



Sticky Cost Drivers: An Analytical Study of Cost Stickiness' Causes

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Abstract

The current study provides an analytical study of the causes of sticky cost behavior from the perspective of both the deliberate decision theory and the cost adjustment delay theory. In the traditional model of cost behavior, the relationship between cost and activity volume is independent of managers' decisions, but the ABJ model presented by Anderson, Banker and Janakiraman (2003) demonstrated the role of managerial decisions in cost behavior. This means that cost stickiness is not an inevitable phenomenon but rather a result of managers' decisions whether intentional, unintended or inappropriate. Moreover, company policies, ownership structure, and social legislation may affect the cost stickiness. Using the desk research method, the author relied on previous literature to determine and categorize the cost stickiness' drivers. According to the theory of deliberate decision, the author distinction between the potential drivers of cost stickiness resulting from managers' decisions, and the drivers related to the firm. In addition, the cost may become sticky due to the inability of cost to keep pace with declining sales. According to cost adjustment delay theory, managers keep the unused resources until it is assured of a continued decline in demand or based on their expectations for a future sale, but in the long run, prices, wages, and expectations are fully adapted to the state of the markets and economy, reducing cost stickiness. This study has implications for researchers by enhancing their understanding of the sticky cost drivers.

Keywords: Cost stickiness, Sticky cost, Intentional decision, Cost behavior, Deliberate decision theory, Cost adjustment delay theory.

1 Introduction

Understanding cost behavior is an essential part of planning, controlling, and decision-making. In particular, in the competitive markets, managers need to increase profitability by focusing on and managing costs (Reimer, 2019). Therefore, knowing how costs change with changes in activity is important for managers, so that, they can make the right decision.

In the traditional model of cost behavior, costs are described as fixed or variable in relation to changes in the volume of activity. Variable costs proportionately change with changes in the volume of activity, while fixed costs remain constantly unchanged and are not affected by the level of change in the volume of activity within the relevant range. This means that the magnitude of the change in costs depend only on the extent of the change in the level of activity, and not on the direction of the change (Anderson et al., 2003), and managers' choices do not play a role, as the traditional model assumes a mechanical relation between change in costs and change in the volume of activity (Abdelhamid, 2014). Noting that the proportionality assumption is stronger than the linear assumption because it requires that the percentage change in the activity level equals the percentage change in the associated costs, and fixed costs are independent of changes in the activity level only in the short run, where all costs are variable in the long run (Reimer, 2019).

In contrast to the traditional view of linear and proportional cost behavior, recent empirical studies of cost behavior in the 2000s documented numerous empirical evidences for asymmetric behavior, in which costs respond asymmetrically to decreases and increases in the level of activity (Guenther et al., 2014). Anderson, Banker, and Janakiraman, (2003) provided the first empirical evidence for the asymmetric cost behavior for selling,

general, and administrative (hereafter, SG&A) costs, where the cost changes disproportionately with changes in activity volume, describing this type of cost behavior as 'sticky'. According to the authors (2003), this asymmetric behavior occurs for many reasons, and their results encouraged a wide range of subsequent studies that examined the sources, determinants, and consequences of the sticky costs behavior of other cost types.

Now, a large body of research literature providing strong support for sticky costs behavior. As the researcher will show in the current study, such behavior is justified. Great efforts have been made towards understanding the sources and determinants of sticky cost behavior over the last two decades, and these efforts have revealed a relationship between the degree of cost stickiness and many determinants such as resources adjustment costs, managers' expectations of future sales, managers' self-interest, and their preference for risk.

One hypothesis regarding the behavior of sticky costs explains that it is a phenomenon resulting from the deliberate decisions of managers, who are faced with a decrease in sales, consider this decline to be temporary, and they expect sales to rebound in the near future; thus, they are deliberately keeping resources during periods of declining sales (Yasakata & Kajiwara, 2011). Another hypothesis is that costs may become sticky due to the inability of costs to keep up with the decline of sales, and may be because costs are not adjusted fast enough with the speed at which sales are declining. However, these hypotheses have not been used directly in the previous research to analysis cost stickiness' causes.

This new area in the accounting literature represents a different way of thinking about cost behavior in relation to managers' decisions that affect the level of costs, the speed of cost reduction or growth in relation to a change in the volume of activity (Abdelhamid, 2014). The main objective of the current research is to provide a comprehensive overview of the existing theoretical and empirical findings in this area, and analyze the causes for cost stickiness according to the theory of deliberate decision, and the theory of delay of cost adjustment, to provide a better understanding of the drivers of this phenomenon, and to provide new insights into the consequences of cost stickiness. Moreover, the current research tries to show theoretically the effect of long run on cost stickiness, to provide new insights into cost stickiness' causes.

The remainder of this paper is structured as follows. Section 2, introduces relevant previous literature. Section 3, introduces the origin of cost stickiness' concept. Section 4, discusses and classifies various and contradictory the potential drivers of cost stickiness according to the theory of deliberate decision, and discusses the long run that affects cost stickiness according to the theory of delay of cost adjustment. In Section fifth, I conclude by discussing the implications of this research and proposing new research directions.

2 Literature Review

The traditional model of cost behavior assumes a strict proportionality between costs and volume of activity as long as costs are within the relevant range. This assumption has been challenged by several empirical studies that have shown that costs do not change in proportion to the volume of activity (Subramaniam & Watson, 2016). The previous literature addressed two basic

issues about cost stickiness: the first is the observed behavior of sticky costs, and the second is the cause of the stickiness.

