

## **Business Mating: Who Chooses Whom and Gets Chosen?**

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### **Abstract**

What is the co-relation between the characteristics of two firms that form a relationship with each other, especially successful relations? Surprisingly there is little we know about the answers to this question. This paper reviews previous literature on the assortative mating among people and animals and the theory of sexual selection that underlies it. We then apply this theory to business relation formation and present the results of an analysis of the co-relation of firm characteristics of those involved in customer-supplier relations using the IMP2 European data base. Finally, future research opportunities are considered regarding this novel and exciting area of research.

*An ode to mating!*

Birds do it, bees do it  
Even educated fleas do it  
Let's do it, let's fall in love.

In Spain, the best upper sets do it  
Lithuanians and Letts do it  
The Dutch in old Amsterdam do it  
Not to mention the Fins  
Let's do it, let's fall in love.

Some Argentines named Pels, do it  
People say in Boston even beans do it  
Romantic sponges, they say, do it  
Cold Cape Cod clams, 'gainst their wish, do it  
Even lazy jellyfish, do it  
In shallow shoals English soles do it  
Let's do it, let's fall in love.

The franchisees in channels do it  
Even some courageous US MNCs do it  
The 4P'ers I might add don't do it  
But IMPers we all know do it

Let's do it, let's fall in love.

(Loosely Adapted from Cole Porter, *Let's Do it*)

## **Business Mating: Who Chooses Whom and Gets Chosen?**

### **Introduction**

Firms do not survive just through their individual characteristics, competitiveness and fitness in regard to general market and environmental conditions. Instead they cooperate with other firms and organisations to compete and compete with rivals to form cooperative relations with others (Wilkinson and Young 2002). This involves both choosing others to partner with and being chosen by others. Firms expend effort to find and attract mates and to maximise the effectiveness of mating once a relationship has begun. The question of who develops relations with whom is a fundamental building block of social and business life.

What is the co-relation between the characteristics of two firms that form a relationship with each other, especially successful relations? Surprisingly there is little we know about the answers to this question. Yes, there is related research on how firms do and should choose relationship partners, the dimensions and kinds of relationships between firms, how relations develop and decline, how firms attempt to manage in relations, and so on. But the focus remains on the differences in modes of co-relating. Firms “marry” or “have affairs,” in the parlance of Levitt (1986), Dwyer Shurr and Oh (1987) and Business International (1990). They dance with more or less speed, flexibility and competence in different environmental contexts (Kantor 1987, Wilkinson and Young 1994) and with different portfolios and networks of partners (Wilkinson et al 1998).

But we know little about how similar or different are the characteristics of firms that form relations. For example, do big firms tend to “marry” or “dance with” other big firms? Do market oriented firms tend to “marry” other market oriented firms? Do aggressive bargainers marry passive wimps? This paper begins to answer these questions by developing a preliminary theory of business mating based on research in biology and social ecology. We then use the IMP2 European interfirm relations data base to examine the co-relation between some of the characteristics of firms involved in customer-supplier relations. We begin with a brief review of existing business literature on business mating.

### **Business Mating**

Co-operation between companies has been a dominant theme in business research for at least the last 20 years (Hakansson 1982, Webster 1992). Selection of the right partner both in marketing and purchasing (Blois 1996, Gadde & Hakansson 1993, 1994) has been a matter of great importance and interest. Theories of relationship development have been proposed (Monthoux 1975, Ford 1980, Dwyer, Schurr & Oh 1987) as well as theories of relationship behaviour and performance (e.g. Anderson and Narus, Young and Wilkinson 1997). But the question of who does tend to partner with whom has not had same interest within business research.

Co-operation involves both a necessity and an ability to match each other. How different can and should partners be to be able to co-operate with success? Firms have to adapt to each other. Monthoux (1975) puts it this way: “The integration of selling and buying

organizations involves a mutual adaptation process when different departments and groups of both organizations integrate in the fulfillment of different tasks” But still this is not the whole answer to the question. There are some limits with regard to a company’s ability to adapt. And for that reason there must be some factors, which are of importance for the selection process of who chooses whom and gets chosen?

Co-operation is a means to strengthen a firm’s market position. Being together with the right partner is therefore seen of competitive importance, but what are the qualifications of an attractive partner? According to Lambert, et al.(1996) partnerships should be symmetric. Companies who are demographically similar are said to form more stable relationships and to have greater market success. “Symmetry in terms of importance of each firm to the others success, relative size, market share, financial strength, productivity, brand image, company reputation, and level of technological sophistication will make a stronger relationship”. Lambert et al. (1996) base their argument on case studies and practical experience.

Here, we consider the general issue underlying this type of argument i.e. who relates to whom in the business world and how well does it work out? This leads to a number of more specific questions, such as:

- What are the qualifications of an attractive partner?
- What qualifications are of higher importance than others?
- How different can the partners be and the relationship will still work?

In order to answer these questions we need to develop a theory of business mating.

### **Toward a Theory of Business Mating**

Theories of business relationships include the context within which the relation operates as part of the problem to be dealt with by the firms involved. It shapes the way the relation develops. The context includes the characteristics of the relationship partners such as their size and the style and characteristics of their management and studies have found empirical evidence for the effect of such contextual factors on relationship development.

