2000 Award Winner
Howard E. Aldrich's Contributions to Entrepreneurship and Small Business Research[1]

*Hans Landström**

"Professor Aldrich's work has contributed significantly to our understanding of the creation and development of new and small firms, and he represents a role model in demonstrating how a researcher from a scientific core discipline can contribute important insights into the field of entrepreneurship and small business research."

The aim of this essay is to present the research of Howard E. Aldrich, the 2000 FSF-NUTEK Award Winner. Only research within the area of the Award will be presented. The presentation starts off with an introduction to the Winner's career and continues with an overview of the most important research contributions.

Career in Brief

Howard Aldrich is an internationally well-recognized sociologist who became interested in entrepreneurship and introduced a strong theoretical framework into the field. However, the interest in new business creation had been there ever since Aldrich worked on his doctoral dissertation in the 1960s. His PhD thesis *Organizations in a Hostile Environment* was presented in 1969 at the University of Michigan and was based on a panel study of 600 businesses in three American cities. In his thesis Aldrich studied the turbulence and change in the business population, and how this population was affected by the civil disorders in the cities in the late 1960s.

After his PhD, he moved from the University of Michigan to Cornell, which gave him an opportunity to work in a more interdisciplinary environment, and he remained at Cornell until 1982. In 1982 Aldrich moved to the University of North Carolina at Chapel Hill to become Kenan Professor of Sociology. At Chapel Hill he got access to a larger pool of graduate students, with whom he has often worked in collaboration. The focus on entrepreneurship issues emerged in Aldrich's research during the 1980s.

Howard Aldrich's work is characterized by true scientific curiosity and a theoretical strength that is rare in entrepreneurship research. Aldrich has been true to his theoretical framework ever since he started to develop his thoughts around the evolutionary approach, an approach that, for many years, has underpinned most of his research and demonstrated the potential of a strong conceptual framework in the area of entrepreneurship and small business issues. He has proved that it is possible to achieve a far-reaching understanding of entrepreneurship by means of a consistent theoretical language. Based on the evolutionary approach, Howard Aldrich has not only made significant contributions in the area of formation and development of new firms, but also in other sub-topics of entrepreneurship such as the role of ethnicity, networks, and gender in the formation and growth of organizations.

Contributions

Evolutionary modeling exploded during the 1970s, mainly as a result of the open-system revolution in organization theory. Within a short period of time, scholars in different disciplines presented evolutionary theories, inspired by the seminal work of Donald Campbell (1969) to explain phenomena ranging from the micro to the macro levels of organization (Murmann *et al.* 2003). For example, on the individual level, Karl Weick (1979) developed a social psychology theory of how individuals coordinate their actions, which drew on the variation, selection, and retention reasoning developed by Campbell. What Weick did on an individual level, Howard Aldrich (1979) did on an organizational level, when looking at the

[1] This presentation covers Howard E. Aldrich's main contributions to entrepreneurship and small business research until around the year 2000.

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entire organization and how organizations change over time. Aldrich argued that organizations flourish or fail because they are more or less suited to the particular environment in which they operate.

In the area of industry development, Michael Hannan and John Freeman (1977; 1984) also used a selection-based explanation in their work on the population ecology of organizations, in which they emphasized the founding and closure of organizations in populations relative to the distribution of available environmental resources. On the macro level, Richard Nelson and Sidney Winter (1982) were pioneers in the application of evolutionary models of economic change. However, Nelson and Winter were less inspired by Donald Campbell. Their explanations were more influenced by the Carnegie School of routine-based models of organizational action (Herbert Simon, James March, and Richard Cyert) as well as by Joseph Schumpeter who, in the middle of the century, was a prominent exponent of the idea that economic change could be conceptualized as an evolutionary process, despite rejecting Darwinian evolutionary reasoning.

It is within this tradition that Howard Aldrich builds his reasoning, and it is interesting to note the consistency of his research – even if the topics have changed, the evolutionary approach has continued to constitute the basis.

Organizations Evolving (1999) – Toward an Evolutionary Approach

The book *Organizations Evolving* published in 1999 can in many ways be regarded as a framework in which Howard Aldrich chose to position the evolutionary approach in relation to the population ecology approach, whose proponents include Glenn Carroll and Michael Hannan. Briefly, the population ecology approach concerns, "the skeleton" in a population of companies – the structure – it deals with the "births" and "deaths" of firms, which makes it possible to calculate a survival curve within a population of companies. It is assumed that population growth is rapid at first and proceeds exponentially, but will then decrease, thus forming an S-shaped curve. Population ecology research has produced several sets of strong empirical results, which have been successfully replicated across industries and countries. The strength is that is it possible to calculate, by means of relatively simple parameters, how many companies there are in a specific line of business and the composition in terms of size and age as well as being able to explain the trends in a particular line.

