

Using Mergers and Acquisitions to Prepare for Disruption

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Abstract— Industry incumbents often encounter significant troubles in the face of disruptive innovations. These types of innovations erode the existing capabilities and resources of the firm, forcing them to seek out new capabilities outside their own organization in order to remain competitive and survive. Exploitation and exploration, organizational learning strategies utilized to develop incremental and radical innovations, respectively, are considered common drivers for mergers and acquisitions (M&A) among firms. M&A's enable the firm to obtain new capabilities and competencies in order to respond to the threat of substitution of their current ones by disruptive innovations and new entrants employing them. According to the research, firms' operative actions are more strongly linked to preparing for disruption than strategic ones in the motives for acquisitions.

Keywords—*disruption, mergers, acquisitions, exploration, exploitation*

I. INTRODUCTION

Industry incumbents often struggle in the face of disruption [1], [2]. Disruptive innovations transform the basis of competition in the industry, thus eroding the existing capabilities and resources of the firm [3]. Organizational competencies, or lack thereof, determine the firm's ability to evaluate and take advantage of the promise of new, disruptive technologies [3], [4]. Thus, in order to survive and remain competitive, incumbent firms are forced to seek out new capabilities outside their own organization [5], [6].

An established, leading firm commonly possesses the competence for incremental innovation in the form of effective routines and incentives for searching new opportunities near their existing products, customers, and resources [7], [8]. In contrast, incumbent firms often face difficulties in the development of radical innovations, as they require new types of resources and capabilities [9]–[12]. Nevertheless, radical innovations are particularly important for the long-term competitiveness of the firm [13], [14]. Being able to introduce both incremental and radical innovations requires the firm to be able to simultaneously exploit their existing resources as well as explore new possibilities [15]–[17]. This allows them to fulfill the needs of their existing customers and prepare for changes in these needs through disruption [18].

Exploration of new capabilities and more efficient exploitation of current capabilities are viewed as common drivers of mergers and acquisitions (M&A) activities, and through them firms attempt to secure their competitiveness via a constant stream of both incremental and radical innovations [19]–[21]. M&A's enable the firm to acquire new capabilities and competencies to respond to the threat of substitution of their current ones by disruptive innovations. Despite being commonly considered drivers of M&A, and viewed as efficient strategies for responding to disruption, the extent to which firms actually use M&A's as a tool for preparing to disruption has been little researched. Studies considering the motives of M&A's commonly focus on identifying all of the underlying factors initiating an acquisition, e.g., [19], [22]. Consequently, how and what types of M&A actions and motives firms use that contribute to their preparation for disruption has not been a focal consideration in the previous studies. This explorative study attempts to address this gap.

II. THEORETICAL BACKGROUND

One important notion affecting the sustainability of a firm's business and its very survival is that of disruptive innovation, commonly referring to innovations or technologies that initially underperform in comparison to established ones, but eventually displace them and consequently radically disrupt the status quo of the old industries and the incumbent firms serving them [1], [3], [23]. The shared idea that a disruptive innovation changes the industry environment thus endangering the positions of the industry incumbents is present in the concepts of radical innovation [24], [25], architectural innovation [12], discontinuous innovation [18], and competence-destroying technologies [11], as well. Disruption transforms the basis of competition through changing the performance dimensions along which products compete [3]. Leading firms often struggle to remain competitive in the face of disruptive technological or market change, which is why firms need to pay particular attention to identifying potential disruptions and preparing for them [1], [2], [6].

Several views have been expressed as to what causes the failure of leading firms to respond to disruption. Some have argued that the senior management of firms often doesn't understand the promise of disruptive innovation due to their

entrenched views [4], [26]–[28]. Managers in charge of the most profitable current customers might also be able to pull most of the resources for their projects, hindering the adoption of disruptive technologies [4].

The disruptiveness of an innovation can, however, be seen to depend more on the resources, competencies, and capabilities of the innovating firms in the industry [3], [4], [29], [30]. This relationship between a disruptive or radical innovation, the capabilities of the firm and the failure of leading firms in the face of it has been an important theme in technological innovation literature since Schumpeter's [31] theory of creative destruction [12]. Tushman and Anderson [11] distinguished between competence-enhancing and competence-destroying technologies, and Henderson and Clark [12] introduced the concepts of modular and architectural innovation in explaining the power of an architectural innovation that changes the linkages between core components and concepts in destroying the competencies of established firms.

