Indian Journal of Economics and Business
Vol. 20 No. 3 (December, 2021)

http://www.ashwinanokha.com/IJEB.php

# Firms' Performance as Antecedent and Consequence of Acquisition Transactions

**Mohamed Bin Abderrazek Boukhris[1], Mohamed Khaled Al-Jafari[2*], Abduraawf Hadili[3]**

1 *College of Business Administration, Department of Accounting and Finance, Prince Mohammad Bin Fahd University, Al-Khobar, Kingdom of Saudi Arabia, email: mboukhris@pmu.edu.sa*
2 *Head of Accounting and Finance Department, Prince Mohammad Bin Fahd University, Al-Khobar, Kingdom of Saudi Arabia, email: mjafari@pmu.edu.sa*
3 *College of Business Administration, Department of Accounting and Finance, Prince Mohammad Bin Fahd University, Al-Khobar, Kingdom of Saudi Arabia, email: ahadili@pmu.edu.sa*

* Corresponding author: *mjafari@pmu.edu.sa*

**Received:** 15th July 2021
**Revised:** 04th September 2021
**Accepted:** 15th September 2021

**Abstract:** This paper aims to examine the mutual co-dependence of inter-firms' acquisition events and firms' performance. Since post-acquisition performance constitutes a major consideration for acquiring firms, and simultaneously, pre- acquisition performance has always been a major trigger for selecting a target firm, then acquisition networks and firms' performance reveal the existence of a broader evolutionary mechanism linking inter-firms' acquisition events and firms' individual performance over time. To validate our claims, we have collected data on 3170 acquisition transaction events corresponding to 263 electricity firms distributed in 55 countries and among 5 continents during the period 2008-2018. Our results suggest that the post-acquisition performance of acquiring firms is likely to become similar to the performance of their target partners. We also reported evidence of performance homophile: electricity firms have tendency to establish acquisition ties with firms exhibiting similar level of pre-acquisition performance. Therefore, this study highlights the fact that inter-firms' acquisition networks evolve in a complex dynamism being – at the same time- affected and affecting individual firms' performance.

**Keywords:** Acquisition-Network, Target Firm Selection, Performance Spillover, Performance Homophily, Actor-Based Models.

## 1. Introduction

Firms exhibit divergences in the way they perform. Literature has explained this divergence in different ways. For instance, firms might perform differently because of their unique and distinct positioning within their industries (Ahuja, 2000; Finkelstein and Haleblian, 2002). In addition, firms' unique internal resources and competencies have been demonstrated to be the reason for individual firms'

performance divergence(Ding, Zhang, and Liu, 2021). Furthermore, the embeddedness of firms in relations with rivals and partners has been shown to play a major role in shaping their unique performances (Bos, Faems, and Neseleit, 2017). Finally, conventional individual firms' boundaries are frequently spanned for performance considerations especially in strategic alliances research (Dyer and Singh, 1998; Powell, Koput and Smith-Doerr, 1996).

Following these arguments, we will try to elaborate more on the joint co-dependence of acquisition events and individual firms' performance. For instance, the number and type of network-acquisition events do affect individual firms' performance, and simultaneously target firms are mainly selected based on performance considerations. Consequently, the mechanism of target firm selection – triggering the establishment of the acquisition event – and the mechanism of acquisition-network influence – triggering enhancement of individual firms' performance – can be transcribed as elements of an evolutionary dynamical mechanism connecting individual firms' performance and network of acquisition events. As a matter of fact, Brass, Galaskiewicz, Tsai, and Greve (2004, p. 809) have documented this view clearly by stating that "networks create outcomes that are, in turn, antecedents for further network development."Hence, the key research question here can be formulated as follows: over time, how mutually and co-dependently do mechanisms of individual firms' performance and acquisition-network events co-evolve? The answer to this question constitutes the primary motivation of this study. To do so, this research integrates both theory and empirical evidence to study the relation between firms' performance from one hand and antecedents and consequences of inter-firms' acquisition-networks from the other hand.

To move along and contribute to this stream of research, the main argument in this paper relies on the fact that relationships between firms' individual performance and inter-firms' acquisition networks is the main factor explaining the relevance of networks for the mutual formation of endogenous mechanisms in inter-firm's networks. In other words, how inter-firms' relations at one level generates more complicated network endogenous mechanisms at different levels (Breiger, 2002). This paper tries to improve such comprehension by introducing a framework that demonstrates empirically how interrelated but distinct mechanisms of acquisition targeting and individual firms' performance influence among electricity firms interact and shape one another. In order to test the validity of our arguments, we rely on the empirical framework developed analytically in Snijders et al. (2010).