Howard Aldrich's evolutionary approach is developing in a different direction – it is more a question of the "flesh and blood" of the system. Aldrich attempts to explain why the structure emerges in the first place and why the development takes place. The point of departure in Aldrich's reasoning is the evolutionary process (developed by Donald Campbell in the 1960s). Four generic processes, which are necessary for and which allow evolution, form the point of departure in Aldrich's framework:

- Variation, i.e., a change in current routines, competencies or organizational forms must occur, which can result from deliberate attempts to generate alternatives, or from blind variations generated by chance, mistakes or curiosity.
- Selection – some variations are then selected, while others are rejected, a selection that arises based on market forces, competitive pressure or within-organization selection forces (e.g. pressure to achieve stability and homogeneity in the organization, and the persistence of previous selection criteria that are no longer relevant in a new environment).
- Retention – the positively selected variation must be retained, preserved, duplicated or reproduced through, for example, a specialization and standardization of roles within the organization or through an institutionalization of practices, cultural beliefs and values – otherwise there will be no organizational continuity or memory.
- The struggle of competing organizations to obtain scarce resources. Organizations are not passive entities and they may have to struggle for time, legitimacy, capital, etc.

The book consists of five sections. In the first three chapters Aldrich introduces his evolutionary approach and also summarizes the contributions that a multi-disciplinary framework can make in increasing the understanding of the evolutionary approach, including institutional theory, population ecology, the interpretative approach, research in organizational learning, resource dependence, and transaction cost economies. In the remainder of the book, Aldrich examines the evolutionary processes at different levels of analysis, whereby he creates a linkage between micro- and macro processes.

Chapters 4 to 6 use an organization level of analysis and concern the process by which organizations are created and achieve coherence as entities. These chapters provide a rich description of the role of individuals and groups in the organizational founding process. Aldrich argues that the vast majority of entrepreneurs could be regarded as reproducers rather than starting innovative organizations. Truly innovative start-ups are often the result of creative experimentation with new ideas by outsiders, whereas previous work experience and network ties seem to hinder entrepreneurs within the population from creating radical breakthroughs.

Chapters 7 and 8 take the existence of organizations as given and examine the transformation of organizations over time, as well as discussing how change occurs in three dimensions: goals, boundaries, and activities.

Chapters 9 and 10 focus on the population level of analysis and explore how new populations emerge. They include an interesting discussion about the problems of legitimacy that new entrepreneurs face when starting new populations of firms (a discussion based on Aldrich and Fiol 1994). Chapter 10 includes a discussion about how entrepreneurial intentions and access to resources affect organizational founding and failure (based on Aldrich and Wiedenmayer 1993).

Chapter 11 involves the community level, and in this chapter Aldrich discusses how entrepreneurship and relations between populations affect the dynamics of communities. For example, discontinuities of existing populations and communities caused by technical and regulatory innovations that are exploited by entrepreneurs, resulting in the extinction of some populations or the emergence of new ones.

In the final chapter (chapter 12) Aldrich highlights some issues for further research using the evolutionary approach. Aldrich emphasizes the need for paying greater attention to issues of emergence at different levels of analysis, and especially within three areas of research: the role of nascent entrepreneurs, resource management practices of emerging organizations, and the importance of collective actions by individuals and organizations in emerging industries.

Throughout the book Aldrich highlights the importance of new organizations as a source of variation in society.

An Evolutionary Approach to Business Formation

In a number of articles, Howard Aldrich uses the evolutionary approach to understand the set of problems associated with business formation – all of which are frequently cited by entrepreneurship scholars. Below is a summary of some of these articles.