These competence-based explanations are often rooted in the idea that the organizational competencies, or lack thereof, hinder the ability of the established firm's management team to evaluate and take advantage of the promise of disruptive technologies [3], [4]. An established, leading firm has probably developed highly effective routines, incentives, and a common understanding for searching new opportunities in the near vicinity of their current products and customers [7], [8]. This type of competence enables incremental innovations suited to responding to the needs of the current customers, drawing from the existing knowledge-base and capabilities of the firm [4], [18].

However, radical innovation is particularly important for the long-term growth and competitiveness of a firm [13, p. 34], [14]. Established firms often struggle with it, as it requires them to acquire new technical and commercial skills and to take a new perspective on the problems ahead of them and on how to solve them [9]–[12]. In addition, as a radical or disruptive innovation may cause such a great shift in the basis of competition in the industry, incumbent firms need both the capabilities of exploiting existing resources as well as exploring new possibilities simultaneously [15]–[17]. This enables them to fulfill the needs of both their current customers through the exploitation of present capabilities and resources as well as the needs of their potential future customers through exploration [18], preparing them for possible disruption in the industry.

In order to be able to adopt both types of practices, firms are presented with the challenge of organizational ambidexterity (OA): the ability to simultaneously both exploit existing assets and capabilities and to provide for sufficient exploration in order to avoid becoming irrelevant by the changes in market [16], [17], [32]. This creation of both exploitative and explorative innovations is essential for the firm [17], [33]. As disruption can often be seen as competence-destroying for the industry incumbents and leaders [3], [11], [29], firms are in need of new capabilities to pursue OA. Indeed, established firms have been able to survive or even lead their industry in the development of competence-destroying technologies, but for them to succeed, new capabilities are required [5], [6].

There are several ways for firms to acquire these new capabilities. Externally directed options for this include, for example, mergers and acquisitions, industry associations, joint ventures, and other interfirm alliances, and hiring personnel with the new knowledge and skills required by the firm [34]. Exploration and exploitation are viewed as common drivers of M&A activities, through which firms attempt to ensure a consistent stream of both incremental and radical innovations to remain competitive [19]–[21]. To secure long-term success, firms need to balance their resources between both exploration and exploitation [20], [21], as a common viewpoint considers exploitation a short-term activity, i.e. more operative by nature, and exploration more of a long-term, strategic one [16], [21], [35]. Exploration is riskier and involves engaging in experimentation and discovery, whereas exploitation yields more predictable and secure outcomes as it involves knowledge creation through continuous refinement and improvement of existing resources and capabilities [21].

The resource-based view (RBV) regards the motivations for M&A from the basis of firms consisting of idiosyncratic, costly-to-copy capabilities which firms may exploit in order to gain competitive advantage [36], [37]. Following this view, M&A's can be motivated through the acquisition of new capabilities, such as know-how or innovation, and the acquisition of unique assets or resources, such as brands, patents, intellectual property, that the acquiring firm is then able to exploit for its own profit [19]. The underlying assumption in these types of motivations for M&A is that the deal will benefit the firm in a demonstrable way, measurable through conventional performance indicators such as reported earnings, share price, and market share [19], [38]. In contrast, M&A's where the motivations of the firm are based on exploration, have received less attention in strategy literature in the past [19], though the topic has begun to gain increased attention more recently e.g. [20], [21], [39], [40]. M&A's provide the firm with ample opportunities for exploration through access to new knowledge and capabilities from the target [41], [42], allowing the firm a chance to prepare and respond to disruption in its industry.

A central source of obtaining new capabilities in M&A's is related to the opportunity to create synergies between the organizations [43], which can be achieved both through related or unrelated acquisitions [44]. In M&A context, technological relatedness refers to "the proximity between the contents of the knowledge basis of the acquirer and the acquired firm" [45], and industry or market relatedness to the proximity between product and market domains [46]. The relatedness of the acquisition contributes to innovation performance in different ways: it increases the integration potential of an acquisition and improves the possibilities for exploiting efficiency synergies in the innovation process, whereas it decreases the 'novelty potential' and reduces the scope for exploring unique synergies in the innovation process [45]. Thus, unrelated acquisitions seem to offer more fruitful grounds for exploration of new capabilities, whereas related acquisitions support the exploitative search of new competencies.