## 2. Theory and Hypotheses

### 2.1 Performance Spillover

A broad literature review on inter-firms' relationships has demonstrated that firms are interconnected within their own industries and environments to other firms. Consequently, the choice of the right acquire, in the case of acquisition-relationships, constitutes the major factor triggering this potential partnership relation and affecting the post-acquisition individual firms' outcomes such as performance. To make the right choice, firms are more likely to assess the benefits, value, and quality of their partners' distinct resources, and whether they might access these unique privileges through acquisition transactions with them (Jensen and Roy, 2008; Rabier, 2019). The choice of the right acquiree also matters because learning is acquired though partnership relations (Bothner, 2003; Cho and Arthurs, 2018). The uncertainty that firms face during turmoil periodscan be acquainted for, managed, and mitigated through the development of effective procedure for the absorption of knowledge and expertise gained via inter-firms relations (Field and Mkrtchyan, 2017; Iskandar-Datta and Shekhar, 2020). Finally,

the choice of the right acquiree matters because firms have tendency to position themselves within their own industries

and to create their own identities and status by their involvement and affiliation in a dynamic web of network-based relationships(Stuart, 1998; Podolny and Stuart, 1995; Baum and Oliver, 1991). Nevertheless, those acquisition-network, self-chosen positions, and roles are likely to affecta broad range of individual firms'outcomes. For instance, Podolny, Stuart, and Hannan (1996), have shown that network-based structures of inter-organizational alliances affects firms' market share. In a more recent study, it has been demonstrated that employees' job performance and personality are both affected by affiliations of their corresponding firms in inter-firm's' relations (Fang, Landis, Zhang, Anderson, Shaw and Kilduff, 2015). Furthermore, other individual firms' outcomes such as the ratio price/cost that firms might impose in their industries have been shown to be affected by inter-firms' relationships (Podolny, 1993). In addition, Stuart, Hoang, and Hybles (1999) studied audience evaluation of unique segments in the market as an outcome of inter-firms' alliances. In summary, the choice of the right acquire matters because acquisition transactions with leading well-performing firms, and inter-firms' network ties to target firms that are enjoying high status represents the basic channel through which individual firms' performance influence diffuses viainter-firms' alliances in general, and acquisition events in particular (Davis and Greve, 1997; Greve, 1999).Then, according to our" *Performance Spillover Effect" hypothesis* (H1):

***Hypothesis 1***: *A firm's post-acquisition performance is influenced by itsacquiree' sperformance.*

## 2.2 Performance Homophily

We developed our argument in the previous session relying on the broadly discussed observation that established network ties in the form of acquisition transactions affect individual firms' performance. Nonetheless, the decisions taken by firms to acquire others in a network-based framework do not represent only antecedents of firms' outcomes such as performance, but also their consequences (Brass, Galskiewicz, Tsai, and Greve, 2004). Otherwise stated, network ties in the form on acquisition events are determined ex post compared to individual firms' performance that is determined ex ante. Acquiring other firms is an event that precedes firms' ability to influence their acquirees' outcomes. Therefore, the question that pertains here is how network ties in the form of acquisition transactions form initially? Browsing the literature, a wide range of studies on acquisition antecedents directly discusses this question. For instance, the role of endogenous self-oriented network mechanisms such as reciprocity and transitivity, and the effect of embedded ties in strategic alliances, has been discussed extensively in Gulatiand Gargiulo (1999) and Uzzi and Lancaster (2003). The antecedents of network ties, in the form of strategic alliances, were also discussed by Gulati (1995),who improved our understanding of this mechanism by focusing on relational inertia and adding a temporal dimension generated by the presence of pre-established alliances. In Lawrence and Shah (2020), the concept of homophily–defined, as the progressive likelihood of firms exhibiting similar characteristics to engage in partnership relations and resources exchange was unveiled. Several studies of inter firms' relations have considerably supported the homophily hypothesis(Hayward and Hambrick, 1997; Stuart, 1998; McPherson, Smith-Lovin and Cook, 2001). For example, Powell, White, Koput, and Owen-Smith (2005) proved empirically that firms in the biopharmaceutical sector being similar along criteria such as location, ownership status, size, and age have tendency to engage in partnership collaboration. Furthermore, Ring and Van de Ven (1992) and Louch (2000) have provided convincing confirmation that the likelihood of inter-firms' collaboration increases if both acquirers and acquire sreveal alike power or status, or are homophilous through other pertinent firms' dimensions. In turn, power and status could be translated as outcomes of endogenous network mechanisms and partnership activities such as affiliation with familiar acquisition