From Traits to Rates: An Ecological Perspective on Organizational Foundings

For many years entrepreneurship research was absorbed by the question: "Why do some people become entrepreneurs, while most people do not?" Many scholars argued that there must be something distinctive about the backgrounds or personalities of entrepreneurs. Aldrich and Wiedenmayer (1993; see also Aldrich 1990) present a complementary approach (the "rate" approach) based on evolutionary reasoning. In contrast to the "trait" approach, which implies a micro-level analysis, the rate approach involves a macro-evolutionary focus, and Aldrich and Wiedenmayer concentrated their reasoning on the founding rates at the population level, i.e., examining conditions that affect the rate at which organizations are added to an existing population. They find that he founding of new organizations and the closure of existing ones depends on:

– Intra-population processes (prior foundings, closures, density of firms, and factors associated with density), and that the environmental resources (the environment's carrying capacity) set the limit on population density. At the beginning, when density is low and there are adequate environmental resources for exploitation, the founding rate is high and closure rates are low. When a high density has been achieved, the situation is reversed, which leads to fewer net additions.

– Inter-population processes, including the nature of the relations between populations. For example, competitive relations between populations may depress founding rates, whereas other inter-population relations may facilitate foundings in other populations (e.g., car manufacturers create a supply industry).

– Societal-level factors, such as cultural norms, government policies and political events.

Aldrich and Wiedenmayer argue that previous deaths within the population may affect founding rates in two ways: (i) resources are often tied up by existing organizations, indicating that new firms will only obtain access to them when deaths occur and (ii) potential founders may be frightened by high death rates. However, the importance of previous deaths may differ depending on the population's position in the life cycle. For example, in the early growth stage, deaths will have a lesser impact on the availability of resources, whereas in later stages, when the carrying capacity is reached, deaths may be important for freeing resources for new ventures – in this situation previous deaths may have contradictory effects; on the one hand, freeing resources for new ventures, while on the other, sending negative signals to entrepreneurs of the likelihood of failure for new ventures.

In a similar way, previous foundings may have two possible effects on the subsequent founding of new ventures: (i) high levels of foundings may signal to potential entrepreneurs that opportunities are growing within a population, and (ii) that resources and the pool of potential entrepreneurs will soon be exhausted, leading to diminishing returns.

In addition, we can assume that when organizational density increases, there will be a rise in legitimacy and institutionalization – spreading the knowledge and skills required to achieve a viable organization – which may lead to an increase in foundings. At a later stage, with high levels of density, factors inhibiting foundings become dominant, such as increased concentration, smaller potential gains and diminishing returns. These processes have led to the conclusion that there will be an inverse U-shaped pattern between organizational density and the rate of foundings (Hannan 1986).

Even Dwarfs Started Small: Liabilities of Age and Size and their Strategic Implications

Within a population there are processes of metamorphosis that transform the composition of whole populations of organizations so that they become better suited to their environment. This metamorphosis is affected by the age and size of the firms. Aldrich and Ellen Auster (1986) argue that large, aging organizations face a number of constraints which limit their ability to adapt to changing conditions, but new organizations and especially small ones also face problems, albeit of a different kind.

The *liability of aging* facing old and large organizations can be summarized by a couple of internal conditions that inhibit adaptability to change, such as: (i) retention of control by the original founders or members of their families, (ii) pressure for internal consistency as a basis for coordination and control, (iii) a hardening of vested interests where suggestions pertaining to change may be viewed primarily as mechanisms to gain power, and finally (iv) increased forces to induce a homogeneity of perception within the organization, for example, through recruitment and socialization of new members. But there are also external conditions facing larger and older organizations that create resistance to change, such as inter-organizational arrangements, which may become a stabilizing force. However, different entry barriers (scale economies and product differentiation) will also exert less pressure for change on the aging organization. Thus, large and aging organizations face a number of constraints that limit their prospects for adaptation – liabilities of aging.

However, small and new organizations often experience a liability of newness. Even if the organizational population is growing at an aggregate level, there is underlying population volatility – organizations die and are replaced by other organizations. What are the obstacles that hinder the survival of new organizations? Aldrich and Auster identified external as well as internal liabilities of newness. Externally, new organizations face many barriers that make movement into a new domain difficult, notably lack of legitimacy and fierce competition from established organizations, brand recognition and market acceptance of established products endanger the survival of new organizations. But new organizations also face internal liabilities of newness, which mainly concern the creation and classification of roles and structures consistent with external constraints and the ability to attract qualified employees.

In addition, many young organizations face the *liability of smallness*, which is an effect of size. Empirical results indicate that small size affects survival. Factors that make survival problematic for small organizations – regardless of age – may be related to the problem of raising capital and the administrative burden of handling government regulations, in addition to which, small organizations face major disadvantages when competing for labor.