Here our focus is not on the problems and kinds of relations that emerge under various contextual conditions but on the types of contextual conditions that are likely to exist and why they arise. Firms like people form relations with others with the expectation of gain or value. Of course some marriages and business relations are shotgun in character in that they are forced relationships and this will impact on the nature and success of the relations. But more generally firms and people are free to choose their relationship partners, although a relationship of course requires a double choice - to choose and be chosen. The kinds of business firms that form relationships with each other affects the kinds of contexts that have to be dealt with.

What theories do we have of who marries who in the business world? There are some assertions that like should marry like in the sense of having common agreements as to the nature and goals of the relationship. But this does not tell us much about the individual characteristics of the firms involved.

Here we draw on two main areas of theory to help predict the characteristics of those firms that will form relationships and in particular successful relationships. First, are theories of assortative mating and sexual selection that come from biology and social ecology. Second, are theories of relationship formation and stability based on Heider's balance theory that suggests that stable continuing relations are those that are balanced in a dyadic or triadic sense.

### **Assortative Mating and Sexual Selection**

How do we select our mates and sex partners? We each develop search images which are our mental picture of the ideal mate. These develop over time through our experience and upbringing. This results in a non-random matching of the characteristics of people and animals that mate.

There is extensive prior research on who marries or mates with whom in the social and animal world, or what is referred to as assortative mating (e.g. Buss 1985, Diamond 2002, Murstein 1976, Spuhler 1968, Vandenberg 1972, Waltster et al 1966). The main results of these studies may be summarized as follows (Diamond 2002). The highest correlations, or coefficient of assortment (Jensen 1978), is around 0.9 for religion, ethnic background, race, socioeconomic status age and political views. Next are personality and intelligence characteristics with correlations around 0.4. Then there are numerous physical characteristics that are significantly correlated but only around 0.2. These include all manner of features including those we generally use to indicate attractiveness such as height, hair colour, skin and eye colour. But it also applies to many other characteristics less obviously associated with ones "search image" of an ideal partner, including breadth of nose, length of ear lobes, lung volume, size of wrist, and distance between the eyes. Similar results have been found by researchers in peoples from many different parts of the world - Europeans, Americans, Africans. Some physical characteristics are even more strongly correlated such as 0.61 for the length of the middle finger! In other words like tends to marry like but in all manner of dimensions.

Various explanations have been offered for these results. First propinquity accounts for many similarities among marriage partners. People tend to marry those from their own locale or region and social milieu because they have more chance of encountering each other and making a double choice. The second explanation is that marriage is not a choice but a negotiation in which two parties have to agree to choose each other – our double choice. The more similar a man and woman are in terms of political views, religion and personality the easier it is to reach agreement. As a result married couples are more closely matched in terms of personality than dating couples and closer for more happily married couples.

The remaining factor is sexual attraction. And this is where the various types of physical characteristics come into play, as attractiveness is based on physical appearance. People have preferences in terms of height, hair, eye and skin colour and other features. The many other physical features that are significantly correlated represent aspects of overall attractiveness. And the studies show that we tend to marry people who look like ourselves.

The reason for this has to do with our genetic makeup and our selfish genes. As Richard Dawkins described it, it is our genes that seek to reproduce and survive not us the phenotype. We are merely the genes way of surviving by getting themselves into the next generation. And the people who are most like us are those that are more likely to carry similar genes. Of course the people that look most similar to ourselves are our siblings or parents who carry half our genes, but incest taboos arise to control this. Instead, as Diamond (2002) summarises it: "The reason we tend to resemble our mates is that many of us are looking for someone who reminds us of our parent or sibling of the opposite sex, who in turn resembles us. As children we already begin to develop our search image of a future sex partner, and that image is heavily influenced by the people of the opposite sex whom we see most often." (p89). In this sense beauty is in the eye of the beholder. Studies of animals reveal that the same principles apply.

### **The Nature and Role of Sexual Selection**

Partner selection and the tendency to mate with those who resemble ourselves has deep biological and evolutionary origins. In this section we briefly describe the difference between natural and sexual selection and the role it plays in producing the variety of people we observe in the world today and the development of different species. We then show how the same principles apply to business life and the development of different type of firms and business relations.

We tend to assume that people that come from different parts of the world vary because of natural selection and the survival of the fittest. This is what Darwin wrote about in his first great 1859 book *On the Origin of Species* and it is this that underlies much of our thinking about the nature of competition. Discussion of sexual selection was dropped from this book because it was so controversial. But Darwin wrote a second book 12 years later entitled *The Descent of Man; and Selection in Relations to Sex*. In this he devoted two thirds of the book to the topic of sexual selection. He showed how sexual selection plays an important role in explaining many of the difference among human races as well as the way other species have evolved. To this day his ideas remain controversial but more recently evolutionary psychology, with its focus on the biological origins of human behaviour, has been gaining ground as a major and fruitful area of scientific enquiry (Pinker 2002).

While natural selection is an important explanation of differences within animal species as species evolve to adapt to their environment. But, as Diamond (2002) points out, many differences among humans attributed to natural selection are really the result of sexual selection. For example skin colour is usually explained in terms of natural selection in terms of climate, with paler skins evident further from the equator. But this

does not fit with all the evidence. Native people with dark skins exist in very temperate climates e.g. Tasmanian aborigines, and no American Indians have dark skins no matter how sunny the climate is. Also in the Solomon Islands jet black and lighter skinned people are to be found living in adjacent regions. Moreover, these results are not explained by the time it takes to evolve skin colour.