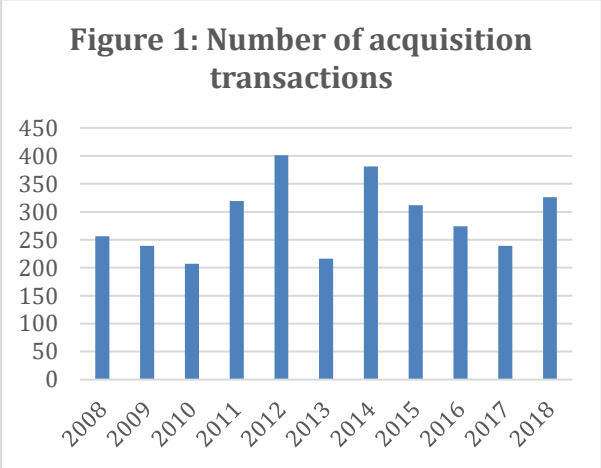
partners (Benjamin and Podolny, 1999; Ertug, Gargiolo, Galunic, and Zou, 2018), endorsements by prominent advocates (Stuart, Hoang and Hybels, 1999), or with high performing firms (Martinez, D'Espallier, and Mersland, 2021). In summary, the empirical literature has shown that outcome of firms' partnership exerts frequent influence on the choice of targets firms in general and acquirees in particular in the case of acquisition events. Yet, if these post-partnership outcomes of acquisition transactions become antecedents of acquiree's selection; then the"*Acquiree's Selection" hypothesis* (H2) that follows summarizes our claim:

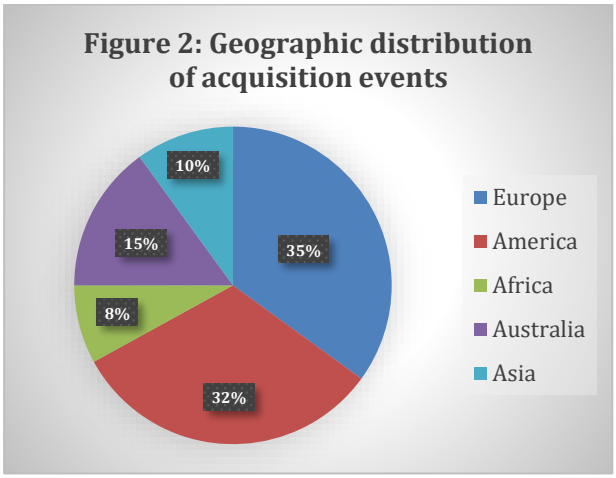
***Hypothesis 2***: *A firm's pre-acquisition performance influences the choice of its acquiree.*

## 3. Research Design

### 3.1 Data

In order to construct our study sample, we started from a worldwide date base (the Security Data Company SDC) that includes information on acquisition transactions that happened between companies operating in the electricity industry during the period 2008-2018. We chose to focus on this particular industry because, since deregulations took place in the electricity industry in the late nineties, electricity firms worldwide started to engage in merger and acquisition relations with others. Therefore, these acquisition ties have influenced their corresponding firms' performance. The selected sample contains 3170 equity investment events that happened during the period 2008-2018 among 263 companies operating in 55 countries and across 5 continents. For coding purposes, we used one-mode network matrix for each year of analysis. Since our study period covers 11 years from 2008 to 2018, we coded our data in the form of 11 network matrices. The matrices are binary, 263x263 square matrices. They are binary because number 1 is included in the cell "ij" if the corresponding firms "i" and "j" have engaged in an acquisition transaction, and 0 otherwise. Figures 1 and 2 summarize some of our data sample characteristics.