The conclusion is that older and larger organizations as well as younger and smaller ones face a number of constraints. For older organizations it is a problem of strategic transformation whereas young and small organizations experience a problem of survival. And there seems to be some form of symmetry in these constraints in that the obstacles faced by new and small firms can be easily overcome by larger, more established organizations and vice versa. In order to survive, newer and smaller organizations need to become closely linked to large organizations, for example through franchising, long-term contracts, and mergers and acquisitions. It is through such strong ties that smaller and newer organizations can gain access to resources that are not otherwise available. Paradoxically, older and larger organizations will reduce their liability of aging by forming loosely coupled arrangements with young and small organizations. This may take the form of emulating younger organizations, i.e., by imitating them through internal restructuring in order to create conditions that generate and facilitate innovation and risk-taking, or by exploiting the smaller organization through boundary-crossing strategies – contracting arrangements which exploit the flexibility and dynamism of younger organizations, while keeping them at arms length.

Early Ventures in New Industries

Small and new organizations always seem to experience a *liability of newness*. However, such pressures are especially severe when an industry is in its formative years – when entrepreneurs have few precedents for the kind of activities they want to engage in. In another well cited article "Fools Rush In? The Institutional Context of Industry Creation" (1994), Aldrich and Marlene Fiol discuss the challenges faced by early ventures in the formative years of a new industry compared to those that enter into a mature industry. One of the most critical problems facing innovative entrepreneurs is their lack of legitimacy, and the authors conclude that founders of new activities lack the familiarity and credibility that constitute the basis for interaction.

As an industry develops, the organizations within the industry increase their *cognitive legitimation*, i.e., the diffusion of knowledge about the new activity and what is needed to succeed in the industry, as well as their *socio-political legitimation*. The latter concerns the value attributed on an activity by cultural norms and political authorities. Different strategies may be used by emerging organizations to promote the development of a new industry. Aldrich and Fiol propose four levels of social context – organizational, intra-industry, inter-industry and institutional – in which entrepreneurs can gradually develop trust, reliability, reputation, and finally institutional legitimacy.

Entrepreneurs in emerging industries have to interact with extremely skeptical external resource holders (suppliers, creditors, customers, etc.), and the entrepreneurs need strategies for building trust, but this initial trust-building cannot be based on objective evidence. Instead, innovative entrepreneurs must concentrate on framing the unknown in a credible way, and one strategy for achieving this is to simplify, symbolize or give ritual expression, i.e. conventional coding, to the issues in question or, alternatively, the entrepreneur can "act as if" the activity were already a reality (Gartner *et al.* 1992). In addition, due to attacks from "conventional" industries, innovative entrepreneurs in emerging industries may need institutional support (socio-political approval), and entrepreneurs must build a knowledge base that outsiders accept as valid. The lack of externally valid arguments makes alternative forms of communication necessary, for example through narratives – to make a case showing that the new ventures are comparable with more established activities

Once innovative entrepreneurs have developed a basis for understanding and trust at the organizational level, they must find strategies for interacting with other organizations in their emerging industry. The lack of convergence on dominant standards (designs) within the new industry limits the perceived reliability and increases confusion about what standards should be followed. Such convergence is facilitated if new ventures choose to imitate and borrow from pioneers rather than introducing innovations of their own. In this way knowledge of new activities will spread, thus adding to the convergence on a dominant standard. Furthermore, even if collective action is difficult in the early stages of industry development, it is important to find avenues for collaborative actions within an industry to achieve socio-political approval.

The relation between industries – inter-industry processes – affects the distribution of resources. Firmly established industries that feel threatened by a new rival industry are sometimes able to change the terms on which resources are made available to emerging industries, for example by questioning their efficacy or their conformity with the established order. Therefore, entrepreneurs in emerging industries must build a reputation for the new industry that conveys the idea that it is already a reality – something that is to be taken for granted. This process can be facilitated by inter-firm linkages such as trade associations, and on the socio-political level by reliable relationships with other, more established industries.

Finally, institutional conditions may constrain the growth rate of the industry by affecting the diffusion of knowledge about the new activities and the extent to which the activities are publicly tolerated. At this level, entrepreneurs are no longer working as isolated individuals, but using industry councils, cooperative alliances and trade associations as vehicles for collective action in order to achieve institutional legitimacy. In emerging industries there is a need to raise the level of cognitive legitimacy – mass media may be unfamiliar with the industry, and their reporting may be inaccurate, while the lack of a general understanding about the emerging industry also makes it difficult to recruit and retain employees. This understanding may be facilitated by institutionalized diffusion of knowledge, for example through established educational institutions, but also through collective marketing and lobbying efforts that will gain socio-political approval.