Darwin eventually gave up trying to explain racial variation by natural selection because the external difference between races did not appear to be of direct survival value. Instead he proposed sexual selection in which these external difference play a role in attracting and securing mates or in battling rival suitors. In this way these characteristics have indirect survival value. Thus a male that is more attractive to females or more successful in driving off other males will leave more descendants and will tend to pass on its genes giving rise to these traits. The same applies to females.

For sexual selection to work, two changes have to occur together; “one sex must evolve some trait, and the other sex must evolve in tandem a liking for that trait” (Diamond 2002 p102). And there is no reason for “sensible” or environmentally adapted traits to evolve in this way. Indeed evolution has led to the evolution of various arbitrary sexual signals, that may actually impair functioning (e.g. long tails). All that is required is that the male and female live long enough to compete better against rivals, be selected and procreate. Hence we have males a fraction the size of females – as in species of squid and spiders – and ones that die soon after mating or are eaten.

In the same way people around the world have co-evolved among sexual partners varying standards of beauty and attraction, which bare no necessary relation to the struggle for survival. Thus Darwin noted that we pay inordinate attention to breast, hair, eyes and skin colour in selecting our mates and sex partners. But around the world what people define as beautiful in these terms differs. This principle has be confirmed in many studies of human and animals species.

### **Assortative Mating in Business**

Are there equivalent types of results to those reported in human and animal mating studies for business firms? What types of firms develop business relations with each other? Do they have similar types of explanations to those described above? Can we use Darwinian theories of sexual selection to inform our understanding of the way different types of firms evolve at various times or places and the kinds of business relationships that arise? How does the theory of sexual selection fit with theories of natural selection and survival of the fittest that tend to dominate theories of competition in markets?

One source of relevant theory is to be found in the advice business textbooks offer on how to choose a firm’s business partners, be that a distributor, supplier, customer, technical collaborator or whatever. However, these tend to assume the firm can choose its partner, whereas it may be more as case of getting chosen or negotiation. What actually happens in practice? Do the characteristics of business mates in more successful relations differ from less successful relations and if so do they conform to textbook advice?

Research suggests that firms should choose partners with matched characteristics. For example, Ellram (1990) studied the factors that are considered important when buyers are engaging in a long term partnership. She found that matched characteristics in terms of the following were very important:

**1. Financial issues**

- Economic performance
- Financial stability

**2. Organizational culture and strategic issues**

- feeling of trust
- management attitude/outlook for the future
- strategic fit
- top management compatibility
- compatibility across levels and functions of buyer and supplier firms
- supplier's organizational structure and personnel

**3. Technology issues**

- assessment of current manufacturing facilities/capabilities
- assessment of future manufacturing capabilities
- supplier's design capabilities
- supplier's speed in development

**4. Other factors**

- safety record of the supplier
- business references
- supplier's customer base

More generally the strategy of market segmentation is designed identify similar groups of customers with the aim of identifying customers whose requirements match a firm's capabilities (Bonoma & Shapiro 1984, Freytag et al. 2001).

Another source of theory is build on the explanations of sexual selection outlined above. Let us consider each of the explanations of mate similarity advanced above and see how they apply to business. First, propinquity is important in choosing relationship partners. It is generally easier to establish and maintain contact with firms that are not too far away. The importance of this is demonstrated in studies of regions like Silicon Valley and the textile area on Northern Italy. More generally, the importance of domestic industry clusters and domestic based industrial networks for promoting competitiveness has been stressed by various researchers (Porter 1990, Wilkinson et al 2001). However, the coming of the internet and rapid travel and communication, what some have characterized as the death of distance, has perhaps weakened the hold of geographic proximity on which firms mate with each other.

Second, business relations, like mate selection, involves a joint choice. The formation of business relations involves choosing and being chosen and this is the result of some form of negotiation and courting process. Just as with people, the negotiation is easier when both partners are compatible in terms of their aims and business philosophies. Thus we expect that business relations are more likely to be established between firms with similar business philosophies, especially successful and more long lasting ones.

Of course in some situations firms have limited choice as to relationship partners and “forced marriages” arise when firms are required by law or market circumstance to continue to deal with another firm they would prefer not to deal with. In such circumstances we would expect that the similarity and compatibility of the firms is less than when choice is more open. A similar situation arises in terms of sexual selection when arranged marriages are used to select partners. We do not expect and do not find the same degree of similarity among marriage partners in such circumstances – though extra marital affairs are another matter!

We should stress that compatibility is not necessarily the same as similarity. Firms form relations with others that complement their own activities, skills and resources. Firms that are very similar may have nothing to offer each other and may well be competitors. We could include competitive relations as part of our analysis but here we focus only on cooperative relations in which both parties seek to gain from the development of a relation. To be sure direct competitors do sometimes develop cooperative relations, when they have complementary or overlapping interests. This occurs, for example, when competitors collaborate to lobby governments, open up new markets or to establish industry standards.