Anderson, et al., (2003) found evidence of sticky cost behavior of SG&A costs in large sample of firms from multiple industries. Based on data from 1,817 US firms over the sample period from 1979 to 1998, the authors document that SG&A costs increase on average 0.55% for every 1% increase in revenue, and decrease 0.35% for every 1% decrease in revenue. Anderson, et al., (2003) introduce the term "stickiness", and provide an empirical estimation model (ABJ Model) that allows testing of sticky cost behavior. Thus, their results provide evidence that changes in cost depend not only on the volume of activity, but also on the direction of change in the activity.

Since then, the study of sticky cost behavior has begun, and has become the focus of many researchers in the field of management and accounting. Many studies have examined the determinants, consequences of the cost stickiness, and empirical investigation of the phenomenon of stickiness. Furthermore, subsequent studies have documented asymmetric cost behavior across different cost categories, as well as across various levels of aggregation from department-specific to country-specific. In addition, subsequent studies modified Anderson, et al., (2003) (ABJ model) by introducing additional determinants of "stickiness", examining different types of costs, and different samples from different companies and countries.

The majority of the cost stickiness research uses data at the firm level. One of the few exceptions to the cost stickiness research is the study of Balakrishnan and Gruca (2008), which examines sticky costs within a firm, at department level. Using data from Ontario hospitals, Balakrishnan and Gruca (2008) documented sticky cost behavior in the departments directly related to patient care (surgical suites, in-patient wards) and thus contributing to the

hospital's core competency. However, they do not find sticky costs in the ancillary and support services. This indicates that the extent to which a job represents the core competency of an organization affects the stickiness of the associated costs.

Yasukata and Kajiwara (2011) examine the hypothesis that cost stickiness is the result of the managers' deliberate decision by empirically testing whether the managers' sales expectations have an effect on costs stickiness. The authors found that managers' expectations of future sales are related to the current level of cost stickiness, and the degree of stickiness becomes greater when managers are more optimistic about increasing future sales. Their findings provide robust evidence that stickiness is the result of managers' deliberate decision. Based on the results of the study, the authors indicate that one of the primary drivers of sticky costs is the deliberate decisions of managers, and their attempt to increase profits in the long-term based on their expectations of future sales.

Chen, et al., (2012) examines the role of corporate governance in mitigating the impact of the agency problem on SG&A costs stickiness. Using four variables to capture managers' empire building incentives arising from the agency problem: Free Cash Flow (FCF), (CEO) Horizon, Tenure, and Compensation Structure, Chen, et al., (2012) found that cost asymmetry increases with managers' empire building incentives due to the agency problem. Their findings provide strong evidence for argument that the agency problem complements economic factors in explaining SG&A cost stickiness.

Guenther, et al., (2014) provide an overview of the reasons for cost stickiness. They classify the main reasons into four categories that include: legal reasons, social and personnel policy reasons, operating policy related reasons, and psychological and agency-related reasons. The authors pointed

out that failure to consider cost stickiness may lead to unrealistic cost planning in the case of low demand, and can lead to defective decisions. Besides, the volume of sticky costs in earlier periods can be used for more realistic planning. Guenther, et al., (2014) stated that decisions about resource adjustment should be based on comprehensive data, including consequences of resource reduction.

The study of Banker and Byzalov (2014) highlight the significance of physical quantities and measures of physical activity when examining cost stickiness, as it mitigates that "cost stickiness could be a result of price changes or accruals manipulations".

In addition, more empirical evidence for cost stickiness has been documented in various countries. Based on data from the 50 largest publicly traded companies in Brazil, Chile and Mexico, Pamplona, et al., (2016) investigate costs behavior; their results show that costs have asymmetric behavior in the consolidated analysis of countries. They concluded that cost behavior in the companies traded in Brazil, Chile and Mexico have asymmetrical. Moreover, inflation variable is negatively related to the cost behavior.

While some studies examine cost stickiness in a single manner, others investigate the differences in sticky cost behavior across multiple industries, providing further insights into the causes of sticky costs. Subramaniam and Watson, (2016) investigated whether cost stickiness behavior of SG&A and CGS costs differ across industries, using a sample of firms known to exhibit sticky cost behavior in the aggregate. The authors found that costs in the manufacturing industry are "the most sticky", while costs in the merchandising industry are "the least sticky", while costs in the financial and service industries exhibit a certain level of sticky cost behavior. However, they

did not find a sticky cost behavior for most sub-industries within the manufacturing industry. Authors attributed the contradictory results to differences in the production, operating environments, and the economic.

Salamah and Abulezz, (2017) examine the effect of managers' risk preferences on cost stickiness. The authors found that risk-averse managers respond to declining sales by cutting unused resources, so that, they do not incur the cost of retention resulting in anti-sticky cost behavior. Their results document that managers' preferences for risk influence the degree of cost stickiness. Firms with a high degree of risk aversion exhibit anti-sticky cost behavior, by responding to reduce sales by shrinking resources, unlike firms that take risk.

With regard to the economic consequences of cost stickiness, Rouxelin, et al., (2018) examined how aggregate cost stickiness affects macro-level unemployment rate in the future. The authors expected a lower unemployment rate in the future the short run, because firms with sticky cost behavior are less likely to terminate employees when the level of activity declines. The authors found that firms with higher sticky cost behavior exhibit significantly lower unemployment rates in the current quarter and the next. The results of the study confirm that firms with sticky costs are less likely to fire employees.