### 3.2 Empirical Model Specifications

Our model specification focuses on the analytical framework proposed by Snijders et al. (2010). The agent-based model they discussed in their pioneer study constitutes an ideal choice for our network-oriented research on acquisition events and performance consequences in the electricity industry. The starting point in this modeling procedure is to assume that acquisition events are coded in the form of binary networks and that performance of electricity firms is coded in the form of intervals of ordinal integers. Therefore, we ended up with eleven 263x263 binary matrices corresponding to acquisition transactions from years 2008 to 2018, and a 263-sized score columns for the 263 electricity firms corresponding to our chosen performance metric which is "*Retained Earning*". It is worth to mention that the initial observation is very important because it represents the triggering value of the feedback

mechanism relating acquisition-network configurations and individual firms' performance. Analytically, the agent-based model proposed by Snijders et al. (2010), expresses the periodic changes between consecutive observations in the form small moves happening either to the acquisition-network or to the performance outcomes. Each firm has a chance, at arbitrary moments, to make tiny moves either within its acquisition-network neighborhood, or to its own performance. We call these moves "micro steps". A micro step is defined as the opportunity provided to the corresponding firm to establish or revoke only a unique tie with its potential or existing partners respectively. Similarly, provided steps do not surpass the permitted limits, a performance micro step suggests that each firm has the opportunity to enhance or decline its performance score by only one unit. Let us denote by "*f*" the probabilistic modeling of the objective functions for both types of micro steps that need to be maximized for optimization purposes. These objective functions shown in equations 1 and 2 contain both a deterministic and a random part. They represent the utility and the satisfaction gained by electricity firms along a well-specified network-performance configuration; where the "S" statistics hinge on the network"X" surrounding firm "*i*", and the stochastic scattering of performance "Z".

Network objective function of actor *i*: $$f_i^{\text{net}}(x,z) = \sum_k \beta_k^{\text{net}} s_{ik}^{\text{net}}(x,z) + \varepsilon_i^{\text{net}} \quad (1)$$

Performance objective function of actor *i*: $$f_i^{\text{beh}}(x,z) = \sum_k \beta_k^{\text{beh}} s_{ik}^{\text{beh}}(x,z) + \varepsilon_i^{\text{beh}} \quad (2)$$

Given the current state of a specific firm's performance score and acquisition-network relations, once micro steps are decided upon, the model optimizes the objective function for this firms' network "X" and performance "Z". The simulation procedure of the agent-based model relies on the fact that firms evaluate their choice options in order undertake their decisions. This makes the mechanism reflects the dynamic feedback between acquisition ties and individual firms' performance. To control for possible other determinants of micro steps that are not captured by the model specification, an error term $\varepsilon$ is included. The random terms $\varepsilon$ are assumed to be independent and follow a standard Gumbel distribution. As detailed in McFadden (1974), the logit distribution would be a perfect choice for representing the micro steps probabilistic framework.

The agent-based model presumes that, for each network and performance micro steps, firmstry to maximize their corresponding objective functions myopically. For these reasons, the probability choice related to both network and performance micro step decisions, showed in the form of utility functions, follows a multinomial logit distribution. For instance, let $x(i \to j)$ denote the transition within the acquisition-network that would result from firm*i* modifying its partnership status with firm*j*, where $x(i \to i)$ formally stands for a firm making no change at all. The probability for such a network micro step is as follows:

$$\Pr(x(i \to j) \mid x,z) = \frac{\exp\left(\sum_k \beta_k^{\text{net}} s_{ik}^{\text{net}}(x(i \to j),z)\right)}{\sum_{\ell \in \{1,\ldots,N\}} \exp\left(\sum_k \beta_k^{\text{net}} s_{ik}^{\text{net}}(x(i \to \ell),z)\right)} \quad (3)$$

Similarly, ley $z(i \updownarrow \delta)$ denotes the performance score for firms resulting from firm*i* enhancing/degrading ts performance by adding/removing$\Phi \in$ {-1, 0, +1}to its performance score. Changes in the denominator are allowed only if the resulting performance scores do not surpass permitted range. The probability for such a performance micro step is as follows:

$$\Pr(z(i \updownarrow \delta) \mid x,z) = \frac{\exp\left(\sum_k \beta_k^{\text{beh}} s_{ik}^{\text{beh}}(x,z(i \updownarrow \delta))\right)}{\sum_{\phi \in \{-1,0,+1\}} \exp\left(\sum_k \beta_k^{\text{beh}} s_{ik}^{\text{beh}}(x,z(i \updownarrow \phi))\right)} \quad (4)$$

Finally, the optimization of the objective functions presented in equations 1 and 2 relies on the mandatory presumption that firms frequently modify one of their acquisition-network ties following

equation 3, and enhance their performance scores following equation 4, given that those choices occur at arbitrary instants and at different recurrence.