Not only does similarity and compatibility ease the negotiation and courtship process involved in starting a business relation. Who mates with whom also affects the context in which a business relation develops. And this affects its likelihood of survival and growth. Hence we expect to find firms that are involved in longer term, more successful relations are more similar and compatible. Those that are less compatible are less likely to survive.

The third reason for mate selection in animals is sexual attraction. The business equivalent is attraction based on expected value from the relationship. While firms do not produce babies together, they do co-produce value for each other and for other firms in their networks through their interactions and adaptations over time. Palmer (2000) says it is a question of calculations of returns in short- or long-term. This is the basis for an exchange relationship. Value relates to the benefits and costs to each party of participating in the relation. Relations are established when both parties perceive a net gain from participation and relations are sustained when expectations are met better than perceived alternatives.

Firms learn about who they can and should partner with through the experience of relating. Does this lead to the development of a common search image, comparable to mate attractiveness in humans and animals, and does this result in runaway “beauty contests” among firms that parallel what goes on in the animal kingdom?

The question thus becomes: “what characteristics of firms lead them to be seen as attractive business partners, i.e. in which benefits are likely to exceed costs, and how are these related to the characteristics of the perceiver?” People, as we have noted, are more attracted to those that remind them of their parent or sibling of the opposite sex they see most often. We have also shown that standards of attractiveness can be quite arbitrary so long as they co-evolve between the sexes. Do similar arguments apply to business firms?

Do firms co-evolve search images for business mates that vary by time, industry or region? We would expect that a firm's search image is determined by many things; their personnel's experience of previous business relations, their experience in forming personal relations and what they are taught in business school.

Darwin distinguishes between different types of traits that can be selected for in sexual selection, each of which may have their counterparts in business. First are the traits that enable a male or female, to win the battle against rivals for a mate, or the "most attractive" mates. For many species this tends to be a battle fought by males against other males for the favour of females because they have less investment in the reproductive and parenting process. In business terms this is what Wilkinson and Young (2002) refer to as competing to cooperate.

Second, are the traits that make a sex partner more attractive to the other, which include the arbitrary standards of beauty underlying sexual attraction. What these are in business terms is not clear to us and is the subject of this research. But the principles are the same as for any species. External, visible characteristics that are attractive to potential partner co-evolve that are not necessarily of direct benefit to those involved. These act as proxies for less visible internal characteristics that are required for superior performance, similar to the way external markers in animals signal a superior genetic makeup.

Finally there are the traits related to securing a mate once the partnership is formed, to get the most productive outcome in terms of babies and genes in the next generation. The latter include the various devices used by animals to hold their partner and to copulate to greater effect. In business terms they would seem to have their counterpart in firm's relationship building traits, as opposed to their abilities to compete for attention and selection.

What is the effect of this on the types of firms that mate? It seems likely that firms will want to mate with those that are similar to them in objectives, attitudes and business philosophy and this is likely to be the case if they have similar education, experience and environments. This is nicely illustrated by an executive from a small Australian exporter who said that his firm deliberately sought smaller firms as distributors because they were "on the same wavelength" and "the problems and joys of small business are universal" (Wilkinson et al 1987 p 19). Of course the most similar firms may be a firm's direct competitors, which may help explain the need for laws to restrain collusion amongst them! Are these the business equivalent of taboos against incest?

An important part of the environment that shapes firms' attitudes and objectives is their relationship and network environments. Thus people learn from other relations and tend to be friends with people who have friends or enemies in common. This idea is developed in Heider's balance theory of relations, which we discuss in the next section.

The conclusion here is that both natural and sexual selection play a role in the evolution of human and animal species and they both have their counterparts in the business world. Differences emerged among firms as they evolved to adapt to changing technological, economic and market environments. These include both internal resources, skills and

competences that are not so obvious to an outside observer, as well as external more visible characteristics visible to an outsider. But, to adapt Diamond's (2002) words, business mate selection is also likely to have played an important role in molding the external characteristics by which we pick our business mates.

### **Balance Theories of Relations**

Balance theories offer a way of explaining the types of relations between people and firms that are likely to exist and persist (Young and Johnston 1999) and that is compatible with the theories of sexual selection and assortative mating outlined in the previous section. These theories stem primarily from the work of Heider and Leon Festinger's theories of cognitive dissonance. "By balanced state (or situation) is meant a harmonious state, one in which the entities comprising the situation and the feelings about them fit together without stress" (Heider 1958, 180).

Some of the main arguments concerning the nature and role of balance are that: it is a fundamental motivator in human psychology (Appley 1990) and a basic biological drive (Parkins 1990); it allows us to organise and integrate our thoughts and ideas (Festinger 1957); it allows us to organise our thoughts and sentiments in relations with others (Heider 1958); and it is the basic means by which learning and knowledge formation occurs (Feldman 1995). The interplay between seeking and achieving balance underlies the "capacity of living systems to organise and reorganise themselves in many alternative ways" (Appley 1990 pg 7).

Balance theory provides a theory for explaining what types of relations are likely to exist and persist. The simplest social balance is between two actors in terms of their positive or negative feelings towards each other or sense of belonging<sup>1</sup>. Balance theory argues that when feelings each way are both positive or both negative the relationship is balanced and experiments in psychology support this (e.g. Willis 1963).