Reimer, (2019) investigates the phenomenon of cost stickiness, and provides a theoretical discussion of the different sources of cost stickiness occurrence. Reimer, (2019) distinguishes between intentional and unintended managerial decisions about the occurrence of stickiness. The author stated that the intended managerial decisions regarding their impact on cost stickiness are divided into rational and irrational decisions, while unintended managerial decisions are divided into avoidable and unavoidable decisions. Moreover, Reimer, (2019) provides two empirical studies of the consequences of

asymmetric cost behavior on a firm's credit and financial risk, the results show that cost stickiness significantly increases the firm's credit risk.

Eltivia, et al., (2019) analyze sticky costs and how the adjustment cost affects stickiness. Their results suggest that the degree of cost stickiness is subject to the managers' deliberate decision on adjusting resource. The author pointed out that the traditional classification of cost behavior does not appear to meet the current needs of enterprises, and the phenomenon of stickiness of cost should be observed, as cost behavior is one of the aspects that managers must take into account.

Criticism

Previous studies have succeeded in showing that cost stickiness is a widely observed phenomenon, providing strong evidence that asymmetric cost behavior is a worldwide phenomenon, occurring across different cost categories, departments, companies, industries, and countries (Reimer, 2019). However, the previous studies were not conclusive whether stickiness was due to an economic causes, deliberate decision, insufficient controls, or technical factors.

Although, the literature on cost stickiness is growing rapidly, in general, most of the literature can be classified into three main groups: (1) research into the existence of cost stickiness, (2) research into the determinants of cost stickiness, (3) finally, research into the consequences of cost stickiness. A review of previous literature reveals that the theoretical causes for the occurrence of cost stickiness have not yet been empirically tested.

While the pre-2010 cost stickiness literature focuses on its determinants and its main causes, the post-2010 period is characterizing an increasing number of studies that examine cost stickiness' implications for other areas, but are still modest (Reimer, 2019). Therefore, there is an urgent need for

empirical studies providing valuable recommendations for practices to understanding cost stickiness' consequences.

In recent years, the economic consequences of cost stickiness have gradually attracted attention, such as the effect of sticky costs on the company' value, unemployment, the possibility of future losses, and on audit costs. Despite this, little is known about cost stickiness resulting from rational managerial decisions are not economically driven (Reimer, 2019).

In fact, stickiness must be understood as a phenomenon caused by multiple factors. Hence, the deliberate decision theory and the cost adjustment delay theory can be used to explain costs stickiness. This means that explaining the cost stickiness regarding deliberate decision theory is not inconsistent with the cost adjustment delay theory (Yasukata & Kajiwara, 2011).

Although the cost stickiness may be more appropriate for non-profit organizations, such as government hospitals or educational institutions, understanding the drivers of cost stickiness would enrich the interpretation of their effects on various financial and managerial accounting issues (Reimer, 2019).

One major problem with the previous studies is that cost accounting data, which includes detailed cost categories and related drivers, are not widely available. Hence, the cost stickiness was investigated using prevailing archival financial accounting data (Guenther et al., 2014). Therefore, it must be reconsidered whether results of cost behavior tests using archival financial accounting data provides a sufficient basis for conclusions.

Another major problem with the previous studies is that the effect of long run on cost stickiness has not been directly examined in the previous research. Therefore, it is an urgent need to assess the impact of

macroeconomic determinants in these relationships. The current research tries to show theoretically the effect of long run on cost stickiness. This supports the hypothesis that deliberate managerial decision and delay cost adjustment cause costs stickiness.

3 The Origin of Cost Stickiness' Concept

The term cost management refers to the process that should result in a better use of costs, while increasing volume of production and revenue. The concept of cost stickiness is related in some ways to cost management. In contrast to the common model of fixed and variable costs, Anderson et al., (2003) document the prevalence of the sticky cost behavior for SG&A costs as the volume of activity changes.

Anderson et al., (2003) investigate whether costs increase when activity increases more than when activity decreases by an equivalent amount. They found that SG&A costs increase on average 0.55% for every 1% increase in sales, but only decrease 0.35% for every 1% decrease in sales. In contrast to traditional model of cost behavior in which costs move in proportion to changes in activity, the results of Anderson et al., (2003) is consistent with the alternative cost behavior model that recognizes the role of managers in adjusting resources in response to changes in activity volume.

According to Anderson et al., (2003) and subsequent studies, costs are said to be sticky if the magnitude of the costs increase is greater than the magnitude of the costs' reduction associated with an equivalent decrease in the volume of activity (Venieris et al., 2015). Previous studies describe this behavior that when sales increase, the company's costs increase, but the decline in sales does not translate into a relatively similar decrease in costs (Kim, et al., 2020). Consequently, failure to observe cost stickiness may result in unrealistic cost planning in lower demand and may lead to flaw decisions.

Moreover, the volume of sticky costs in prior periods can also be used for more realistic planning.

A large number of previous studies have examined the drivers, determinants, and consequences of the cost stickiness behavior. The main objective of my research is thus to deliver a comprehensive overview of the existing sticky cost drivers and categorizing them to understand consequences of cost stickiness.

4 Drivers of Cost Stickiness' Occurrence

Cost stickiness has multiple explanations for its occurrence. Based on the results of Anderson et al., (2003) and subsequent studies (e.g. Balakrishnan et al., 2004; Dierynck et al., 2012; Banker et al., 2014; Habib & Hasan, 2019) there are various and variable drivers that greatly influence cost stickiness, such as declining sales, institutional resource capabilities, number of employees, firing labor costs, the effects of managerial incentives and market competition. Much of the previous literature focuses on the economic and agency causes of the cost stickiness (Anderson et al., 2003). More recently, the previous literature has begun to focus on the behavioral causes (Reimer, 2019).

