

# **Firm Survival: Adding Transferred Demand into the Equation**

*Colin Jones*

*School of Management, University of Tasmania*

## **ABSTRACT**

This paper is concerned with the development of a consistent evolutionary account of small firm survival. Set against the background of the Hobart Pizza industry, a novel explanation of firm survival is presented that derives its logic from established evolutionary concepts that are rarely, if ever applied to the domain of organizational studies. This paper has two specific aims. Firstly, it introduces a new explanation of firm survival that has potential application in other franchised dominated contexts. Secondly, it is a protest against the lack of consistency demonstrated in developing an evolutionary approach to the study of entrepreneurship thus far.

## **INTRODUCTION**

Despite genuine attempts to develop more contingent theories of population change that incorporate adaptationist and selectionist accounts, little evidence of a united framework has emerged to date. While this current diversity of opinion may contribute to the eventual quality of knowledge development (Singh, 1993), it nevertheless appears to be a debate that continually fails to incorporate essential evolutionary concepts. This paper attempts to introduce the neglected (and essential) evolutionary processes of niche construction (Olding-Smee, Laland and Feldman, 2003) and mutual aid (Kropotkin, 1972) into this ongoing debate. The niche construction process is used to highlight a change in environmental selection directly related to the market place behaviour of certain firms in the Hobart pizza industry. The mutual aid process is used to highlight the role of cooperation and co-existence rather than competition in determining firm survival. Both concepts, original to Darwin's thoughts, are regrettably rarely factored in to evolutionary explanations in the social sciences.

It is claimed in this paper that a process of *transferred demand* can be identified as a generative mechanism through which firm survival in specific selective neighborhoods (Brandon, 1990) and/or niches is enhanced. Specifically, that regional pizza shops have received a survival advantage through the presence of franchised firms due to the process of transferred demand. In brief, transferred demand occurs when television advertising aimed at metropolitan and suburban consumers creates demand in regional areas (for a product/service) that the advertiser cannot supply. As such, regional firms benefit and survive significantly better than other regional firms who don't benefit from any fortuitous industry-based advertising.

The use of niche construction, mutual aid and many other key ecological or biological evolutionary concepts to explain the emergent findings from the Hobart pizza industry highlight a current problem in evolutionary theorizing, that being a lack of consistency. Hodgson, (2001, p. 92) argues that "explanations in one domain have to be consistent with explanations in another, despite examination of different properties and deployment of different concepts." This simple, yet exacting principle requires that in many instances we must go backwards (in degrees of understanding) before we can advance. Whilst this central premise is of great importance, it has been discussed elsewhere (Jones, 2007) and this paper is intent on introducing the notion of transferred demand, and providing a full account of this proposed generative mechanism.

The remainder of this paper is structured as follows. A brief overview of the research methodology employed is presented. Second, and in keeping with the method used, an account of the Hobart Pizza industry is presented. Third, the development of an initial set of postulates related to the emergent transferred demand concept is presented along with a discussion of related theoretical concepts. Finally, the paper concludes with a discussion of the implications of the emergent findings and outlines the issue of consistency regarding the development of evolutionary theory as it applies to the field of entrepreneurship research.

## **METHODOLOGY**

The underlying purpose of this research is to discover or develop theory that better explains population level change within the domain of organizational studies. In comparison to other types of research (e.g. explicit theory testing), a different research methodology is required to support the objective of theory development. Therefore, and despite that fact that any new theory will be realistically grounded in