A number of factors contribute to the formation of positive linkages between entities in relationships including proximity, more frequent contact, familiarity, similarity of beliefs and goals, predisposition towards certain sentiments and perception of potential benefits (Heider 1958). This suggests that matched characteristics among relationship partners will tend to facilitate balance. But matched characteristics can also lead also to the formation of negative linkages. For example, familiarity and similarity of goals may lead to unhappiness when one party is not present and ultimately can lead to dislike if the party continues to be absent. Similarly, goals may be alike but mutually incompatible, as when a firm and its distributor seek to maximize their margins, and this can lead to negative feelings.

The foregoing discussion has sketched a preliminary theory of business mating and the kinds of matches among partner characteristics we may expect to find. Our basic hypothesis is that, like in mate selection generally, business mates are not random mixed

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<sup>1</sup> Heider (1958) argues there are two basic types of connections that need to be considered in this context: sentiment links and perceived connectedness, or as he calls it, "unit bonding".

*and that there is some form of assortative mating.* We now consider how well this fits with empirical evidence.

## **An Empirical Study of the Characteristics of Business Mates**

### **Database**

The empirical analysis is based on a database established in the second Industrial Marketing and Purchasing (IMP) group international research project (IMP2). Locally based researchers conducted in depth personal interviews with industrial firms in a number of European countries. These interviews focused on the characteristics and development of important relations with counterparts in other countries. The part of the database used in this study concerns data gathered on dyadic business relationships of supplier and customer firms. The firms belong to different industries, ranging from raw materials to equipment. Respondents were asked to select one of the firm's most important customers or suppliers in a specific country so that an even distribution of relationships across the customer countries could be achieved. They were also asked to select a relationship they were responsible for and of which they had personal experience. Questions about the focal customer relationship were answered in a personal interview that followed a standardized questionnaire. We use that part of the data concerning the characteristics of the relationship partners.

Our analysis is based on single informant, single perspective data on a relation. We correlate the measures reported of each partner's characteristics in the customers' or the suppliers' questionnaires. In the future we plan to use multiple informant and matched pair data to correlate the answers from each side of a relation.

### **Results**

#### **a) Size and Growth**

Table 1 shows the correlations between various measures of the size and growth of suppliers and customers. The results are shown from the supplier's perspective only. The extent missing data in the customer questionnaires regarding supplier's characteristics made the resulting sample sizes too small. The size of the supplier and customer firms are significantly correlated although there is some variation by measure used. Also, growth patterns or trends are correlated, indicating that as one is expanding or contracting so is the other. This may reflect a preference for partners in similar business circumstances and/or that the fortunes of the customer and supplier are necessarily connected. Thus as a customer grows the amount of inputs they require grows and this leads to supplier growth.

\*Table 1 about here\*

#### **b) Market Positions**

The second type of characteristic concerns the market positions of the supplier and customer in their domestic markets. Respondents were asked to evaluate their own

company and the partner firm in terms of how they compare to competitors in their respective home market in terms of the criteria listed in Table 2. A five point rating scale was used ranging from 1 = very weak position to 5 = very strong position. Tables 2a and b show the results from the supplier's perspective. It shows the correlations between the suppliers self rating of its home market position and its rating of the customer's market position in the customer's home market. The pattern of correlations is shown for higher and lower performing relations. Good relations are those rated as "rather good" or "very good" by the supplier in terms overall profitability over the last five years, other relations are classified as poor.

There are more significant correlations for good versus poor relations, which suggests that better performing relations comprise more closely matched firms. But the sample of poor relations is smaller in part because these relations will not tend to persist. Some correlations are significant for good and poor relations, which probably reflect necessary conditions for relationship formation and continuation. These include positive associations between supplier price and customer delivery capacity (.49, .28), supplier innovation and customer international experience (.61, .30) and supplier international experience and customer market share (.40, .28). Other correlations are similar for poor and good relations, though the correlation is not significant for poor relations. These are supplier access to supply and customer quality (.27, .24), supplier delivery capacity and customer quality (.36, .33) and supplier access to supply and customer market share (.33, .24).

Good relationships, tend to have stronger correlations in the main diagonal suggesting that they are more similar and balanced. There are also a number of significant off-diagonal correlations reflecting areas of complementarity in market positions leading to balance. Thus the following supplier market strengths are directly linked to many customer market strengths: marketing skills; quality (except price); service (except market share and price); and innovation (except for market share, price and access to supply). And the following customer market strengths are linked to supplier market strengths: quality; marketing skills (except for price and technology); and access to Supply (except for market share, innovation, and international experience). Poor relations exhibit few examples of such complementarity, which may be a reason for their poorer performance.

There are some significant difference in the correlations between good and poor relations. The most notable is that between supplier price and customer access to supply, which are strongly negatively correlated in poor relationships (-.67) and positively correlated in good relationships (.28). We interpret this as representing, respectively, a buyers' market and a seller's market situation, which impact on suppliers' perceptions of performance. Other differences are not as marked.