There are two theories for why costs are sticky (Yasakata & Kajiwara, 2011). One theory is the theory of deliberate decision. It says that costs can get sticky as a result of the managers' deliberate decision. Another theory that explains the cost stickiness is cost adjustment delay theory. It indicates that costs may become sticky due to the inability of costs to keep pace with declining sales. This may be because costs are not adjusted fast enough to keep pace with the speed at which sales are declining. We will cover the two theories below to get an analytical study of the causes of sticky costs.

4.1 The Deliberate Decision Theory

One of the primary drivers of sticky costs is the deliberate decisions of managers trying to maximize long-term profits based on their expectations of future sales. When sales are declining, managers must decide to trade-off between cutting costs by eliminating resources versus incurring heavy costs of the excess resources. When managers consider the downturn temporary, and they expect sales to rebound in the near future, managers will deliberately choose to retain resources to cut costs in the long run. Such behavior is justified, as once managers reduce the resources allocated to operational activities in proportion to a decrease in sales, it will take time to reacquire the resources, so managers may keep resources that enable them to quickly take full advantage of future sales recovery (Yasakata & Kajiwara, 2011).

Keeping excess resources temporarily reduces profits from higher costs compared to eliminating them in the short run. However, in the long run, if sales recover, keeping excess resources temporarily results in higher profits resulting lower costs rather than eliminating them and then recovering them again.

According to the theory of deliberate decision, a distinction can be made between cost stickiness resulting from causes related to managers' decisions, and cost stickiness resulting from firm-related causes. Figure 1, illustrates this differentiation. For this purpose, this section provides a framework for the drivers for cost stickiness as shown below.

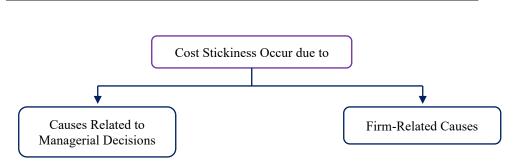


Fig.1: Drivers of Cost Stickiness.

4.1.1 Causes Related to Managerial Decisions

As shown in Figure 2, causes related to managerial decisions can be categorized into three categories: economic causes, agency related-causes, and behavioral causes. Much of the previous literature focused on the economic and agency drivers of sticky cost. Most drivers of managerial decisions on cost stickiness are described below.

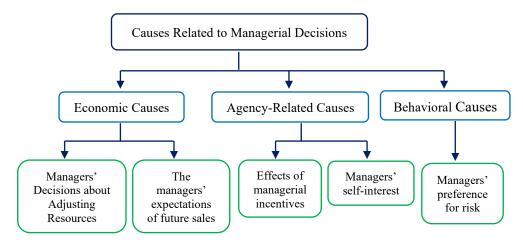


Fig.2: Causes Related to Managerial Decisions.

It should be noted that the cost stickiness may occur from the intended managerial decisions, which can be further categorized as rational or irrational. However, cost stickiness may occur under other circumstances or a result of some limitations which cannot be influenced by management, which are neither intended nor unavoidable (Reimer, 2019).

a. Managers' Decisions about Adjusting Resources

In the traditional cost behavior model, there is no consideration of effects of managerial interference in the resource modification process. However, Anderson et al., (2003) documents that SG&A costs are sticky if managers decide to keep unused resources rather than incur adjustment costs when sales decline. Indeed, when demand declines, managers assess the likelihood of a temporarily declined in demand, before deciding to adjust unused resources. In other words, because demand will continue to fall is uncertain; with adjustment costs, some unused resources will remain unused until managers make decision to remove them.

Accordingly, the current literature attributes the phenomenon of "sticky costs" to deliberate administrative decisions in the presence of adjustment costs. Anderson et al., (2003) stated 'Sticky costs occur due to asymmetric frictions in making resource adjustments that more inhibit or slow down the downward adjustment process than the upward adjustment process.' In addition, Yasukata and Kajiwara (2011) said that cost stickiness occurs because cost adjustments cannot compensate for the rapidity of declining sales. Whereas, this literature provides strong support for the effect of adjustment costs on the degree of cost stickiness. Moreover, Eltivia et al., (2019) also argue that, the cost of modification affects cost stickiness, and the degree of cost stickiness is subject to the managers' intentional decision about changing resource.

It should be noted that the adjustment costs include end-of-service compensation to motivate employees to leave the company, and the costs of recruiting and training employees when a demand is restored (Balakrishnan & Gruca, 2008). It also includes organizational costs such as loss of morale among remaining employees when work teams are disrupted (Anderson et al., 2003).

Furthermore, the actual sales level and current capacity utilization affect the adjustment costs. Guenther et al., (2014) stated that any missing descending adjustment of utilization resources in the period of reduced activity leads to the costs of retaining unused capacity during that period, in which case the manager is more concerned about how to increase sales rather than adjustment resources. Moreover, shifting resources can lead to more cost than benefit. Thus, the phenomenon of "sticky costs" is a result of managers' decisions about resources adjustment.

In addition, Calleja et al., (2006) point out that one important premise of cost stickiness is that when there are contracts signed, managers often fail to close or renegotiate the terms end and, if they can, be extremely costly due to the contractual fines. In this case, managers may decide to keep the resources not fully utilized, rather than incur costs of canceling contract, causing cost stickiness. However, Guenther et al., (2014) indicates that cost stickiness does not necessarily occur; managers can decide to cut resources and bear the costs of adaptation.

