selection and associated intergroup competition (Richerson and Boyd, 2005; Sober and Wilson, 1998) thus acted to reinforce the enduring, central and distinctive characteristics of group identity. As a result of this commitment and conformance, the individual voice is lost. If individuals are seen as a key vehicle for change within the group, then this source of variation becomes severely restricted through this process. While the identity of the founding group imprinted the practices of MotionTechnics in the early years (Baron et al., 2001), a new and separate identity emerged as the organization grew.

Growth has been conceptualized as a process in which knowledge is acquired and utilized to overcome certain crises in a firm's development (Phelps et al., 2007; Macpherson, 2005; Macpherson and Holt, 2007). Growth thus involves the continual adaptation of the organization to match internal knowledge and competences with changing customer needs (Levie and Lichtenstein, 2008). However, growth is a process in which individual behaviors, beliefs and attitudes assume a collective property within the organization. Understanding how acquired knowledge and competences are assimilated within the collective endeavor therefore becomes of critical importance. Identity defines not only who we are, but the behaviors, practices and levels of motivation (Hogg and Terry, 2000; Nag et al., 2007; Turner et al., 1987) of groups within the organization. Identity shapes the behavior of groups, setting boundaries on accepted modes of practice and crucially informing changes in behavior over time. In this sense competences and associated behavior are subsumed within the group identity. Emerging group identities are instead the building blocks for growth, as opposed to polythetic collections of competences. Identity on the other hand is an essential prerequisite for group membership. The assimilation of newly arriving staff into the organization (Barringer and Jones, 2004; Penrose, 1959) is thus seen here through the lens of emerging group identities. So whilst MotionTechnics acquired needed competences during the mid-life

crisis years, the company failed to create a legitimate supporting identity that could compete and stand alongside the identity of the founding group. The resultant project failures in 2012 represented a key tipping point for MotionTechnics, after which changes occurred in strategic orientation, the formalization of systems and acquisition of key skills and competences (Phelps et al., 2007). Crucially however, new competences were acquired alongside an emerging shared identity. By conceptualizing growth through the emergence and survival of competing identities, new light is shed on the process in which acquired knowledge and competences are assimilated within the growing organization.

If organizations need to acquire and assimilate new knowledge, assets and resources in order to grow, one might question to degree to which the composition of the firm at start-up can be an indicator of future success. It has been suggested that the founding team imprints the organization at birth (Baron et al., 1999; 2001) with key blueprints affecting its subsequent behavior. This view is reflected in Penrose's (1959) famous metaphor of the caterpillar becoming a butterfly. While the two differ in their outwards appearance, they share an identical genetic blueprint. The founding team has a legacy affect in growing businesses, and newly recruited staff need to be assimilated into the organization (Penrose, 1959). The implication here is that new recruits and the knowledge they bring is absorbed into the existing culture, and as a result is transformed in the process. However, recently some have questioned this imprinting effect. As firms grow, their activities and markets served may change (McKelvie and Wiklund, 2010), and as a result resources and competences at start-up may have very little effect on eventual growth (Bamford et al., 2004; McKelvie and Davidsson, 2009). One might therefore ask what is being imprinting at birth, and how does this influence the assimilation of knowledge and competences over time. To what extent are acquired competences affected by those existing at birth?

#### *Implications for Practice*

If one assumes, as seen in this study, that the organizational need to adapt outpaces the ability of identities to change, then growth becomes a process of creating and managing competing identities. Having multiple group identities within the firm can allow an organization to meet a wide range of expectations and demands from internal and external stakeholders (Pratt and Foreman, 2000). However multiple identities can also lead to conflict and associated inaction by the organization. Management should therefore balance competing group identities, to ensure that loyalty to the latter does detract from loyalty to the wider organization (Hogg and Terry, 2000). Pratt and Foreman (2000) put forward a conceptualization of how organizations can manage this multiplicity of group identities. First, firms need to decide how much plurality is needed in order to maintain critical identities and preserve the distinctiveness of those identities (Pratt and Foreman, 2000). Ultimately, the resources available to management will determine how many concurrent identities the firm can maintain. Second, management must also determine how much synergy is needed between competing identities. Where group interdependence is high, so too will be the need for synergy (Pratt and Foreman, 2000). In the case of low synergy and high plurality a strategy of compartmentalization can be adopted.

#### **Conclusion**

As Campbell (1994, p. 23) notes “methodological individualism dominates our neighboring fields of economics, much of sociology, and all of psychology's excursions into organizational theory. This is the dogma that all human social group processes are to be explained by laws of individual behavior – that groups and social organizations have no



ontological reality – that were used, references to organizations, etc. are but convenient summaries of individual behavior”. Growth not only involves recruiting individuals to fill knowledge gaps within the organization, but in creating supporting identities in emerging social structures. These collective structures are the building blocks of organizations as socially cohesive entities. Understanding the evolutionary processes shaping the emergence of group identities is thus key to unpacking processes of change in organizational growth.

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