For good relations, a comparison of the upper and lower half triangular matrix of correlations shows that the supplier-customer and customer-supplier correlations for any pair of market strengths are similar, with both being positive. This suggests balanced relations. In contrast, for poor relations, there are more differences in the complementary pairs of correlations between market strengths, with a number showing considerable

differences in the correlations based on a simple comparison. This suggests more imbalance in the relationships. In particular, there is a difference of greater than 0.7 for three pairs of correlations, i.e. price and delivery (supplier-customer = 0.49, customer-supplier = -0.44), price-access to supply (-0.67, 0.15) and innovation-international experience (0.61, -0.11). These differences may be symptomatic of dysfunctional relations. Or they may reflect different market conditions. For example, the supplier's price position and customer capacity to deliver are positively correlated but supplier price and customer access to supply are negatively correlated. Upon reflection this is not surprising because, if there are limited supply options, the supplier can charge higher prices even though this may not be good for the relationship. But if customers are able to deliver effectively and attract market share as a result they will be able to pay more.

Table 3 shows the correlations between the market position of suppliers and customers from the customer's perspective. The pattern of results from the customer's perspective are less reliable because the sample size is much smaller, especially for poor relations. But the general pattern of results is similar. The correlations between the strength of market positions are much stronger for good than poor relations, with all being positive, suggesting that good relations are more balanced.

\*Table 3 about here\*

For poor relations three complementary pairs of correlations between strengths of market position are noticeably different, i.e. price and marketing skills (supplier-customer = -0.75, customer-supplier = 0.46), international experience and price (0.83, -0.50) and international experience and delivery capacity (0.68 and -0.13). The price-marketing skills relation may reflect the impact on customer profits of high priced inputs from suppliers that result in high quality outputs requiring stronger marketing effort and skills, that are also costly. When customers compete on price, i.e. have a strong price position in their home market, bargaining with suppliers may be fiercer and suppliers therefore require stronger marketing skills to compete. But this tends to be a lower margin and profitability relation.

Our interpretations of the pattern of correlations can only be tentative at this stage. But the results do raise interesting issues for further analysis. When are different market strengths complementary and not dysfunctional? Does a greater degree of similarity between supplier-customer and customer-supplier pairs of market strengths always imply a more balanced relation, or are their situations in which this adversely affect the relation? Our theory of business mating only helps us to start pondering these questions.

## **Discussion and Conclusions**

Firms do it! Our results contribute to our understanding of the first stage of relationship development; finding partners. We have found that firms seek out those that are similarly or complementarily positioned in the market. In other words the characteristics of firms forming relations are not randomly matched but result from a process of assortative

mating. This is consistent with findings from studies of mating couples in animal and human species but was far from being obvious at the outset of our research.

But this should come as no surprise because firms are managed by individuals. While companies' routines and other restrictions may hamper the opportunities for individuals to make choices, these restrictions do not seem to affect the fundamental manner in which individuals operate and relate to each other when they act on behalf of the company.

The reason for similarly positioned firms mating with one another or like tending to mate with like, is a dominant finding in studies of assortative mating and similar types of explanations may hold. Similar firms are more likely to be able to understand each other and be able to reach an agreement, to work together and to sustain a relationship. They are likely to have similar outlooks and face similar problems from being in similar market positions. Less similar firms are more likely to have - in the parlance of relationship marketing - "affairs" rather than "marry."

Our results also show that firms tend to mate those that have different but complementary market positions. This is in line with normative theories of partner selection that advise firms to seek out firms with complementary resources and skills that they do not possess or cannot as efficiently provide for themselves. Market position is an indicator of this and is something that is visible to other firms. It thus can be part of a firm's attractiveness similar to the way the external features of people underlie their preferential image or standards of beauty.

Animals and people are looking for partners to mate with that have good genes so that they maximize the survival chances of their offspring. Like in mating couples everywhere, firms have developed ways of assessing the external characteristics that signal good internal "genes" to fit with their own "genes" so as to maximize the potential for firm survival. In the case of firms, these "genes" are the skills and routines, competencies, other relations and resources that are not immediately apparent but which play a critical role in determining the success of the relationship and the performance and survival of the partner firms involved. Firms, unlike animals, do not have to die and their ultimate goal is to survive in the market in the long run. They survive by preserving and developing their "genes," in conjunction with their partners' "genes," through their expression in the form of valued products and services with competitive advantage (their phenotypes). Sometimes firms and their partners do produce offspring, as when spin-off companies are formed through personnel leaving to startup other firms taking with them certain competences, contacts and knowledge, or when "skunk works" within a firm give birth to independent firms. This concept of gene survival is similar to that proposed by Nelson and Winter (1982?) in their evolutionary theory of the firm.

The effect of complementarities is further demonstrated by our results regarding relationship performance. Our results show that firms that enjoy good relationships exhibit a tighter match, reflected in terms of stronger correlations on several characteristics, including market share, quality, innovativeness, and technology. On the other hand, companies suffering from poor relationships are less strongly and poorly

matched on these same characteristics. Previous researchers have argued that good relationships will only occur between partners who are symmetric on characteristics such as relative size, market share, financial strength and company reputation. Our empirical observations confirm these assertions.

Our results are in line with the explanations offered by balance theory. According to balance theory only relations that are in balance can be expected to function well and to continue. But balance theory is not clear on **how** complementarities lead to balance. The explanation offered above is a way forward. Firms are balanced when they have synergetic gene couplings that contribute to both relationship performance and firm performance and survival. The interaction among these genes over time in a given business and network context gives rise to a stable phenotype in the form of a relationship with mutually adjusted actor bonds, resources ties, activity links and schema couplings.