Anderson et al., (2003) explains that when there is uncertainty about future demand, managers may intentionally delay cuts to the resources committed until they become more certain about the stability of the demand decline. Managers may increase the sensitivity of costs to changes in volume by making contractual decisions that reduce the adjustment costs associated

with changing levels of committed resources (for example, managers can use temporary employees or outsourcing functions).

In short, since costs are associated with different levels of activity, so managers deliberately adjust resources in response to changes in volume. However, committed resources cannot be added or subtracted in increments that are small enough or fast enough to match resource changes with small changes in demand. Therefore, when the demand declines, the managers must decide whether to reduce the resources committed and bear the adjustment costs, or to keep the resources committed and incur costs of unused capacity. Moreover, changes in sales revenue may reflect short-term market conditions or long-term shifts in market demand for products and services. This means that the stickiness will be stronger in circumstances where the estimated probability that the demand will always decline is lower or where the costs of adjusting committed resources are higher. Thus, the assessment of the future demand influences the managers' decision about retaining or modifying the committed resources (Guenther et al., 2014).

In addition, the cost stickiness resulting from adjustment costs is the result of a rational, thoughtful management decision aimed at maximizing the value of the firm in the long run, and therefore falls within category of economic drivers (Reimer, 2019).

b. The Managers' Expectations of Future Sales

I mentioned earlier, that one of the main reasons for the cost stickiness phenomenon is delaying adjustment of committed and unused resources, as cost stickiness occurs when managers decide to continue using unused resources instead of making adjustments when demand declines (Eltivia et al., 2019). Anderson et al., (2007) found that managers' expectations that sales will increase in the future leads to increase in cost stickiness. In fact, managers

who faced with declining sales may delay making resource reduction decisions until they can obtain the information that enables them to assess the continuity of demand reduction.

In addition, it takes time to get rid of contractual obligations, and there may be a time lag between awareness of reduced demand and the decision to amend contractual obligations. Thus, keeping unused resources during the interval between a decline in demand and a resources adjustment decision leads to cost stickiness (Anderson et al., 2003). Regardless of the presence or absence of adjustment costs, managers' expectations about future sales may drive cost stickiness. If managers are found to be optimistic about future sales, then cost stickiness is likely.

Furthermore, according to the behavioral interpretation for cost stickiness, overconfidence of managers increases cost stickiness. Managers who are overconfident tend to overestimate future sales and thus do not adjust excess resources in response to decreasing sales at an economically reasonable level (Reimer, 2019).

c. Effects of Managerial Incentives

Prior studies focused on managerial incentives as a determinant of cost stickiness. Dierynck et al., (2012) found that higher discretionary accruals might cause higher cost stickiness, implying that managers' profits and managerial incentives may play an important role in determining cost stickiness. Moreover, Chen et al., (2012) also found that administrative empire-building incentives are important determinants of cost stickiness. Kama and Weiss (2013) found that managers' incentives play an important role in cost stickiness, by trying to meet or overcome financial analysts' earnings expectations, inducing managers to adjust downward to sales.

However, managers' responses to incentive systems may dilute cost stickiness. If compensation is linked to profit, managers are more motivated to reduce unused resources to achieve profit targets (Guenther et al., 2014). Banker and Byzalov (2014) presented evidence that the incentive to achieve or exceed a profit target reduces cost stickiness. Therefore, it can be said that managerial incentives play an active role in bringing about cost stickiness or anti-stickiness.

d. Managers' Self-Interest

Managers' self-interest is making decisions that increase the personal benefit of managers, but which may not be ideal from the perspective of a company's stockholders. Accordingly, to avoid the personal consequences of cutting cost, managers may retain unused resources, which contribute to cost stickiness (Anderson et al., 2003). Costs that a company incurs as a result of these are a form of agency costs.

Previous studies on cost stickiness have investigated the self-interest effects of managers in determining of cost stickiness, as managers attempt to obtain special benefits at the expense of the stockholders of the company (Salamah & Abulezz, 2017). Anderson et al., (2003) stated that managers' decisions to keep unused resources may be due to personal considerations and lead to agency costs, such as loss of prestige when downsizing a division or suffering firing familiar employees.

The considerations regarding the agency framework are related to company's management characteristics and behavior. From agency theory perspective, Chen et al., (2012) examined cost stickiness of SG&A. The authors find a positive relationship between agency costs and cost stickiness, as agency costs increase cost stickiness increases. They explain that managers

are more likely to increase costs very quickly when sales increase or reduce costs very slowly when sales decline to build their empire.

In addition, Kama and Weiss (2013) argue that managers' self-interested will cut excess resources, even if they assess the sales decline as temporary and the downward resource adjustment is not optimal from the firm's value maximization perspective. Thus, managers' self-interest play an active role in bringing about cost stickiness (Salamah & Abulezz, 2017).

e. Managers' Preference for Risk

Managers differ on the way they make decisions that involve risk and uncertainty, and these differences are often described as differences in risk preferences (Blais & Weber, 2006). Risk preference has been identified theoretically as an important factor affecting firms behavior (Bo & Sterken, 2007). In fact, managers' preference for risk is related to characteristics and behavior of management (Salamah & Abulezz, 2017), so managers' preference for risk plays essential role in managerial decisions.

Previous literature provides empirical evidence about the relationship between managers' preference for risk and investment decisions under uncertainty. Bo and Sterken (2007) consider that managers' preference for risk to be a major factor influencing investment decisions under uncertainty.

Bo and Sterken (2007) obtained evidence that risk-averse firms respond to uncertainty about demand by reducing investment, whereas risk-taking firms respond to uncertainty about demand positively by making investment. Bo and Sterken (2007) found that managers' preference for risk is one of the pathways through which uncertainty affects investment and thus different risk preferences of managers lead to different response to the uncertainly demand.