Ethnicity and Entrepreneurship

Howard Aldrich's interest in ethnicity and entrepreneurship goes back to his thesis from the 1960s. But it was during the late 1970s and early 1980s when Aldrich began to work with David McEvoy, Trevor Jones and John Cater in the UK that this research issue became more pronounced. Some of the results from this research were presented in the book *Ethnic Entrepreneurs* (1990), edited by Aldrich, Roger Waldinger and Robin Ward. The book summarizes much of the knowledge within the area at that point in time.

But Howard Aldrich has also published several articles on the issue of ethnic differences in entrepreneurship. In Aldrich and Waldinger (1990) and Waldinger. Aldrich and Ward (1990b) synthesize large part of their research on ethnicity and entrepreneurship using a framework based on three dimensions: an ethnic group's access to opportunities, the characteristics of a group, and emergent strategies in ethnic firms.

Opportunity Structures

According to Aldrich *et al.* ethnic firms have become more and more heterogeneous and are faced with many different *market conditions*. However, there is one dominant assumption – formulated by Light (1972) as the "protected market hypothesis" – that the initial market for ethnic entrepreneurs typically arises within the ethnic community itself. Thus, if ethnic communities have special needs and preferences, they will best be identified and served by those who know them intimately – namely by the members of the immigrant community itself. Producers who quickly find a niche in the immigrant community are therefore purveyors of culinary products but also "cultural products" like newspapers, books, and clothes, i.e., products with a direct connection with the immigrant's homeland and based on the knowledge of tastes and buying preferences (Aldrich *et al.* 1985). However, if ethnic firms confine themselves to the ethnic market, their potential growth is severely restricted due to limitations in market size and buying power. This may not always be the case – many ethnic firms find access to customers beyond the ethnic community – and there seem to be certain circumstances under which small ethnic firms can grow in the open market, for example: (i) markets that are underserved or abandoned by large mass-marketing organizations, such as the core areas of urban centers that are abandoned by the large food retailers, (ii) markets where economies of scale are small, (iii) markets affected by instability or uncertainty, in which industries may be segmented into one branch dominated by larger firms, handling staple products, and another composed of small-scale firms catering to fluctuating patterns of demand, and (iv) market for exotic goods.

Given the existence of a market, the potential ethnic entrepreneur still needs *access to ownership* opportunities, which is to a large extent dependent on the number of vacant business-ownership positions and government policies toward immigrants. The likelihood of ethnic entrepreneurs starting a new venture is greatly affected by the level and nature of interethnic competition for jobs and business opportunities. For example, it has been shown that when competition is high, ethnic groups tend to be concentrated in a limited range of industries and, at very high levels of competition, they may be forced out of more lucrative businesses and even pushed out of business altogether. However, residential segregation appears to reduce interethnic competition for business vacancies. In addition, access to ownership is also affected by government policies affecting the ease and terms on which immigrants can start their own business. In most societies, immigrants are free to settle wherever they want – where job opportunities are best – although government often attempts to influence where immigrants settle. Moreover, western societies also maintain policies that impede ethnic business development, for example through "trade licenses" and "residence permits".

Group Characteristics

Why do some ethnic groups start more new ventures than other groups? Historically, considerable disparities in self-employment among various immigrant populations have occurred. For example, US Jews have been far more successful in business than the Irish, and Italians have achieved higher rates of self-employment than the Poles. These differences between ethnic groups can probably be explained based on the complex interaction between conditions such as pre-migration characteristics, the circumstances under which integration took place, the group's subsequent evolution, and post-migration characteristics (Waldinger, Aldrich and Ward 1990b). Pre-migration characteristics are individual's skills and experience that can be useful for business success. This predisposition could be based on the selective nature of migration, which means that individuals who migrate tend to have more education, business experience and capital. For example, at the beginning of the 20th century, Russian Jews immigrating to the US had prior experience of tailoring, a high level of literacy and a historical orientation toward trading, and they moved rapidly into entrepreneurial positions in the garment industry.