Prior research in management and marketing has drawn on Darwinian concepts, but the focus has been on individual fitness and natural selection. Darwin showed that sexual selection is also an important driver of selection and evolution. Both Darwin's theories offer relevant explanations as to how companies might act to stay in the market and how markets and firms evolve. The market sets rules and conditions for players wishing to participate and these rules evolve over time in a self-organizing way. As Stuart Kauffman (2000) describes it: "The winning games are the games the winners play." The winning games in business are defined by those that survive and by the relations that can and do exist. Companies that fail to understand and obey the evolving rules run the risk of going out of business. Staying competitive means identifying, attracting and getting on with partners with whom companies can achieve a good match. An optimal relationship outcome is one which allows companies to stay and perform well in the market.

One obvious limitation of our study is the data on which the conclusions are based. To this extent, the results must be seen as preliminary. More research is required regarding the degree of match for additional characteristics of firms involved in successful and less successful relationships and for other samples of relationships. This will help establish if the set of characteristics that we have identified are peculiar to our sample of relations or not and the importance of other characteristics.

Not all partnerships are successful, relationships can fail and new partnerships form and thus in any sample of relations we are likely to see a mixture of stable relations and relations in transition -beginning or ending. This will affect the kinds of similarities and differences we see among partner firm characteristics. For this research we use a sample of important relations that have been on-going for some time. Such a sample is likely to reveal more about the characteristics of productive matches than a sample of say newly formed relations or a study that asks firms to rate the attractiveness of potential partners. But studies of the latter types are also relevant.

Our results focus on the perspective of one relationship partner and while perceived similarity and complementarity is obviously relevant in partner selection, we also need to

consider the perspectives of both parties. After all in the long run it is the genes firms really have that matter for survival in the game of business life. Hence we need objective measures of both partner's characteristics as well as self perceived characteristics, as has been used in studies of assortative mating in biology and social psychology.

Our findings hold several implications for managers. In general our research adds new dimensions to what constitutes due diligence in the search for and evaluation of relationship partners and merger and acquisition targets. First, our research shows that when a company seeks a business partner, symmetry in certain characteristics between the two companies involved is important. When partners have matching characteristics with regard to market share, technology, company reputation etc, the probability of relationship success is increased.

Second, our results suggest additional means of assessing partners. For example, when choosing a supplier, a great deal of effort is put into decisions about whether or not the supplier is trustworthy and capable of carrying out the tasks involved. Symmetry in the general characteristics of the potential supplier may turn out to be a good predictor, along with factors that companies usually look for in suppliers. Similarly, the choice of a distribution partner in a new market may depend partly on an evaluation of the degree of symmetry in the characteristics of the potential partner.

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**Table 1**  
**Correlations Between Supplier and Customer Characteristics as Reported by Suppliers**  
**(source: IMP2 European Data Base)**

<b>a) Size</b>	corr (n)
Turnover of group or company	.63 (41)
Trend in group turnover	.41 (37)
Turnover of business unit	.20 (51)
Trend in business unit turnover	.50 (38)
Domestic Market Share	.17 (69)
Trend in Domestic Market Share	.59 (41)
World Wide Market Share	.32 (31)
Trend in World Wide Market Share	.52 (25)
No. of domestic customers	.08 (30)
Trend in No. of domestic customers	.49 (34)
Trend in no. of worldwide customers	.57 (27)
Trend in No. of countries with sales subsidiaries	.65 (31)
<b>b) Internationalisation</b>	
% of foreign sales with % of foreign Purchases	.04 (34)
Trend in % foreign sales with % foreign purchases	.48 (34)
<i>Importance of:</i> a) domestic market	.06 (108)
b) Europe market	.09 (102)
c) E. Asia market	.26 (94)
d) North American Market	.40 (95)
<b>c) Number and Strength of Competitors</b>	
Worldwide	-.03 (44)
Trend in n. of customers worldwide	.58 (33)
Own country	-.01 (41)
Strength own country	.38 (46)
Europe	.05 (35)
Strength Europe	.55 (35)
Strength E. Asia	.54 (24)
Strength North America	.48 (29)