With regard to cost stickiness, cutting or adding resources is a managers' decision. The decision that managers have to make related to reducing resources when the activity dwindles or adding resources when expanding the activity, involves risk and uncertainty. Therefore, managers' preference towards risk has an effect on cost stickiness degree (Salamah & Abulezz, 2017).

Bo and Sterken, (2007) stated that risk preference has been theoretically identified as an important factor affecting company behavior. Depending on the results of Bo and Sterken (2007) and subsequent studies (such as Yasakata & Kajiwara, 2011; Salamah & Abulezz, 2017), the risk preferences of managers influence the degree of cost stickiness. Since cost stickiness depends on managers' decision to cut or retain costs, the risk adverse mangers will exhibit anti-sticky behavior, and will not incur slack resources in low sales periods because their tendency to avoid risk will overestimate retention costs versus adjustment costs. In other words, risk-averse managers will rapidly reduce resources to mitigate risk in response to sales decline.

According to Yasakata and Kajiwara (2011), the decision made by managers regarding reducing resources when the activity shrink or adding resources when the activity expands carries risks. Moreover, Salamah and Abulezz (2017) document that managers' preferences towards risk influence the degree of cost stickiness. In particular, they find that risk-averse firms respond to declining sales by reducing resources, while firms that risk-taking retain resources, resulting cost stickiness. Therefore, the authors indicate that companies with a high degree of risk aversion exhibit anti-sticky cost behavior.

In particular, Anderson et al., (2003) have found evidence that deliberate decision-making by the managers who is weighing the economic consequences of their actions affecting cost stickiness, and so, they consider that understanding of the managerial decision-making processes that lead to cost stickiness is important step in improving understanding of cost behavior.

4.1.2 Firm-Related Causes

While the interpretation of adjustment cost and managers' expectations of Future Sales result from rational managerial decisions and are economic motives, other rationales for sticky cost are conceivable, but not economic. As shown in Figure 3, it is possible to distinguish between three categories of firms-related causes that may cause cost stickiness, and these categories are causes related to the operational policy, the causes related to ownership structure, social responsibility and legislations. These categories are described below.

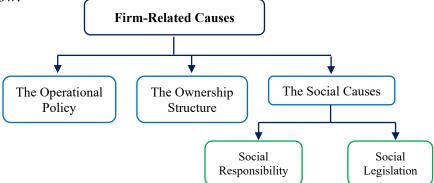


Fig.3: Firm-Related Causes.

a. The Operational Policy

Sticky costs may occur as a result of the company policy, and this is not necessary in the drive of maximizing value (Reimer, 2019). When demand temporarily declines, and companies refrain from firing highly qualified personnel and employees who work together as a team, this results cost

stickiness, and companies may be right because of difficulty in finding equivalent specialists when restoring the demand, and the length of time required for professional adaptation in order for a new team to work efficiently (Guenther et al., 2014). Further, the management which anticipates future increase in demand may keep unused assets.

According to Anderson et al., (2003), the reasons lie in the large adjustment costs, which include costs of repurchase, return to service and cost of losing and rebuilding firm's investments, and these costs may be much higher than the cost of untapped resources in a period of low demand. In addition, the retention of redundant resources can provide a basis for responding faster in the future, when a demand restored.

In addition, potential reputation losses negatively affect future sales and a firm's performance, so the loss of a firm reputation falls within adjustment costs, along with adjustment costs that are immediately incurred in the firm, as these costs arise through adjustment of redundant resources (Reimer, 2019).

b. The Ownership Structure

There is empirical evidence about the effect of ownership structure on cost stickiness (Kim et al., 2020). Yao (2018) found that the level of cost stickiness is influenced by concentricity ownership in China. Additionally, Prabowo et al., (2018) found that state owned enterprises exhibit greater stickiness in labor cost compared to private firms due to different levels of socio and political interests. However, Chung et al., (2019) suggests that the effective monitoring in long-term corporate ownership reduces cost stickiness.

Moreover, using a sample of 34,746 observations from US companies for the period 1992 to 2019, Kim et al., (2020) found there is a relationship between CEO pay slice (CPS) and cost stickiness. Specifically, the relatively low CPS leads to lower cost stickiness. However, when the CPS exceeds a

certain point, cost stickiness increases greatly. In contrast to prior studies on CPS that only document agency theory, Kim et al., (2020) argue that the effect of CPS on cost stickiness is complex, and they suggest that this can be explained using agency theory and stewardship theory.

According to agency theory, CPS is likely to increase cost stickiness since the CEO may choose to control the company's resources to maximize the CEO's private benefits and increase the incentives to build his own empire. Conversely, according to stewardship theory, CPS is likely to reduce cost stickiness because the CEO is not an opportunistic agent, but a good agent who works for shareholders by setting costs at the optimal level (Kim et al., 2020).

c. The Social Causes

Undoubtedly, companies today have to comply with social requirements. However, companies may follow social goals and community expectations on their own. However, both may ultimately lead to abstaining from adjusting excess resources when demand or sales are low. Guenther et al., (2014) argue that requirements of employment and social legislation for dismissal preclude the adjustment of costs immediately when sales decline.

Firms may refrain from cutting voluntary social benefits or dismissal the disabled, women breadwinners, the elderly or senior employees for social considerations to show that they are standing by their employees even as demand declines.