The circumstances of migration also influence the conditions under which the immigrants move. For example, individuals arriving as temporary immigrants – with the intention of returning to the home country – are mainly concerned with the accumulation of capital and not with the attainment of social mobility in the societies to which they have migrated. Finally, resource mobilization, which concerns the ethnic social structures such as the network of kinship and friendship around which ethnic communities are built, constitutes a central source of resources, out of which ethnic entrepreneurship may arise. However, a strong family structure may not be sufficient or necessary for ethnic entrepreneurs' success. For example, Zimmer and Aldrich (1987) found few differences between South Asian and white shopkeepers in their use of family labor. Finally, the post-migration characteristics reflect the immigrant group's position in the economy; certain environments are more supportive of self-employment than others. For example, immigrant groups concentrated in industries where small firms are the prevailing form will have access to better information about business opportunities and opportunities to acquire relevant skills than immigrant groups concentrated in large scale industries.

Ethnic Strategies

The concept of strategy reflects the positioning of oneself in relation to others in order to accomplish one's goals and involves both the opportunity structure within which ethnic business operates, and the characteristics of the ethnic group. Ethnic entrepreneurs need distinctive strategies in order to exploit distinctive socio-cultural resources and to compensate for the typical background deficits of their group in respect of wealth, political power, etc. In their study of seven groups of minority entrepreneurs in Britain, France, the US, West Germany and the Netherlands, Aldrich and Waldinger (1990) concluded that what was most remarkable was not the differences among ethnic groups in their formation of new firms but how similar their strategies were. Information is typically obtained through the owners' personal networks as well as various ties specifically linked to their ethnic communities. Training and skills are acquired on the job, often while the individual is an employee in a co-ethnic or family member's business. And family and co-ethnic labor are critical to most small ethnic businesses (Waldinger, Aldrich and Ward 1990b).

Networks and the Entrepreneurial Process

Entrepreneurs are embedded in a social context and must establish connections to resources within their social networks. The importance of the social network for the entrepreneurial process is a central theme within entrepreneurship research. Howard Aldrich took an early interest in this issue, not least in the book chapter co-authored with Cathrine Zimmer in 1986, which is one of the most widely cited pieces regarding the role of networks in business formation.

The Characteristics of Entrepreneurial Social Networks

In the evolutionary process (variation, selection, retention and struggle) there will be a struggle for resources and opportunities. Sometimes resources will be abundant, and a high proportion of entrepreneurs will be successful in attracting resources, whereas in other situations, especially in evolving industries, resources become scarcer and competition increases, leading to a higher mortality rate and a decline in the population. In order to attract the resources needed, entrepreneurs may use their social networks. The network approach could be applied to the study of entrepreneurship in several different ways: Aldrich and Zimmer (1986) discuss four different applications:

1. Social forces that increase the density of networks. The likelihood of entrepreneurial success will increase in situations where conditions increase the salience of group boundaries and identity, leading to a greater density in the network.

2. "Brokers" who promote access in social networks. In order to reduce transaction costs, brokers such as trade associations, technical experts and management consultants, who facilitate the interests of individuals not directly connected to one another, will have central positions in networks.

3. The diversity of the network that increases the production of entrepreneurs. Based on Granovetter's (1973) reasoning, which links the type of ties (weak and strong ties) to the scope of opportunities available to the individual, it follows that entrepreneurs are more likely to be found in positions whose centrality is high and which are connected to many diverse sources of information. Entrepreneurs activate their weak ties in order to gain access to business information (e.g., new business locations, potential markets, potential investors, etc.) and also to attract customers.

4. Social resources embedded in the entrepreneurs' network. In combination with the reasoning of strong and weak ties it can be argued that not all weak ties are equally useful for acquiring social resources. In this respect, weak ties to contacts with a leading position in the social hierarchy will provide the greatest access to social resources. Accordingly, we will find successful entrepreneurs with weak ties to individuals who are well placed to provide timely and accurate information as well as to people with different kinds of resources.

Elaborating on the social networks of entrepreneurs, Dubini and Aldrich (1991) distinguish between "personal networks" (centered on a focal individual) and "extended networks" (focussing on collectives). A *personal network* consists of all those individuals with whom an entrepreneur has direct relations, including partners, suppliers, customers, bankers and family members. "Networking" as a verb is often seen as something apart from ordinary business behavior – based on pure market-mediated transactions, one-of-a-kind and non-sustaining transactions between people who do not expect to see each other again – a transaction form that includes opportunism potential, especially under conditions of uncertainty and when problems occur, as the other party may simply exit the situation. In contrast, networking refers to situations where both parties expect to see each other frequently and where they invest in long-term relations. The benefits may be an increase in trust and predictability as a result of the establishment of long-term relations – and while the uncertainty of a situation is not reduced the other party's reactions to a situation are more predictable. Equally, the individuals concerned are more likely to use "voice", i.e., making their complaints known and negotiating over them. Thus, networking with one's direct ties is a way of overcoming some of the liabilities inherent in purely market-like transactions with other parties.