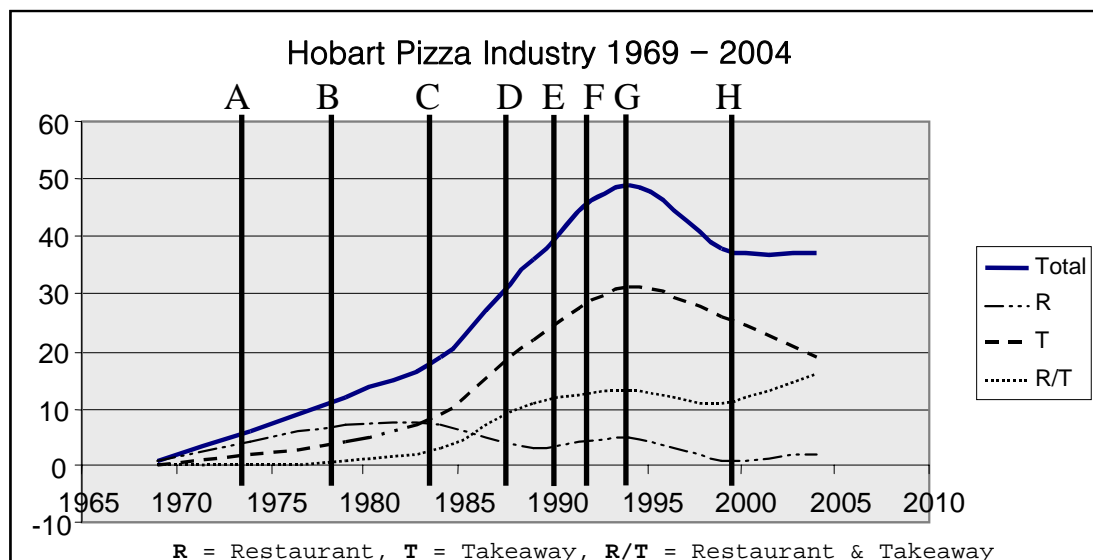
empirical data, an epistemology that emphasises theory development is required (Bhaskar 1975). Given the theory generation objectives of this research, an epistemology drawn from the realist paradigm (Bhaskar 1975) has been used. This is inline with an ontological position that the world “consists of abstract things that are born of people's minds but exist independently of any one person” (Healy & Perry 2000, p. 120).

As such, a combination of analytical induction (Denzin, 1978) and processual case design (Pettigrew, 1997) to investigate underlying processes related to firm survival and demise. This has included data received from unstructured interviews and analysis of archival phone listing records. This approach has allowed for access to both spatial and temporal variation that is critical to *any* form of ecological study (Wiens, 1989). The approach has enabled both accurate and codable data to be used in conjunction with data representative of the views of the operators across the life course of the industry. The phone listing records in particular offer valuable insights (Usher & Evans, 1996) into the goals, boundaries and activities of each firm over time. They provide access to a snapshot of what was being offered for consumption vis-à-vis other competitors and the nature of the operating environment. The development of the causal argument through postulates has been guided by Gerring's (2005) formal criteria to distinguish a good causal argument from an incomplete or uninteresting one and Mahoney's (2003) development of outcome explanations. As such, the method used supported the testing of postulates that support the initial outcomes of interest observed in the Hobart pizza industry.

### THE HOBART PIZZA INDUSTRY

From the humble, yet passionate aspirations of a few Italian post-war immigrants, an industry has emerged. Since 1969, pizza has been offered for consumption in Hobart restaurants. During the past 37 years, more than 115 firms have contested the market, with around 55 open for business today. The industry has been the playground of many irrepressible entrepreneurs, the burial ground for many earnest operators, and the battle ground for various franchised operations. The story of the Hobart pizza industry is essentially one that relates to the constant interaction between those early pioneers, those that followed, and those that entered the market with national or global operations already in existent, essentially, three distinct periods. The many social trends that have accompanied the industry's growth are perhaps best considered throughout the following discussion of each distinct period. Figure 1 illustrate the key period effects that have been identified and indicates the relationship of the overall population (i.e. Total) and the specialist restaurant (R), takeaway (T) and generalist (R/T) firms.

**Figure 1 – The Hobart Pizza Industry 1969 - 2004**



#### Period Effect Legend

- A = Opening of Wrest Point Casino
- B = Introduction of the 1976 liquor Act
- C = Introduction of First Franchise Operator & Random Breath Testing
- D = The Beginning of Home Delivery
- E = The 1990 Recession

F = The Introduction of Conveyor Belt Ovens  
G = The Introduction of Second Franchise Operator  
H = The Introduction of the GST

### **Period One – 1970 to 1982**

Like many Australian cities, Hobart was positively impacted upon by the multicultural influence of the many post-war migrants who made Australia their new home. The pizza industry was one such development, complete with its own sense of theatre (e.g. the tossing of the dough). However, the primary market of the few restaurants in the early 1970s was soccer clubs and other social groups intimately tied to the Italian community. Two specific events in the early 1970s forever changed the nature of consumer demand for pizza. In 1974, Australia's first legal casino opened in Hobart. A short time later (1977) the local Licensing Act was altered to allow hotels and bars to operate beyond 10pm.