# 4. Variables and Measures

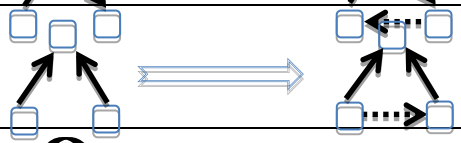
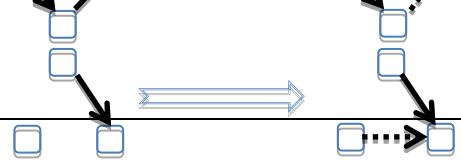
## 4.1 Dependent Variables

Alike several studies in the literature on inter-firms' partnership relations, we focus in this paper on the financial performance of electricity firms. To measure this financial performance, we chose the "Retained Earning" accounting measure as in indicator of electricity firms' profitability. In fact, retained earnings represents the part of firms' net income that is not distributed out to shareholders, and is instead kept by firms to be reinvested in the operating cycle. To compute it, we need to add the firms' current period accounting net income to the beginning balance of retained earnings, and subtract the portion distributed as dividends. Generally, firms use their retained earnings for growth purposes by investing this capital in their core business cycle or in research and development. It is worth to mention that mathematically, this measure could be either positive or negative depending on the current period profit or loss and on the firms' payout ratio. The EMDB database and the COMPUSTAT dataset were our main sources to collect this measure during our study period in the electricity industry. As per coding constraints, as explained in the model specification part, we defined 5 categories of retained earnings that are classified in score classes from very low to very high.

## 4.2 Network Effects on Acquisition Transactions (Independent Variables)

In a way to capture the likelihood and the tendency of acquisition networks to self-organize into several endogenous mechanisms, we included the following covariates whose implied qualitative explanations are summarized in Table 1.

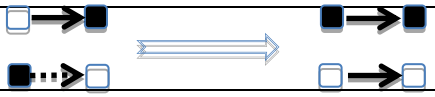
**Table 1:** Network Self-Oriented Mechanisms for Modeling Acquisition Events

| Acquisition Network | Transition | Transition Explanation |
|---|---|---|
| **Density (out-degree)** |  | Tendency of firms to randomly establish ties with other firms |
| **Mutual ties (Reciprocity)** |  | Tendency of firms to acquire their acquirer |
| **Transitive ties (Transitivity)** |  | Tendency of firms to acquire their partners' targets |
| **Structurally equivalent ties (Balance)** |  | Tendency of firms to acquire others exhibiting similar structures |
| **Geodetic distance two ties** |  | Tendency of firms to keep their targets at distance 2 |
| **Target firms popularity (Popularity alter)** |  | Tendency of firms to imitate others by acquiring popular target firms |

## 4.3 Network Effects on Post-Acquisition Performance (Dependent Variable)

In order to verify how firms' networks of performance tend to self-organize in a variety of local configurations, we included the following behavioral covariates whose qualitative implications are summarized in Table 2.

**Table 2:**Network Self-Oriented Mechanisms for Modeling Acquisition Performance

| Network Effect | Transition | Transition Explanation |
|---|---|---|
| **Density (Out-degree)** |  | Principal performance propensity |
| **Effect on performance (In-degree)** |  | Impact of being popular (in-degree ties) on performance |
| **Effecton performance (Out-degree)** |  | Impact of being active (outgoing ties) on performance |
| **Effect on Performance(Similarity)** |  | Being conform to partners (assimilation, influence) |

## 5. Results and Analysis

Table 3 below summarizes the output of the 3 models we have tested and their parameter estimates.