Extended networks are the collective result when interconnected personal networks are examined. The shift from personal networks, with a focus on direct ties, to extended networks, including indirect ties to individuals and organizations with whom there is no form of direct contact, may enable entrepreneurs and firms to substantially increase their access to information and resources compared to what may be available through their direct ties. Initially in a business process the firm does not exist, and the entrepreneur as an individual will gather the necessary resources, but when the first exchange takes place, the focus may shift from the entrepreneur to the company itself. The use of extended network concepts applied to firms as opposed to individuals enables Aldrich *et al.* to study organizations that otherwise would not have been taken into consideration. Thus, extended networks are associated with organizations, whereas informal personal networks are associated with individuals. Using the "personal network" and "extended network" concepts, two general principles linking network behavior and entrepreneurial success were formulated:

– Effective entrepreneurs are more likely to systematically plan and monitor network activities. They are able to chart their network and discriminate between productive and symbolic ties, they regard networks as crucial for the success of their firm, and they are able to stabilize and maintain networks in order to increase their effectiveness.

– Effective entrepreneurs are more likely to undertake actions to increase the density and diversity of their network. They set aside time for purely "random" activities (i.e., with no specific problem in mind) and are able to check their network density in order to avoid too many overlaps that may affect network efficiency.

The Impact of Social Networks on Business Start-ups and Performance

It can thus be expected that an extensive social network rich in resources is important for the entrepreneur's start-up opportunities but also for the success of an already established company. However, knowledge of this relationship is scant. In a longitudinal panel study of 165 prospective and active entrepreneurs in the Research Triangle Area of North Carolina, Howard Aldrich and his colleagues collected data on two occasions. The first study was conducted in February 1986 and the follow-up study was performed in December 1986, which means that the entrepreneurs were followed during a nine-month period. A similar panel study was conducted in 1990 with a follow-up two years later based on the firms that participated in 1990. In all, 281 responses were included in this second study.

Based on the data collection in 1986, Aldrich, Rosen and Woodward (1987) found some general characteristics. As expected, the results showed that network variables had a significant impact on business formation and profitability in newly formed companies. Three variables seemed to be of particular importance for the founding of businesses: business founders reported a higher than average number of contacts per week with core network members, they spent more time developing contacts and had networks that were more closely linked than individuals who did not start businesses. For newly founded businesses (three years old or less), the study indicated that entrepreneurs who maintain high levels of contact with networks, whose members are inter-connected, are more likely to be profitable. However, some unexpected findings also emerged. It was found that successful entrepreneurs had networks with diverse resources and that diversity was greater when network members were not tightly linked. The reverse was found: only 48 percent of the entrepreneurs who had networks with higher proportions of weak ties made a profit compared to 80 percent of those entrepreneurs with strong tie networks.

The conclusion seems to be that social networks allow founding entrepreneurs to expand their range of action and gain access to resources and opportunities that would not otherwise be available. In Aldrich and Reese (1993; see also Reese and Aldrich 1995), a question based on the second panel study from 1990 to 1992 was to see if networks are equally important in ongoing businesses. They found no evidence that networking activities (measured as the size of an entrepreneur's personal network and time spent on developing and maintaining business contacts) affect business survival and performance.

The data from the Research Triangle Area of North Carolina was also used for an international comparison, reported in Aldrich and Sakano (1998), of the make up of personal networks in five countries: Italy, Japan, Northern Ireland, Sweden and the US. The comparisons were based on two different models of how the entrepreneurs' networks are formed:

– Embeddedness model – networks are products of strong ties and long-lasting relationships. The assumption is that the social relationships of entrepreneurs resemble those of other people, with a core of close personal contacts built on ties of reciprocal interdependence and a periphery of weaker ties assembled on a more haphazard basis. For entrepreneurs, strong ties and close friendships can provide the social support needed to weather crises and hardships.

– Instrumental model – networks are pragmatic, instrumental tools consisting of weak ties of a short duration. The assumption is that entrepreneurs have different kinds of social relationships than other people, with a core of weak ties assembled on a pragmatic basis while they pick members of their inner circle on an instrumental basis. In this case entrepreneurs may well segregate their relationships into business and non-business, with a special group of people selected as business advisors – on the basis of their expertise rather than social similarities to the entrepreneur.