The effect of these two interrelated events was very significant. Firstly, the Casino created after hours demand for food, for which at that time the only establishments open late were pizza shops. Following the protests from hoteliers that the Casino had an unfair advantage (i.e. a virtual monopoly for entertainment after 10pm), the relaxing of general opening hours for all hotels and bars turned the Casino's trickle of customers into a flood of hungry patrons. Many more Italians entered the industry to take advantage of the good times. Whilst many of the new operators had little knowledge of how to make a pizza, the social networks common to them all ensured the transfer of knowledge. This transfer of knowledge also frequently occurred at the Casino where many of the pizza shop owners would meet to 'brag' and swap stories and information related to their individual operations. Given the even distribution of their operations throughout Hobart, little competition existed amongst the pioneers, who at this stage struggled to keep up with demand, in what was still a high margin industry. However, the industry had not yet developed sufficient legitimacy, and those early pizzerias that commenced operations outside of the metropolitan areas struggled to survive. Thus, demand during the period one was closely related to the emergence of a significant night-clubbing culture in Hobart.

### **Period Two – 1983 to 1993**

The next major event in the industry was the arrival of the first franchise operator (F1). Despite being initially viewed negatively, F1's presence appears to have benefited incumbents in a number of specific ways. First, it substantially increased the primary demand for pizza. Second the marketing methods used by F1 to stimulate primary demand were quite visible and relatively easy to copy by the incumbents. Finally, F1's presence led to a change in the time that pizza was consumed. Pizza became not solely the domain of the drunken and partied, it moved back towards those about to party, those thinking about dinner or even lunch. By altering the hours during which pizza was consumed, many pioneers were encouraged to remain in the industry. The need to be 'on deck' when production was peaking, typically after 10pm, had eased. Owners could now work restaurant hours, returning to a more normal life through having a manager in charge to finish the late shift.

The future of the industry was then reshaped by the entry on of a new innovative entrant who introduced the mainland practice of home delivery to Hobart. This further stimulated demand and was associated with increasing new entrants. Throughout this period the positive influence of F1 on the industry continued. As they ran television advertisements, it acted to increase demand at many local pizzerias. What emerged were two specific consumers, those that stayed loyal to their perceptions of quality, and those that were more price conscious. With around 26 firms operating in the industry, there were calls for government regulation from those incumbents who felt the market was nearing saturation.

Home delivery was a huge success, occurring at a time when drink driving was increasingly frowned upon. It was a time of unbridled experimentation and innovation. Many operators increased their efficiency to counteract the decreasing margins caused by increasing competition, installing computerised systems and purchasing new equipment. The conveyor belt oven was one such innovation that gained a foothold. However, despite its ability to smooth production, improve quality, and reduce employee injuries (e.g. burns), its use was not positive for all. For some, the conveyor belt oven provided the opportunity to use less skilled labour, potentially threatening the levels of service and quality in other aspects of the business. By 1993, 56 firms were operating in the Hobart pizza industry. Riding on the back of increased demand for home delivered pizza, the population grew by more than 200%, all at a time when Tasmania, Australia and global communities experienced a significant recession. It seemed to many that the co-existence of independents and franchise operators

(now totalling 5) was both quite possible and beneficial. Most noticeable was the almost universal claim that the television advertising of the F1 instantly resulted in high demand for local independents.

### **Period Three – 1994 to Present**

The arrival of the second franchise operator (F2) in 1994 radically changed the nature of the industry. The past focus on promoting pizza in general gave way to increased price competition. The population size fell rapidly (20 exits over four years) as F2 adopted a ‘fastest gun in the west’ approach to pricing. This was further reinforced with the arrival of the third franchise operator (F3) in 1996. Three factors in particular seemed to greatly influence who stay and who left. Firms that were unable to maintain prerequisite levels of great food, service, and ambience were in the direct line of fire. Market forces that had apparently lay dormant for many years all of a sudden selected against them. It would seem that while many firms had adapted to an operating environment using a quality baseline, other firms unable to deliver (or develop in time) these three success factors and were susceptible to competing upon a price dependent (cost) baseline.