Also, firms may refrain from carrying out layoffs, because dismissals may lead to a loss of firm reputation, undermine employee's loyalty (Guenther et al., 2014), as well as loss of morale and productivity among the remaining employees (Anderson et al., 2003), resulting in higher organizational costs,

which must be considered as a part of the adjustment costs (Anderson et al., 2003; Balakrishnan & Gruca, 2008).

In addition, in most countries, pregnant and employees on maternity leave are subject to special protection in accordance with labor requirements and social legislation. Thus, adjusting costs by dismissing or downsizing employees may be out of the question during the low demand period, because firms have to provide notifications, good reason for dismissal, and adhere to notice periods. Moreover, active labor unions in some countries have high bargaining power. Such institutions can negotiate and provide more social and job security (Calleja et al., 2006), and restrict dismissing or downsizing of employees.

Habib and Hasan (2019) indicate that corporate social responsibility affects cost stickiness. In particular, they found that when the strategic corporate social responsibility scores are high, cost stickiness is more pronounced. Furthermore, state owned enterprises exhibit greater stickiness in labor cost compared to private firms, due to the different levels of socio and political interests in both types (Prabowo et al., 2018). Therefore, it can be said that social considerations lead to cost stickiness.

In general, the phenomenon of cost stickiness is affected by a variety of causes, and it has economic, social, and behavioral foundations, and causes related to the agency's framework. Based on the empirical evidence that have accumulated about the causes of stickiness, these causes can be classified into two broad categories as shown in Fig.1. As shown in Figure 2, the first category includes the causes related to management decisions, characteristics, and behavior, such as the impact of managers' decisions on adjusting unused resources, which related to the trade-off between adjustment costs, and retention costs, managers' expectations of future sales (management's

optimism or pessimism about future demand), the effects of managerial incentives (incentives to build a managerial empire), managers' self-interests, and managers' preference for risk.

It should be noted that the above drivers can affect cost stickiness together, and their effect can vary depending on the characteristics of the company, industry or country, allowing different classifications of these causes. Thus, it cannot be claimed that the above causes are complete.

4.2 Cost Adjustment Delay Theory

Results of previous studies indicate that cost fluctuations are related to sales fluctuations, and that cost stickiness diminishes in the long run. Anderson et al., (2003) found that strong sticky costs are observed when looking at the relationship between changes in sales, and changes in costs on a short-term basis, but that the degree to which costs are stickiness is diminished when looking at the relationship on a medium to long-term basis.

Furthermore, Subramaniam and Weidenmier (2003) found that sticky costs can be seen when the decline in sales is large, but not when the decline in sales is small. These results indicate that costs stickiness stems from the fact that costs are not adjusted fast enough to large fluctuations in sales.

These results support another hypothesis that explaining stickiness of costs which is the cost adjustment delay theory. It says costs are becoming sticky as cost adjustments fail to keep pace with the rapid decline in sales (Yasakata & Kajiwara, 2011).

In the long run, prices, wages, and expectations are fully adapted to the state of the markets, and the economy, while in the short run these variables are not adapted due to the short run. The main difference between long and short run is there are no fixed factors of production in the long run; whereas

there are fixed and variable factors of production in the short run, which affect the production. The long run is a planning period during which the firm can change the quantities of any or all of the factors. That is, the long run is the time for all factors in the short-run, which are fixed to become variable. With this in mind, fixed costs are only understandable in the short run, as they change over time.

However, it should be noted that both the long and short term are unique to each firm. In addition, the long and short run is not a fixed period but rather depend on the characteristics of the firm. In the long-run planning perspective, the firm will compare alternative production techniques or processes, and the firm can consider changing the quantities of all of its factors of production. Most importantly, this gives the firm more opportunities that are not available to it in the short run. However, in the long run, the firm faces a fundamental question: how much expansion or contraction of its operations should it be undertaken? However, it can choose to stop working.

Additionally, there is a basic concept in managerial accounting, which is the relevant range. The relevant range is the range of production in which cost assumptions are correct, and movement outside this range renders our assumptions regarding costs behavior incorrect. Therefore, the relevant range has to be taken into account when examining cost stickiness empirically, to properly analyze and interpret this cost behavior.

Anderson et al., (2003) state that stickiness may be lower when the observation period is longer, per period cost stickiness reflects the cost of holding unused resources during that period when a decline in demand occurs. However, managers are likely to view the drop in demand as more permanent when downturn continues for the second consecutive period. Managers' assessments of continued demand reduction become stronger as revenue

continue to decline. Therefore, increased likelihood of a permanent decline in subsequent periods may motivate managers to reduce resources, thus reducing stickiness.

Obviously, when the observation period is expanded to multiple periods, that is, in the long run, managers' assessments of continued decline in demand or revenue become certain, and resource adjustment costs become lower relative to the cost of keeping unused resources. In this case, the stickiness is likely to be less pronounced, and hence the cost stickiness becomes less when noticed during a series of periods.

Another important factor to consider when looking at cost stickiness is macroeconomic impact of countries relation to cost behavior. In the Asian context, He, et al., (2010) and Abu-Serdaneh, (2014) note that GDP growth is a significant determinant of sticky costs. In addition, in the study of Pamplona, et al., (2016) results indicate that macroeconomic factors are important in determining differences in the behavior of asymmetric costs in different countries.

In short, fixed costs are inflexible, and immutable over a short run (Guenther et al., 2014), but can be a sticky over a long run, and this stickiness will be fixed within a longer period. Therefore, it is appropriate to consider the time frame when examining cost stickiness, as well as to assess the impact of macroeconomic determinants on cost stickiness.