III. RESEARCH METHODOLOGY

A. Data collection and sample

The data for this article were gathered through a survey of decision-makers of firms that performed at least one M&A transaction where the annual turnover of the acquisition target exceeded 500.000 euros in Finland during the period of January 2018 through May 2020. According to a database maintained by the Finnish financial journal *Talouselämä*, a total of 1,382 transactions were carried out during the period in question. As this study focuses on the objectives of the acquiring firm, transactions by holding companies and the like which do not carry on a business were excluded from the population. Many of the companies in the target population had performed multiple M&A transactions during the study period and a few had gone bankrupt, which reduced the number of potential respondents in comparison to the initial quantity of 1,382 transactions. The online questionnaire was eventually sent to 570 decision-makers, who were identified based on their expected involvement in M&A activities depending on the size of the acquiring company.

The questionnaire was constructed following the theoretical discussion presented above and previous survey studies on the topic. The first part focused on the characteristics of the respondents and the companies they represent. The respondents were asked to describe their position in the company, the industry of the company, the age of the company and the size of the company based on annual sales revenue.

Of the 570 company executives the link to the questionnaire was sent to, 115 responded, resulting in a response rate of 20.2 percent. There were 13 incomplete answers which were not included in the dataset, but otherwise all responses were deemed credible and could be included in the analyses. Table I details the characteristics of the respondents and the companies they represent. Most respondents were from a family-owned business, with investor-owned, or owned by a group of entrepreneurs the second and third most common ones. In terms of company size, the data are relatively equally distributed, but nearly two thirds of the companies have an annual turnover of 5 to 200 million Euros. The age of the companies is similarly quite equally distributed. Most of the companies represented in the survey were from manufacturing, IT, retail, expert services or construction industries.

In terms of previous experience in mergers and acquisitions, 19 percent of the respondents reported frequent M&A activity with multiple yearly transactions, 25 percent reported a rate of approximately one annual acquisition, and a little more than half rarely conducted such transactions, with 12 percent implementing their first acquisition during the period under review.

In terms of the questionnaire, in addition to the background information presented above, respondents were asked about the characteristics of the acquired company. In 78 percent of the 115 M&A transactions represented in the data, the business operations acquired were situated in Finland. 13 percent were outside Finland, and 9 percent had operations both in Finland and abroad. 50 percent of the acquired companies were significantly smaller in terms of turnover, 34 percent were

TABLE I. CHARACTERISTICS OF THE ACQUIRING COMPANIES.

Characteristics	Qty	%	
Years of operation	<10	25	22 %
	11-20	13	11 %
	21-30	16	14 %
	31-40	12	10 %
	41-70	20	17 %
	>70	27	23 %
	Not stated	2	2 %
Annual revenue (Euros)	<2 million	17	15 %
	2-5 million	13	11 %
	5-15 million	26	23 %
	15-50 million	19	17 %
	50-200 million	24	21 %
	>200 million	16	14 %
Industry sectors	Manufacturing	31	27 %
	IT/ICT	19	17 %
	Wholesale/retail/consumer	15	13 %
	Expert services	15	13 %
	Construction	12	10 %
	Transport and logistics	6	5 %
	Other service businesses	5	4 %
	Other	5	4 %
	Travel/restaurant/events	3	3 %
	Social welfare and health care	2	2 %
	Security services	2	2 %
Ownership	Family-owned	43	37 %
	Investor	21	18 %
	Group of entrepreneurs	20	17 %
	Foreign conglomerate	15	13 %
	Domestic conglomerate	11	10 %
	Dispersed ownership	8	7 %
	Self employed	8	7 %
	Public sector	6	5 %
	Association or trust	3	3 %

N=115

smaller, 10 percent larger, and 7 percent significantly larger than the acquiring company. The owners of the acquired company became part owners of the acquiring company in 33 percent of transactions, as opposed to 63 percent where this did not happen (4 percent did not answer).