While pizza had been elevated from a meal fit for the court jester to one fit for royalty, both customer types still remained. While the court jester’s needs could be satisfied by the likes of F1, F2, and F3, it required an entirely different type of business model to compete within the quality end of the market. The middle ground was the most dangerous path travelled. If the time period that covers the two years prior and after F2’s entry (1992 to 1996) is considered, it is clear that survival was a tough assignment for new entrants. Of the 23 start-ups during this time period, only 5 survived to the present. The survivors are all linked by previous industry experience, good locations (especially regionally based shops), and a focus on quality. Quality is still the main driver, as is innovation. One particular local entrepreneur, Mario, was one of the first operators to fully exploit the takeaway nature of the industry when he opened his Pizza Palace in 1977. He was the first local operator to exploit the demand for home delivered pizza, and has opened many outlets throughout southern Tasmania. He now sells pizza by the slice, targeting an entirely different target market.

The last significant change in the operating environment was the introduction of a Goods and Service Tax (GST) in 2000 by the Australian Federal Government. It is unclear to what degree this caused problems to existing operators given that well-established operators have continued through its introduction until the present. For the franchised operators, their market segments are contested through continual product innovation and pricing strategies. At the other end of the market, the passionate pursuit of quality, service, and ambience remain the keys to success. The middle ground remains for the wily operators to traverse; getting it right in the middle is not as easy as it was when the market was booming in the late 70s and 80s. Those that have survived the past 30 years in this industry have done so through an ability to exploit their own strengths and find a way through a maze of different organizational forms and production and marketing processes.

Interestingly, those firms that commenced operations in any area that falls beyond the delivery zones of franchise operators, managed to survive at a rate far higher than all other independent firms. Also, those firms that were founded on the basis of competing as a generalist maintained their market positions, regardless of where they operated. In summary, during the past 37 years a series of period effects (Aldrich 1999) have both positively and negatively shaped the nature of the industry. At times, selection forces appear to have been operating in different ways, and even sometimes appearing to have been almost non-existent. Further, it would seem that F1 has provided some form of protection to the local independents operators, whereas F2 and F3 have behaved in a predatory manner. However, regardless of the perceived nature of the relationship between the franchise operators and the independents, the transfer of demand from the television advertising of F1, F2 and F3 has continued. In fact, it appeared to increase as they used the medium of television to fight out their battle for market supremacy.

## **DISCUSSION**

As previously noted (Jones, 2007) the issue of demand being transferred (unintentionally) from the communication strategies of the franchise operators to independents appears to be at the heart of why so many independents have survived. Whilst the resource partitioning process can partly explain why metropolitan independents survived, it does not provide a full explanation. It is not small specialists that survive in the shadows of larger generalists as typically assumed by resource partitioning (Carroll, 1985). What is seen to occur is the survival of centrally based small firms that specialise on a narrow niche related to price conscious consumers and more small firms acting (typically) as generalists who

target a much broader grouping of consumers. However, by accounting for spatial and temporal variance, an account of transferred demand emerges.

It is proposed that the behaviours of the franchised pizza firms have (at one time or another) increased the survivability of many independent pizza shops through the transferring of demand for pizza. This has been seen to occur in three separate and distinct ways. Transferred demand has been seen to occur constantly, partially, and also temporarily. The most significant form of transfer demand proposed is Constant Transferred Demand, expressed as; when  $CB^{TV} > CB^{LA}$  and  $CB^{BD} < CB^{LD}$ . That is, when the cost-benefit to franchises of television advertising is greater than the cost-benefit of local advertising (i.e. a reliance upon leaflets, newspapers etc.) and the cost-benefit of blanket delivery is smaller than the cost-benefit of local delivery, Constant Transferred Demand will exist to all independent pizza shops that operate beyond the delivery zone of the franchise firms. The effect of this transferred demand will intensify as competition between rival franchise firms increases and they combat each other using the medium of television advertising.

Partial Transferred Demand, expressed as; when  $CB^{TV} > CB^{LA}$  and  $Fran^N < Ind^N$  is the second form of transferred demand. That is, when the cost-benefit to franchises of television advertising is greater than the cost-benefit of local advertising and franchise firms focus on a small niche than independents, demand will be transferred to generalist independents regardless of their location. The third type of transferred demand observed is Temporary Transferred Demand, expressed as; when  $PB^{PB} < AB^{nPB}$ . That is, during the time when the perceived benefit of predatory behavior is less than the actual benefit of non-predatory behavior, transferred demand will tend to benefit all independent pizza shops, regardless of niche occupation or location. This form of transferred demand is associated with low levels of population density and industry legitimacy. Three initial postulates emerge from the identification of the three forms of transferred demand. They are.