Entrepreneurs' personal networks seem to be rather similar in all five countries. The networks are composed of four major groupings: a small group of family members where very few have a business relationship with the entrepreneur, a large group of business associates who are defined in strictly business terms, a smaller group of business associates who are also regarded as "friends", and finally a group who are strictly defined as "friends" without an apparent business tie to the entrepreneur. Little support was found for the instrumental model of personal networking. Entrepreneurship is associated with uncertainty, and strong ties of intimate friendship with people they have known for many years provide the social support needed for the development of the company. In accordance with the embeddedness model, entrepreneurs seek people they can trust, although trustworthiness is not always easy to recognize.

Women Entrepreneurs

Over the past thirty years the number of businesses owned by women has grown rapidly, and the number of female owned firms has also increased in Europe, although the proportion of firms is not as high as in the US. Howard Aldrich has examined the role of gender in the business formation process in several studies. Networks are also a central feature in his reasoning in these studies.

Baker, Aldrich and Liou (1997) review earlier findings regarding differences between women and men's business practices. Few systematic differences were identified in earlier research. The strongest differences involve demographics rather than style. Women's businesses tend to be smaller and are more likely to be in retail or service industries. As owners, women tend to have less experience in their firm's industry and as managers they are more likely to start businesses to gain flexibility. However, psychologically and demographically, women entrepreneurs are more similar than different from men. The results are not surprising. In a market based perspective all entrepreneurs, men and women alike, operate in a business environment structured by laws, standard practices, a set of institutional contingencies to which owners have to adapt if their businesses are to survive.

On the other hand, there is extensive research on gender roles providing arguments that even though men and women operate under the same institutional and economic rules, the business world is largely constructed and dominated by men. This makes it reasonable to believe that women and men belong to different types of networks that influence their entrepreneurship (Aldrich 1989; Aldrich *et al.* 1989; Baker *et al.* 1997). First, there is overwhelming evidence that gender has a major impact on the choice of career in terms of occupation and the level of authority in a firm. It is during these formative years as an employee that the future entrepreneur accumulates experience and becomes embedded in networks that can subsequently be drawn upon when starting their own business. Women may be at a disadvantage when it comes to building a personal and social network (Aldrich 1989; Aldrich *et al.* 1989). Second, most women entrepreneurs have to balance family and work responsibilities in a way that men do not. The critical period for entrepreneurs is around the age of 30, when they accumulate resources and networks that might be important for the establishment of their business. However, during these years women are disadvantaged – their networks are mainly constructed around their husbands' business associates instead of their own. Finally, women entrepreneurs often lack full access to informal networks, such as work-related after-hours socializing and voluntary association activities. Thus, key life events connected to work, marriage, family and organized social life could be expected to have substantial effects on the social networks of women entrepreneurs and make an important difference in terms of the possibility of running their own business compared to the situation of men.

Based on the two longitudinal panel studies in the Research Triangle Area of North Carolina carried out in 1986 and 1990–92, Howard Aldrich and his colleagues presented some interesting findings. First, in Aldrich and Sakano (1995) it was shown that men do not include women in their network of business advisors (strong-tie network) – women made up only 10 percent of the advisor networks of male business owners – a fact that may indicate women's position in the existing distribution of economic resources and power in society. In contrast, there were a higher proportion of cross-sex ties among female networks. Thus, men were mainly involved in same-sex networks, whereas women were involved in mainly cross-sex networks. Second, Aldrich, Elam and Reese (1997) examined entrepreneurs' networking activities in their search for legal and financial assistance, business loans, and expert assistance for their businesses. It was found that:

• women were as active as men in networking activities (except for legal assistance),

• men and women used similar channels (i.e., friends and business associates) to locate people who could help them,

• pre-existing ties were the main channel of resource acquisition for both men and women, and

• the quality of the assistance obtained via the network favored women; women paid slightly less than market rates for legal and loan assistance, although they receive the same quality of advice as men.

Thus, the results indicate that women's networking – in pattern and outcome – did not differ from men's networking in any major respect – which stands in contrast to what could be expected based on research on sex and gender roles. In conclusion, as reported in Aldrich and Sakano (1995), there is evidence of a sex bias in the composition of women's networks, but not in how they use them.

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