The motives of the acquiring company were examined using 6 motive statements. Respondents were asked to indicate the relative importance of each statement on a five-point Likert-scale (5 = 'extremely important', 1 = 'entirely unimportant'). If the company had carried out more than one acquisition during the time period in question, the respondents were instructed to answer with regard to the most significant transaction, or all of the transactions, if they all shared more or less the same traits. In addition to the Likert-type responses the respondents were also given a choice of 'no opinion', which is why the sample sizes of some of the statements differ from each other.

B. Operationalization of the research

The operationalization of the research was implemented through the aforementioned questionnaire of motive statements. The statements were constructed in order to analyse the motivations of the firms in terms of preparing for disruption. As previously presented, firms may use exploration or exploitation activities in their preparation. Of these, exploration is performed through more strategic, long-term actions. Their impact is not instantly perceived. For the analysis of strategic actions, we included three statements.

TABLE II. MOTIVE STATEMENTS AND THEIR DESCRIPTIVE STATISTICS.

	The motive of the acquisition was to...	N	Mean	SD	Min	Max	'Extremely important' N	Extremely unimportant' N
DV	prepare for a disruption of the industry in the longterm	114	3.61	1.33	1	5	28	17
Operative	enter new service- or customer segments	114	3.82	1.16	1	5	35	8
	enter new markets of better profitability or faster growth	114	3.42	1.27	1	5	21	15
	respond to changes in customer behaviour	112	2.63	1.35	1	5	5	36
Strategic	mitigate competitive intensity	115	3.01	1.33	1	5	11	23
	react to competitors' actions	114	2.46	1.29	1	5	4	38
	respond to an outside shock	113	1.51	0.89	1	5	1	77

Note: DV= dependent variable, SD= standard deviation

First, the questionnaire inquired to what extent the motive of the acquisition was to mitigate competitive intensity of the industry. This is a combination of commonly considered strategic motives related to the creation of entry barriers, and the acquisition of competitors to gain market power in the industry, e.g., [22], [47], [48]. Market leaders are better positioned in the face of disruption in terms of resources and capabilities than their competitors, which is why this strategic motivation could be considered by firms.

Second, we inquired the extent to which the motive of the acquisition was to react to competitors' actions. This is commonly considered in literature, as well [22], and enables the firm to defend its stance in the industry. If the acquisition is made specifically in response to an action by a potentially disruptive firm, it is even more effective in preparing the firm in the face of disruption.

Third, in terms of strategic actions, we inquired the extent to which the motive of the acquisition was to respond to an outside shock. Acquisitions are often perceived as effective and relatively common ways for firms to adapt to rapid and large changes in their regulatory, technological, or competitive environment [49], [50]. As disruption is a large shift in the market environment of the firm forcing companies to re-evaluate their business models, acquisitions are a lucrative and often used way to deal with renewing the business model of a company [51].

The exploitation aspect is considered to concern more operative, relatively instantly impactful actions. They allow the company to quickly react to changes in their operative environment, and simultaneously shift their focus in terms of markets and customers to be better prepared for industry disruption. For the analysis of operative actions, we included three statements. First, the questionnaire inquired the extent to which the motive of the acquisition was to enter new service or customer segments, e.g., [22], [52]. Entering new segments solidifies the positions of the firm in its industry, making it better positioned to deter entry from potentially disruptive rivals, and possibly giving it access to a broader set of capabilities and resources with which to answer to disruptive new product introductions.

Second, we inquired the extent to which the motive of the acquisition was to respond to changes in customer behaviour. Acquisitions are often used in attempts to boost short-term performance, but rather acquisitions should be targeted to gain resources that can be used in improving the product of a company in such fashion that customers will be willing to pay

more for it [51]. This is especially the case when customer needs and wants are fluid and under change and companies want to enforce customer retention [53].

Third, we inquired the extent to which the motive of the acquisition was to enter new markets of better profitability or faster growth [22], [48]. Gaining access to markets with better profitability and growth allows the firm to supplement its resources and capabilities, gain sales from multiple industries and improve profitability, all of which make it better positioned and stronger for answering to the threat of disruption.

C. Methods of analysis

The responses were analyzed utilizing exploratory factor analysis (EFA) with the Principal Axis Factoring (PAF) extraction method using Direct Oblimin rotation. The Kaiser-Guttman criterion and Bartlett's test were used to ensure the suitability of the data for EFA [54], [55]. Reliability analysis was also performed for each factor utilizing Cronbach's alpha [56]. For the EFA, the process described by Costello and Osborne [57] was followed. The number of factors retained was determined based on the scree test and additional iterative tests of a suitable number of factors. Five, six, seven, and eight factors were tested, and the item loading tables compared for the factor structure with the best fit to the data.