**Postulate 1:** *When a population's legitimacy and density are low, franchised entrants will act a manner that increases overall primary demand for their good/service, thus decreasing the threat of external selection to all other firms.*

**Postulate 2:** *When a population's legitimacy and density are high, franchised entrants will act in a manner designed to increase selective demand for their good/service, thus increasing the threat of external selection for all firms.*

**Postulate 3:** *Independent firms may still benefit from transferred demand if they are (a) operating in a different selective environment to that of franchised firms, and/or (b) are exploiting a different environmental niche.*

It is proposed that several evolutionary concepts provide the most efficient means to explain the process of transferred demand in theoretical terms. The first concept is niche construction. The recent work of Olding-Smee, Laland and Feldman (2003) has elevated the concept of niche construction to as important a role as natural selection. These authors in championing the *neglected* process of niche construction bring to life the previous work of Lewontin (1983). Lewontin sought to refute the assertion that an organism proposes (a set of predefined) solutions to the problems it encounters in its environment, and that the environment then efficiently rewards or punishes those solutions that prove beneficial or injurious to the organism. For Lewontin, any explanation of the process of adaptive change must cater for the ongoing reciprocal interaction between the organism, its generative mechanism and the environment. Rather than merely being on the receiving end of natural selection, organisms both make and are made as a consequence of interaction with their environment. The work of Olding-Smee, Laland and Feldman has received much praise, with David Hull (2004, p. 316) declaring that their body of work cannot be ignored given that they have demonstrated that "niche construction is widespread, significant, and at least partially independent of natural selection."

The process of niche construction is useful in highlighting the issue of ecological inheritance. As the franchise firms use their superior resource profile to alter the nature of consumer demand, they are in fact altering the nature of the environment that independent firms inherit. The consequences of this proposition are indeed enormous. The notion that firm survivability is determined by factors such as cohort composition, age and structural inertia are diminished by the fact this process can at any stage during a firm's lifetime, between cohorts and could even allow for such evolutionary inheritance to travel backwards. That is, the actions of franchised firms today may impact on the selective

environments of not only firms of today and tomorrow, but also of those pioneers and early spin-outs still operating. The result being that the process of natural selection operating on independent pizza shops is altered in many ways at varying degrees.

A second concept that adds value to discussion is Kropotkin's (1902) mutual aid. For Kropotkin, competition is a regressive factor in evolution, whereas cooperation is a progressive factor in evolution. Fitness in terms of overall species survival is a result of mutual aid, whereas survival based on individual fitness is based on competition. It could be argued that that independent pizza shops have at least equal (or better) fitness to that of their more resource capable franchised competitors. Those independent pizza shops that operate within the shadows (i.e. metropolitan generalists) or beyond the shadows (i.e. regional areas) of franchised firms demonstrate strong survival. This does not occur through the defence of their local area of operation, but appears more related to their co-existence with an assumed predator. In comparison to other food providers (e.g. restaurants and other fast food providers) the respective local environments for independent pizza shops appears (at one time or another) to have been transformed from one that is typically oligotrophic (i.e. offers little assistance) to one that is eutrophic (i.e. offers substantial assistance).

The survivability pre-franchised organizations for regional firms was far less than that of suburban and metropolitan pizzerias. Yet this pattern reversed itself post-franchised organizations. It would seem that when population density is low, little threat is created through the introduction of the first franchised pizza organization. The lack of legitimacy surrounding pizza meant that it was vital for the franchised organization to act in a manner that increased the primary demand for pizza in general. As such, all firms benefited from the visible and powerful marketing activities of the first franchised firm. This process held true (and even increased) as the first franchise expanded to six outlets. During this phase (i.e. period two) it would seem that the ecological environment has been altered positively with increased consumer demand a general benefit to all.

The central claim made in this paper then is that a generative mechanism (identified as transferred demand) has influenced the survival of independent pizza shops in a consistent manner at various times in the industry's history. The conditions that relate to the three different forms of transferred demand have been presented and this process has been suggested to be explainable in terms of an evolutionary process comprised of specific processes. The idea of ecological inheritance has been introduced, and although its potentially enormous significance has not been addressed, it nevertheless provides a new way of conceptualising the process of evolution in the context of organizational research. That survival of the fittest may not be an outcome of direct competition, but rather indirect or non-existent competition is not a new idea. It is however, too infrequently fully factored into evolutionary accounts of organizational, population and community survival. The final section of this paper will now consider the issue of consistency regarding the development of evolutionary theory as it applies to the field of entrepreneurship research.