**Table 3:** Models and Parameter Estimates(Standard Errors in Parentheses)

| Acquisition-Network Dynamics | Model 1 | Model 2 | Model 3 |
|---|---|---|---|
| Density (out-degree) | -7.1632** (0.1338) | -5,3050** (0,1663) | -4,4436** (0,1655) |
| Mutual ties (Reciprocity) | 0.4248 (0.5482) | 0,3049 (0,3918) | 0,2079 (0,5373) |
| Transitive ties (Transitivity) | 3.1563** (0.3642) | 1,9889** (0,4147) | 2,9801** (0,5868) |
| Structurally equivalent ties (Balance) | -0.8671** (0.0210) | -0,7592** (0,0162) | -0,9833** (0,0259) |
| Geodetic distance two ties | -0.8317** (0.0144) | -0,7085** (0,0568) | -0,6230** (0,0485) |
| Target firms popularity (Popularity alter) | 0.9754** (0.2261) | 0,9705** (0,3111) | 0,8973** (0,2499) |
| Retained earnings ego | _ | _ | -0,2379 (0,1783) |
| Retained earnings alter | _ | _ | 0,3891* (0,1837) |
| Retained earnings similarity | _ | _ | 1,5249** (0,3870) |
| **Performance-Network Dynamics** | **Model 1** | **Model 2** | **Model 3** |
| Density (Out-degree) | _ | 0,0944 (0,3149) | 0,0585 (0,6161) |
| Effect on Performance (Similarity) | _ | 6,7405** (2,1116) | 3,0389**(0,7039) |
| Effect on performance (In-degree) | _ | 0,7088* (0,3394) | 0,5641* (0,2775) |
| Effect on performance (Out-degree) | _ | -0,0588 (0,0878) | -0,0143 (0,0469) |

*Note: Standard errors are in parentheses. **=p<.01 * = p<.05*

Firstly, we started by testing a first basic model that only contains configuration of the network objective function (i.e., intercept and endogenous network mechanisms). The results in model 1 show a negative sign and high significance for the "density" parameter estimate (-7.1632, p-value < 0.01). This result might be explained by the economic cost associated with establishing a network acquisition tie with acquirees. The "reciprocity" parameter estimate was positive but insignificant. This result is

understandable because acquiring equity stakes from a firm does not necessarily imply a reciprocated acquisition tie from that firm to you. It was necessary to check for the existence of potential triadic configurations between

Electricity firms. Therefore, we included the triadic mechanisms explained in table 1 and tested whether they have any significance power in explaining the acquisition ties' formation. We found a highly significant and negative parameter estimate for the "firms at distance 2" effect (-0.8317, p-value < 0.01), and a positive and highly significant parameter estimate for the "transitivity" effect (3.1563, p-value < 0.01). Interpreted together, these two last findings clearly reveal the presence of triadic closure tendencies within our acquisition networks. The joint interpretation of these two effects is that the partners of our firms' partners are more likely to become our future partners. However, the parameter estimates for the "balance" effect was negative and highly significant (-0.8671, p-value < 0.01). This finding explains how structurally equivalent firms in the electricity industry compete rather than collaborate, and hence, have tendency not to establish acquisition ties between them. Finally, the parameter estimates for the "popularity" of the acquiree (alter) was found to be highly significant with a positive sign (0.9754, p-value < 0.01). In other words, if a firm's equity is a target of multiple acquisition by other firms than ours, our firm tends to also mimic the other competitors by establishing an acquisition tie with that popular firm.

Secondly, we extended our model 1 into a more developed model 2 by including effects of the performance objective function. These performance consequences, as discussed in the theoretical part of this paper, are predicted to be influenced the network-acquisition ties in the electricity industry. Actually, we reported an insignificant with a positive sign parameter estimate for the performance "tendency" effect. This effect normally models the general tendency to approach increasing levels of performance scores. Unfortunately, this parameter estimate was not significant. If it were so, it would have meant a preference of electricity firms to show high scores of performances. The other results in model 2 surround the theoretical hypothesis on performance spillover effect. In fact, the "popularity" (in-degree) parameter estimate that represents the effect of being popular on its own performance was significant with a positive sign(0.7088, p-value < 0.05). In addition, the "activity" (out-degree) parameter estimate that corresponds to the effect of being an active acquirer on its own performance was insignificant with a negative sign. Interpreted together, it becomes evident that prominent acquisition-network effects on individual firms' performance are more likely to happen through popular acquirees (in-degree ties) rather than through active acquirers (out-degree ties). More importantly, the "average similarity" parameter estimate, which was positive and highly significant(6.7405, p-value < 0.01), has confirmed and supported our theoretical *performance Spillover* hypothesis. This result confirms the presence of a directional assimilation of firms' performance: there is an increased likelihood that acquirers' performance becomes more similar to their acquirees' performance.