**Table 2 Market Position of Supplier and Customer in Customers Market:  
Supplier's Perspective**

<b>Customer</b>	<b>Min n</b>	<b>Mkt Share</b>	<b>Price</b>	<b>Quality</b>	<b>Deliv. Capac</b>	<b>Mktg Skills</b>	<b>Service</b>	<b>Innovation</b>	<b>Technology</b>	<b>Access to Supply</b>	<b>Int'l Experience</b>
<b>Supplier</b>											
<b>a) Poor Relations (Profits &lt;=3)</b>											
Mkt Share	28	.12	.27	.11	.13	.14	.21	.27	.22	.33	.40*
Price	23	-.08	-.10	-.10	-.44*	.14	.02	-.10	.08	.15	-.26
Quality	26	-.23	.13	.18	.36	-.24	-.08	-.23	-.12	.27	-.03
Deliv. Capacity	25	-.14	.49*	.14	.21	-.15	-.15	-.25	-.06	.18	.18
Mktg Skills	24	-.05	-.13	-.02	.17	-.09	-.16	-.25	-.16	.06	.07
Service	24	.08	-.39	-.11	-.53*	.06	.06	-.26	-.12	.33	-.21
Innovativeness	24	.22	-.08	-.13	-.25	.06	-.09	.20	-.01	-.02	-.11
Technology	22	.09	-.17	.22	-.35	-.09	.04	.02	.23	.09	-.10
Access to Supply	23	.05	-.67**	.19	-.37	-.08	.09	-.15	.12	.18	-.39
Int'l Experience	23	.23	-.15	.08	.36	-.11	-.01	.61**	.30	-.08	-.07
<b>b) Good Relations (Profits &gt;3)</b>											
Mkt Share	66	.47**	.14	.28*	.15	.28*	.19	.18	.30*	.24*	.28*
Price	57	.11	.18	.07	.12	.29*	.13	.10	.15	.38**	.25*
Quality	63	.38**	*	.40**	.33*	.33*	.34*	.29*	.34*	.24*	.32*
Deliv. Capacity	58	.25	.28*	.39**	.35*	.43**	.24	.25	.20	.26*	.39**
Mktg Skills	57	.31*	.24	.45**	.33*	.34*	.37**	.29*	.25	.28*	.32*
Service	55	.35*	.24	.42**	.19	.31*	.28*	.45**	.24	.18	.22
Innovativeness	57	.19	.16	.40**	.12	.41**	.35*	.39**	.26*	.14	.16
Technology	57	.26*	.12	.49**	.23	.29*	.18	.38**	.48**	.19	.25
Access to Supply	52	.19	.27*	.45**	.31*	.46**	.43**	.21	.38*	.40**	.25
Int'l Experience	57	.45**	.23	.35*	.23	.26*	.28*	.30*	.17	.23	.16

(\* = p<0.5; \*\* = p<0.01)

**Table 3 Market Position of Supplier and Customer in Customers Market:  
Customer's Perspective**

<b>Customer</b>	<b>Min</b>	<b>Mkt</b>	<b>Price</b>	<b>Qual-</b>	<b>Deliv.</b>	<b>Mktg</b>	<b>Serv-</b>	<b>Innov-</b>	<b>Tech-</b>	<b>Access</b>	<b>Int'l</b>
<b>Supplier</b>	<b>n</b>	<b>Share</b>		<b>ity</b>	<b>Capac</b>	<b>Skills</b>	<b>ice</b>	<b>ation</b>	<b>nology</b>	<b>to</b>	<b>Exper-</b>
										<b>Supply</b>	<b>ience</b>
<b>a) Poor Relations (Profit-c &lt;= 3)</b>											
Mkt Share	11	0.29	0.63*	0.07	-0.20	-0.27	-0.25	0.32	0.17	0.17	-0.46
Price	10	0.29	0.21	0.26	-0.39	-0.75**	-0.50	0.40	0.22	-0.13	-0.50
Quality	11	-0.17	0.48	0.03	-0.37	-0.42	-0.06	0.05	0.51	-0.08	-0.27
Deliv. Capacity	12	0.31	0.13	0.12	-0.03	0.32	-0.02	0.53	0.39	0.25	-0.13
Mktg Skills	10	0.18	0.46	-0.10	0.23	0.00	0.19	0.31	0.33	-0.10	-0.08
Service	11	-0.01	0.29	-0.23	-0.14	-0.26	-0.30	0.34	0.18	-0.02	-0.30
Innovativeness	11	0.14	0.28	0.00	0.00	-0.41	-0.39	0.28	0.00	0.10	0.14
Technology	11	0.25	0.68*	0.23	0.10	-0.06	0.04	0.27	0.23	0.10	0.21
Access to Supply	7	0.46	0.52	0.32	0.27	-0.12	-0.04	-0.08	-0.40	0.01	0.40
Int'l Experience	11	0.45	0.83**	0.37	0.68**	0.50	0.32	0.62	0.12	0.00	0.49
<b>b) Good Relations (Profit-c &gt;3)</b>											
Mkt Share	23	0.49**	0.22	0.46*	0.29	0.38	0.23	0.55**	0.57**	0.36	0.39
Price	23	0.41*	0.43*	0.36	0.67**	0.47*	0.41*	0.35	0.42*	0.58**	0.59**
Quality	23	0.48**	0.36	0.53*	0.50**	0.55**	0.29	0.54**	0.51**	0.34	0.43*
Deliv. Capacity	23	0.61**	0.38	0.61**	0.53**	0.57**	0.35	0.51**	0.64**	0.43*	0.48*
Mktg Skills	23	0.46*	0.33	0.35	0.47*	0.45*	0.34	0.56**	0.53**	0.39	0.41*
Service	23	0.53**	0.33	0.50**	0.51**	0.59**	0.37	0.62**	0.57**	0.48*	0.47*
Innovativeness	23	0.53**	0.34	0.51**	0.46*	0.60**	0.36	0.72**	0.66**	0.47*	0.53**
Technology	23	0.60**	0.28	0.57**	0.44*	0.61**	0.45*	0.60**	0.68*	0.47*	0.47*
Access to Supply	16	0.55**	0.38	0.60**	0.60**	0.59**	0.42	0.52*	0.70**	0.65*	0.53
Int'l Experience	22	0.40*	0.52**	0.43*	0.62**	0.38	0.41*	0.44*	0.44*	0.47*	0.38

(\* = p < 0.5; \*\* = p < 0.01)