## CONCLUSION

Evolutionary theories have a long association within the domain of the social sciences (e.g. Veblen, 1919; Schumpeter, 1934; Nelson and Winter, 1982) and the frequency of calls for researchers of entrepreneurship to adopt an evolutionary approach has increased. Two of the domain's leading journals (i.e. *Entrepreneurship Theory and Practice* and the *Journal of Business Venturing*) have organised special editions devoted to consideration of the increasing application of evolutionary theories to the study of entrepreneurship. Driven largely from the contributions of sociology and economics much progress has been claimed. Works such as Aldrich's (1999) *Organizations Evolving* are held up as significant contributions to the development of evolutionary approach to entrepreneurship. That progress has been made is not questioned, but the issue of lost opportunities is.

The development of the transferred demand concept relates to the proposition that a causal connection between several contingent conditions can be determined. It assumes that such hypothesised "tendencies may be possessed unexercised, exercised unrealised, and realized unperceived (or detected)" (Bhaskar, 1975, p. 18). Its initial description in this paper has required the search for ideas and concepts that while common place in ecology and biology are (seemingly) not apparent in the domain of mainstream social science. A review of the broader evolutionary literature has provided access to seminal papers from the domain of ecology that appears to have at best been rarely cited, or at worst never cited. For example, classic works on pattern and process (Watt, 1947), resource partitioning (Schoener, 1974), spatial scaling (Wiens, 1989) and pattern and scale (Levin, 1992) have

not been cited in sociology, economics or management related journals in the ISI social science citation index.

It would seem that the domain of organizational enquiry is blindly tethered to a foundation of evolutionary thought that is selective and not based on any genuine desire to explore the application of natural science evolutionary theories to the social domain. The argument made here is that this leads to highly inconsistent outcomes that prevent the formulation of ideas such as transferred demand. Transferred demand, as outlined here is a concept built around established evolutionary concepts (i.e. niche construction and mutual aid) and may yet call upon other concepts to further develop the concept. For instance, kleptoparasitism (Hamilton, 2002), a process whereby an organism gains access to prey or other resources that it could not obtain easily by itself others is a potentially interesting evolutionary explanation. Without being prepared to examine the value of other existing concepts from other domains it would seem the likely development of organizational ecology is restricted.

Returning to the Hobart Pizza industry, it was observed that even across small geographical distances (i.e. less than 20km) selection varied greatly. Little rhyme or reason seemed associated with who survived from the perspective of assuming *survival of the fittest*. Such observation would be difficult to identify and comprehend without combining quantitative and qualitative methods. This approach provides vital access to different levels of scale through which profoundly different evolutionary patterns are observable (Wiens, 1989). Immediately, the concerns of those that see unobserved heterogeneity (Lomi, 1995) as a threat to a true understanding of the evolutionary dynamics at play, are removed. As is the potential problem of attempting to generalize from studies conducted at an inappropriate (or too broad) scale. Collecting data at multiple levels does occur in current research, but the issue isn't that multiple levels of scale occur; the issue is one of identifying the appropriate levels of scale. Wiens is clear that ecological research should accommodate both broad and fine scales, and that the minimum scale should relate to how the organism (i.e. the firm) scales the environment. The more scales are deliberately varied, the greater the opportunity to understand patterns and the underlying variance that produces any such patterns.

In conclusion, Petersen and Koput's (1991) argument that unobserved heterogeneity is a pervasive, yet largely ignored factor in evolutionary accounts of population change would seem to still remain a relevant claim. While the established ideas of Brandon (1990) regarding types of environment and selective neighbourhoods remain isolated from ecological studies within the social domain, issues of inconsistency will remain. The development of an evolutionary approach to the study of entrepreneurship has been advanced significantly by the work of Aldrich (1999). However, there is more to gain from incorporating evolutionary ideas from other domains of enquiry than through quarantining entrepreneurship research through adherence to the sociological interpretations of evolutionary theory. The concept of transferred demand represents an attempt to develop a causal argument. As such, it is very much committed to staying true to the central creed of Darwinism, that being a focus upon the problem of causality. To exclude the processes of niche construction and mutual aid is to remove Darwin's original ideas from any such attempt to discover causality.