Finally, we extended even more model 2 into model 3in which we included three performance effects to the network objective function while keeping the same effects already included in model 2. We checked for the effects of "retained earnings ego", "alter", and "average similarity" on the potential acquisition tie formation. We reported a positive and highly significant parameter estimate for the latter one(1.5249, p-value < 0.01). The corresponding interpretation is that electricity firms tend to acquire other firms exhibiting similar levels of performance. The "alter" parameter estimate was also positive and significant(0.3891, p-value < 0.05). This result confirms that firms in the electricity industry target acquirees with increasing levels of performance. Consequently, these two last discussed results confirm our "*Acquiree's Selection*" hypothesis in the sense that homophily along the dimension of performance constitutes a main trigger for acquisition events among firms operating in the electricity industry.

## 6. Discussion and Conclusion

Browsing in the literature, research that discussed origins of inter firms' acquisition events have ignored that the influence and the feedback impact that those acquisition ties, once established, typically exert on individual firms' outcomes such as performance. Similarly, studies on how well- established acquisition ties among firms influence individual firms' outcomes such as performance have always ignored mechanisms of acquiree' s selection that triggers and initiates the formation and modification of those acquisition events. This phenomenon is problematic when individual firms' performance affects, and is simultaneously affected by ties from acquirers in the acquisition network framework, i.e., when acquisition network mechanisms and individual firms' performance co-evolve. Our study addresses this gap in the merger and acquisition literature and aims to do so by presenting an evolutionary firms-based model for the co-dependence of inter-firm's network configurations and individual firms' performance.

Alike previous research that have adopted a network approach of inter-firm's relations in general, and merger and acquisition in particular ,we have discovered that inter-firms acquisition transaction have tendency to self-organize into several structures. In fact, the triadic closure that does exist between acquirers and acquirees witnesses this tendency. We reported corroboration of inter-firm's performance absorption: over time, acquirers in electricity firms tend to endorse the performance of their acquirees. Stated differently, the performance of both acquirers and acquirees in the electricity industry tend to reach progressively similar levels over time. We also reported that firms' individual performance constitutes a trigger and then taken into consideration when choosing the right acquiree. More specifically, we confirmed that homophily of electricity firms along performance dimensions dramatically enhances the likelihood of an acquisition tie between them to be established. Those results imply the existence of a feedback mechanism that related firms' individual performance and acquisition ties' formation. In summary, from one hand, electricity firms involved in acquisition-network relations tend to perform similarly, and from the other hand, electricity firms are more likely to target acquirees attaining a comparable score on performance. This result confirms that mechanisms of performance spillover and acquiree's selection are only sub-components of a dynamic evolutionary model connecting individual firms' performance and acquisition network configurations.

## REFERENCES

Ahuja, G.(2000). Collaboration networks, structural holes, and innovation: A longitudinal study. Administrative Science Quarterly, 45(3), 425-455.

Bos, B., Faems, D., and Naseleit., F. (2017). Alliance concentration in multinational companies: examining alliance portfolios, firm structure, and firm performance. Strategic Management Journal, 38(11), 2298-2309.

Brass, D.J., Galaskiewicz, J., Greve, H.R., and Tsai, W.(2004). Taking stock of networks and organizations: A multilevel perspective.Academy of Management Journal, 47(6),795-817.

Benjamin, B.A., and Podolny, J.M.(1999). Status, quality, and social order in the California wine industry. Administrative Science Quarterly, 44(3), 563-589.

Breiger, R.L.(2002).Poststructuralism in organizational studies. M. Lounsbury, M. J. Ventresca, eds. Social Structure and Organizations Revisited. Greenwich, CT: JAI Press/Elsevier Science, 295-305.

Bothner, M. S.(2003). Competition and social influence: the diffusion of the sixth-generation processor in the Global Computer Industry.American Journal of Sociology, 108(6), 1175-1210.

Cho, S.Y., and Arthurs, J.D. (2017). The influence of alliance experience on acquisition premiums and post-acquisition performance.Journal of Business Research, 88(2), 1-10.

Davis, G.F., and Greve, H. R.(1997). Corporate elite networks and governance changes in the 1980s.American Journal of Sociology, 103(1),1-37.

Dyer, J., and Singh, H.(1998). The relational view: Cooperative strategy and sources of interorganizational competitive advantage.Academy of Management Review,23(4),660-679.