However, the cost adjustment delay theory does not disprove the deliberate decision theory. From the point of view of the deliberate decision theory, these results can be interpreted to imply that cost adjustments were delayed in the short term as a result of the fact that managers deliberately decided to keep the resources allocated to operational activities based on their expectations that future sales will recover (Yasakata & Kajiwara, 2011).

Conclusions

The aforementioned previous studies document the prevalence of sticky costs, present the causes, and consequences of cost stickiness, and their findings emphasize the importance of managerial decisions, organizational and industrial characteristics, and call for further research in the future. The overview provided on the causes of cost stickiness emphasizes the importance of understanding cost behavior more than before.

Based on the current discussion, there are five basic conclusions that can be drawn: (1) the cost stickiness is a complex phenomenon represents a challenge for practice, opens up area for research in motives and drivers. (2) The drivers of cost stickiness are diverse and variable in nature, and can appear in conjunction with each other. (3) The cost stickiness behavior can be detected and managed as well. (4) Economic, social and agency framework play an effective role in bringing about cost stickiness or anti-stickiness. (5) Plans and budgets should follow the alternative model of cost behavior; rather than the traditional model, this would force managers to see how they can permanently adjust cost structures considering cost stickiness.

Cost stickiness promising new directions for future research. The current study provides a platform for further research on the drivers, and consequences of cost stickiness, the main contribution of the current study in the accounting literature is the drivers of sticky costs can be identified and controlled. With this in mind, future research will provide more information on the drivers of stickiness, or drivers of stickiness to other types of costs, and explore additional factors that affect cost stickiness.

One promising direction for future research is to explore how evaluate firm's performance with adjustment costs. Second, how to evaluate the performance of managers, and build appropriate incentive systems in light of

cost stickiness. In this regard, it is appropriate to conduct more studies the impact of the macroeconomic factors on cost stickiness, so that the similarities, and differences in cost stickiness behavior between different markets, and countries can be understood, and the factors that explain the existence cost asymmetry.

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محركات سلوك التكلفة اللزجة: دراسة تحليلية لمحددات التصاق التكلفة د. سامح عبد السلام مصطفى مدرس المحاسبة بكلية التجارة، جامعة أسبوط

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المستخلص العربي:

يفترض النموذج التقليدي لسلوك التكلفة أن العلاقة بين التكلفة وحجم النشاط مستقلة عن قرارات المديرين، لكن النموذج البديل (ABJ model) الذي قدمه Anderson, Banker and أظهر دور القرارات الإدارية في سلوك التكلفة. ولقد أعطت هذه النظرة الحديثة مجالاً للتفكير والبحث في سلوك التكاليف من منظور القرارات الإدارية. فوفقًا لنموذج (ABJ)؛ لا يُعد سلوك التكلفة اللزجة ظاهرة حتمية لا يمكن تجنبها بل نتيجة لقرارات المديرين، سواء كانت مقصودة أو غير مقصودة أو غير مناسبة. علاوة على ذلك؛ قد تؤثر سياسات الشركة وهيكل الملكية فيها والتشريعات الاجتماعية على لزوجة التكلفة.

تبحث الدراسة الحالية في محركات سلوك التكلفة اللزجة من منظور كل من نظرية القرار المتعمد ونظرية تأخير تعديل التكلفة، اعتماداً على أسلوب الدراسة التحليلية. وفق نظرية القرار المتعمد أرجعت الدراسة سلوك التكلفة اللزجة إلى مجموعتين من الأسباب هما: ١) الأسباب المتعلقة بقرارات المديرين، ٢) الأسباب المتعلقة بخصائص الشركة. وأشارت الدراسة إلى أن قرارات المديرين قد تكون نتيجة دوافع اقتصادية كتكلفة تعديل الموارد، أو توقعاتهم بشأن المبيعات المستقبلية. كما قد تتأثر بطبيعة عمل الوكالة نتيجة تأثير الحوافز الإدارية على قرارات المديرين، أو مدى تفضيلهم للمصلحة الذاتية عن مصلحة المساهمين. وقد تتأثر تلك القرارات بالدوافع السلوكية كمدى تفضيله المديرين للمخاطر. ومن ناحية أخرى؛ قد يرتبط لزوجة التكلفة بخصائص الشركة ذاتها كطبيعة السياسات التشغيلية المتبعة، وهيكل الملكية السائد، علاوة على بعض العوامل الاجتماعية التي تنشأ من المسئولية الاجتماعية الشركات، أو من متطلبات التشريعات الاجتماعية.

وفق نظرية تأخير تعديل التكلفة؛ ينشأ سلوك التكلفة اللزجة من عدم تعديل التكاليف بالسرعة الكافية للتقلبات في المبيعات. فعلى المدى القصيير يلجأ المديرون إلى الاحتفاظ بالموارد غير المستخدمة لحين التأكد من استمرار انخفاض الطلب أو بناء على توقعاتهم بشأن انتعاش المبيعات مستقبلاً. أما على المدى الزمني البعيد؛ تتكيف الأسعار والأجور والتوقعات بشكل كامل مع حالة الأسواق والاقتصاد، مما يقلل من لزوجة التكلفة، ولذلك يمكن القول أن سلوك التكلفة اللزجة يتأثر إلى حد بعيد بالمدى الزمني للتحليل، لأن تقييم المديرين لاستمرار الانخفاض الحادث في المبيعات يصبح أقوى مع استمرار الانكماش في الطلب لأكثر من فترة.

الكلمات المفتاحية: التكلفة اللزجة، سلوك التكلفة، القرارات الإدارية، نظرية القرار المتعمد، نظرية تأخير تعديل التكلفة.