## REFERENCES

- Aldrich, HE 1999, *Organizations Evolving*, Sage Publications, London.
- Bhaskar, R 1975, *A realist theory of science*, Leeds Books, Leeds.
- Brandon, RN 1990, *Adaptation and Environment*, Princeton University Press, Princeton: NJ.
- Carroll, GR 1985, 'Concentration and specialization: Dynamics of niche width in populations of organizations', *American Journal of Sociology*, vol. 90, no. 6, pp. 1262-1283.
- Denzin, NK 1978, *The research act: A theoretical introduction to sociological methods*, 2<sup>nd</sup> Ed, McGraw-Hill Book Company, New York.
- Gerring, J 2005, 'A unified framework for the social sciences', *Journal of Theoretical Politics*, vol. 17, no. 2, pp. 163-198.

- Hamilton, IM, 2002, 'Kleptoparasitism and the distribution of unequal competitors', *Behavioral Ecology*, vol. 13, no. 2, pp. 260-267.
- Healy, M & Perry, C 2000, 'Comprehensive criteria to judge validity and reliability of qualitative research within the realism paradigm', *Qualitative Market Research: An International Journal*, vol. 3, no. 3, pp. 118-126.
- Hodgson, GM 2001, 'Is social evolution Lamarckian or Darwinian', in J Nightingale, & J Laurent (eds.), *Darwinism and evolutionary economics*, Edward Elgar, Cheltenham.
- Hull, DL 2004, 'Niche construction: The neglected process in evolution', *Perspectives in Biology and Medicine*, vol. 47, no. 2, pp. 314-316.
- Jones, C 2007, 'Using old concepts to gain new insights: Addressing the issue of consistency', *Management Decision*, vol. 45, no. 1, Forthcoming.
- Kropotkin, P 1902, *Mutual aid: A factor in evolution*, Extending Horizons, Boston.
- Levin, SA 1992, 'The problem of pattern and scale in ecology', *Ecology*, vol. 73, no. 6, pp. 1943-1967.
- Lewontin, RC 1983, 'Gene, organism, and environment', in DS Bendall (ed.), *Evolution from molecules to men*, Cambridge University Press, Cambridge, UK.
- Lomi, A 1995, 'The population ecology of organizational founding: Location dependence and unobserved heterogeneity', *Administrative Science Quarterly*, vol. 40, no. 1, pp. 111-114.
- Mahoney, J 2003, 'Tentative answers to questions about causal mechanisms', *Proceedings of the American Political Science Association*, Philadelphia, PA.
- Nelson, RR & Winter, SG 1982, *An evolutionary theory of economic change*, Harvard University Press, Cambridge, MA.
- Olding-Smee, FJ, Laland, KN & Feldman, MW 2003, *Niche construction-The neglected process in evolution*, Princeton University Press, Oxford.
- Petersen, T & Koput, KW 1991, 'Density dependence in organizational mortality: Legitimacy or unobserved heterogeneity?', *American Sociological Review*, vol. 56, no. 3, pp. 399-409.
- Pettigrew, AM 1997, 'What is a processual analysis?', *Scandinavian Journal of Management*, vol. 13, no. 4, pp. 337-348.
- Schoener, TW 1974, 'Resource partitioning in ecological communities', *Science*, vol. 185, no. 4145, pp. 27-39.
- Schumpeter, JA. 1934, *The theory of economic development*, Harvard University Press, Cambridge, MA..
- Singh, JV 1993, 'Density dependence theory-Current issues, future promises', *American Journal of Sociology*, vol. 99, no. 2, pp. 464-474.
- Usher, JM & Evans, MG 1996, 'Life and death along gasoline alley: Darwinian and Lamarckian processes in a differentiating population', *Academy of Management Journal*, vol. 39, no. 5, pp. 1428-1466.
- Veblen, T 1919, 'Why economics is not an evolutionary science', in T Veblen, *The place of science in modern civilisation*, Huebsch, New York.
- Watt, AS 1947, 'Pattern and process in the plant community', *Journal of Ecology*, vol. 35, no. 2, pp. 1-22.



Wiens, JA 1989, 'Spatial scaling in ecology', *Functional Ecology*, vol. 3, no. 4, pp. 385-397.