IV. ANALYSIS AND RESULTS

Table II depicts the motive statements and their descriptive statistics based on the responses. Based on the theory presented above, we further hypothesized on how the increase in strategic actions and operative actions lead to increased levels of preparedness for disruption:

H1: Increase in strategic actions leads to increased levels of preparedness for disruption.

H2: Increase in operative actions leads to increased levels of preparedness for disruption.

We created a theoretical model (Fig. 1), that we evaluated with the partial least squares structural equation modelling (PLS-SEM) method [58], [59]. It is a multivariate data analysis method utilized in the social and behavioral sciences [60]. At this stage, we removed from the data set those respondents who reported themselves to be self-employed (N = 8) and firms in the public sector (N = 6), which resulted in 101 respondents. In the analysis, we utilized the SmartPLS 3 software [61].

The constructs of the model are both estimated with multiple items in reflective measurement models [62] (Fig.1). The loadings for the items exceed or are very near the threshold value

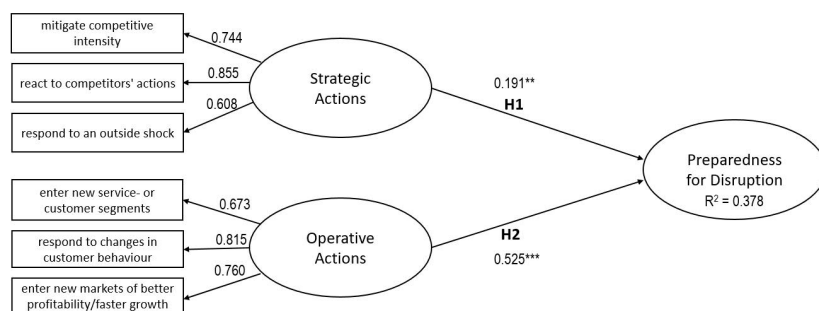


Fig. 1. Theoretical model and results from the PLS-SEM analysis (N = 101). Note: *** = $p < 0.01$, ** = $p < 0.05$.

of 0.70 [59]. We kept two items that have loadings above 0.6 which are also acceptable [63]. Furthermore, the composite reliability was verified to ensure the constructs internal consistency reliability, and for both constructs this is well above the required threshold of 0.70. In addition, the convergent validity is measured by the average variance extracted (AVE), which is also well above the required threshold of 0.5 for both constructs.

We assessed the structural model by checking if there are any collinearity issues with the variance inflation factor (VIF); and as the largest inner VIF is at 1.314, collinearity is not an issue [60]. The path coefficients in the model are statistically significant ($p < 0.01$ and $p < 0.05$) [62]. When comparing the strength of the constructs, Operative Actions ($\beta = 0.525$) and Strategic Actions ($\beta = 0.191$) in explaining the target construct, i.e. Preparedness for Disruption ($R^2 = 0.378$), one can see that operative actions have a stronger impact on the firms' preparedness for disruption.

V. CONCLUSIONS AND DISCUSSION

Our article contributes to the mergers and acquisitions and innovation literatures, combining them to consider M&A activities in the face of disruption. Previous literature on whether and how firms utilize acquisitions in preparing for disruption in their industry is scarce, but this research provides some initial results. Based on our analysis, it seems that firms' operative actions are more strongly linked to preparing for disruption than strategic ones in the motives for acquisitions.

Operative and strategic motives for acquisitions explain around 38 percent of the variation of the dependent variable. According to our results, operative actions have stronger direct link to preparing for disruption. This may be due to companies being reflexive in their actions towards external shocks and these actions in many cases are targeted towards short-term effects. However, the small, but still significant, size of the link between strategic actions towards preparedness for disruption is a bit of a surprise. This may be due to strategic actions requiring longer time to take effect and longer time to prepare, hence weakening the link between the actual actions. Also, in existing literature, acquisitions are considered in many cases as vehicles to improve short term performance and prepare for changes. Partly, this can also be explained by bounded rationality of managers and their short-term emphasis also in preparing for disruption. This could be a potential topic for future research.

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