Erturg, G., Gargiulo, G., Galunic, C., and Zou, T. (2018).Homophily and individual performance.Organization Science, 29(5), 755- 787.

Fang, R., Landis, B., Zhang, Z., Anderson, M.H., Shaw, J.D., and Kilduff, M.(2015). Integrating personality and social networks: A meta-analysis of personality, network position, and work outcomes in Organizations.Organization Science, 26(4),319–338.

Field, L.C., and Mkrtchyan, A. (2017). The effect of director experience on acquisition performance.Journal of Financial Economics, 123(3), 488-511.

Finkelstein, S., and Haleblian, J.(2002).Understanding acquisition performance: the role of transfer effects.Organization science, 13(1), 1-17.

Greve, H.R.(1999).The effect of core change on performance: inertia and regression toward the mean. Administrative Science Quarterly, 44(3), 590-614.

Gulati, R.(1995). Social structure and alliance formation patterns: a longitudinal analysis.Administrative Science Quarterly, 40(4), 619-652.

Gulati, R., and Gargiulo, M.(1999). Where do interorganizational networks come from? American Journal of Sociology, 104(5),473-506.

Hayward, M.L.A, and Hambrick, D.C. (1997). Explaining the premium paid for large acquisitions: Evidence of CEO hubris. Administrative Science Quarterly, 42(1), 103-127.

Iskandar-Datta, M., and Shekhar, S. (2020). Do insider CFOs deliver better acquisition performance?Journal of Business Research, 118(3), 240-252.

Jensen, M., and Roy, A. (2008). Stating exchange partner choices: when do status and reputation matter?Academy of Management Journal,51(3), 495-516.

Lawrence, B.S., and Shah, N.P. (2020).Homophily: measures and meaning.Academy of Management Annals, 14(2), 513-597.https://doi.org/10.5465/annals.2018.0147

Louch, H. (2000). Personal network integration: transitivity and homophily in strong-tie relations.Social Networks, 22(1), 45-64.

Martinez, R.G., D'espalier, B., and Mersland, R. (2021).Bifurcations in business profitability: an agent-based simulation of homophily in self-financing groups.Journal of Business Research, 129(2), 495-514.

McFadden, D.L. (1974).Conditional logit analysis of qualitative choice behavior. P. Zarembka, eds. Frontiers in Econometrics, Academic Press, New York, 105-142.

McPherson, M., Smith-Lovin, L., and Cook, J. (2001). Birds of a feather:homophily in social networks. Annual Review of Sociology,27(1), 415-444.

Powell, W.W., Koput, K.W., and Smith-Doerr, L. (1996). Interorganizationalcollaboration and the locus of innovation: networks of learning in biotechnology.Administrative Science Quarterly,41(1), 116–45.

Powell, W.W., White, D.R., Koput, K.W., and Owen-Smith, J. (2005). Network dynamics and field evolution: the growth on interorganizational collaboration in the life sciences. American Journal of Sociology, 110(4), 1132-1205.

Podolny, J.M, Stuart, T.E., and Hannan, M.T. (1996). Networks, knowledge, and niches: competition in the worldwide semiconductor industry, 1984-1991. American Journal of Sociology, 102(3), 659-89.

Podolny, J.M., and Stuart, T.E. (1995). A Role-based ecology of technological change.American Journal of Sociology, 100(5), 1224-1260.

Rabier, M.R. (2017). Acquisition motives and the distribution of acquisition performance.Strategic Management Journal, 38(13), 2666-2681.

Ring, P.S., and Van de ven, A.H. (1992). Structuring cooperative relationships between organizations. Strategic Management Journal, 13(7), 483-498.

Snijders, T.A.B., Van de Bunt, G.G., and Steglich, C.E.G. (2010). Introduction to actor-based models for network dynamics.Social Networks, 32(1), 44-60.

Stuart, T. E., Hoang, H., and Hybels, R. (1999). Interorganizational endorsements and the performance of entrepreneurial ventures.Administrative Science Quarterly, 44(2),315-349.

Stuart, T.E. (1998). Producer network positions and propensities to collaborate: an investigation of strategic alliance formations in a high-technology industry.Administrative Science Quarterly, 43(3), 668-698.

Uzzi, B., and Lancaster, R. (2003). Relational embeddedness and learning: the case of bank loan managers and their clients.Management Science, 49(4), 383-399.