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Is More Always Better? Risk Trade-offs among Internationalizing New Ventures

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Abstract

Purpose

The purpose of this paper is to investigate how ventures manage the negative returns associated with higher levels of internationalization. Many new ventures are internationalizing to fully exploit new innovations and/or gain access to larger markets. Yet at some point the rising costs associated with internationalization outweigh any benefits, resulting in an inverted U-shaped relationship between internationalization and performance.

Design/methodology/approach

New ventures are theorized to better manage high levels of internationalization by limiting exposure to other sources of risk. This can be achieved by leveraging greater size and/or limiting simultaneous diversification efforts on product innovation. To test the hypotheses, a regression using Heckman selection was run using a sample of 210 US-based, publicly held ventures in high-technology industries.

Findings

The results confirm that when higher levels of internationalization are coupled with either a low emphasis on product innovation or larger size, the negative returns are mitigated and actually become positive.

Research limitations/implications

A key implication lies in recognizing the role of risk management for internationalizing ventures. Future research could benefit by testing for generalizability in other countries as well as among privately held ventures.

Practical implications

To manage the trade-offs associated at higher levels of internationalization, ventures need to maintain a low emphasis on product innovation or meet a threshold in terms of size.

Originality/value

The value of this research lies in better understanding how ventures are able to overcome rising costs at higher levels of internationalization.

Introduction

Despite the fact that international entrepreneurship scholars have been researching internationalizing ventures for nearly 25 years, the performance implications for these ventures are less clear. Internationalization serves as a growth strategy that enables new ventures to pursue larger markets and exploit new innovations to the fullest (Dimitratos *et al.* , 2003; Oviatt and McDougall, 1995). Based on the premise of additional profit opportunities being undertaken and a stronger competitive position, some studies have found support for a positive relationship whereby higher internationalization leads to greater new venture performance (Bloodgood *et al.* , 1996; Khavul *et al.* , 2010). Yet other studies have been unable to confirm any relationship between new venture internationalization and performance (Fernhaber and Li, 2010; McDougall and Oviatt, 1996). Contrary to their expectations, Lu and Beamish (2001) even found a negative relationship between internationalization and performance for small- and medium-sized firms. Such a disarray of findings brings into light the need to simultaneously consider the benefits alongside the costs associated with internationalization. In addition to the challenges associated with being new, and many times small, internationalizing new ventures face a host of costs related to transportation, the need for specific foreign knowledge and a lack of legitimacy abroad (Zaheer, 1995).

In line with international business scholars (Lu and Beamish, 2004; Gomes and Ramaswamy, 1999), Fernhaber (2013) argues that while internationalization initially facilitates a positive relationship with new venture performance, at some point, the rising costs associated with internationalizing erase any advantage, resulting in negative returns. To manage the negative returns that may occur at higher levels of internationalization, one conclusion could be that moderate levels of internationalization are better. Yet it is difficult for venture managers to identify, let alone capitalize on, the optimal level of internationalization, given that the implications of foreign expansion decisions can take varying times to realize and are multifaceted in nature. Alternatively, we suggest the importance of understanding how ventures can better manage higher levels of internationalization by limiting its simultaneous exposure to other sources of risk. Given that new ventures are still in the process of developing routines and have limited capacity, we suggest a sole focus on geographic expansion into international markets, rather than a combination strategy of geographic expansion into international markets and new product innovation expansion, will result in less risk. Drawing on the liability of smallness, we also suggest that greater size will reduce risk, as it offers a cushion for the venture to rely on during challenging times. Thus the following research questions are explored in this study:

Is the relationship between new venture internationalization and profitability non-linear in nature? If so, are new ventures able to mitigate the negative costs associated with higher levels of internationalization through either (a) pursuing a strategy with limited emphasis on product innovation or (b) being of larger size.

Our hypotheses are tested on a sample of 210 ventures in high-technology industries. For the purposes of this paper, we define new venture internationalization as international sales intensity (i.e. ratio of foreign sales to total sales).

The findings have important implications. First, we respond to multiple calls for research to reconcile the relationship between new venture internationalization and performance (Sapienza *et*

al. , 2006; Jones *et al.* , 2011). This paper focuses on the profitability measure of performance and builds on the earlier work of Fernhaber (2013) which examines the non-linear relationship between varying levels of internationalization on growth and survival. Second, there is limited theoretical exposition as to how new ventures can overcome the rising costs at higher levels of internationalization. Thus we offer insight as to how managing strategic tradeoffs can be beneficial. Third, for practitioners, we recognize both advantages and disadvantages of new venture internationalization and how to manage this process.

Theory and hypotheses

Benefits and costs of new venture internationalization

Internationalizing new ventures can benefit in many ways, most notably through extending its reach into additional markets and subsequently increasing cash flow into the operations. Given that new ventures have a high likelihood of failure, being able to grow and expand geographically into international markets is critical to overcoming start-up costs. Furthermore, internationalization can become critical due to the global demand for the niche market (Madsen and Servais, 1997) or to capture the needed economies of scale to for profitable operations (Oviatt and McDougall, 1995). In other cases, a new venture may benefit by internationalizing alongside their partners and customers (D'Cruz and Rugman, 1993) and/or fully exploiting their opportunity before foreign competitors exploit the opportunity (Oviatt and McDougall, 1995). By internationalizing early on, ventures can benefit from their so-called "learning advantage of newness" (Autio *et al.* , 2000) and by leveraging their idiosyncratic knowledge and networks (Evers and O'Gorman, 2011).

When a new venture internationalizes, however, there also are numerous costs involved - often attributed to the liability of foreignness. As explained by Zaheer (1995), these costs can be related to spatial distance, unfamiliarity with foreign environment, a lack of legitimacy or country-specific constraints. Multiple studies provide empirical evidence for the existence of a liability of foreignness, for example, among existing firms in foreign trading rooms (Zaheer, 1995) and global banking (Miller and Parkhe, 2002) as well as among small- and medium-sized firms pursuing internationalization (Lu and Beamish, 2001). In a similar vein, Sapienza *et al.* (2006) argue that internationalization causes a shock to the firm, requiring it to reconfigure routines and to expend resources to adapt to new competitive pressures, industry practices and customer demands.

A further distinguishing factor of new ventures, in comparison to larger multinationals, is their pursuit of foreign markets while simultaneously facing the liabilities of newness and smallness. As explained by Stinchcombe (1965), new ventures have a limited operating history, and thus their processes are less defined. As the level of internationalization increases, so does the complexity and the need for additional routines and processes for managing such a strategy (Gomes and Ramaswamy, 1999). At the same time, new ventures that are small have resource limitations, suggesting that a misstep in foreign markets can affect its very survival. Adapting and generating new routines is resource-intensive and requires the venture to make substantial investments (Zott, 2003).

The above observations highlight the inherent tradeoffs between new venture internationalization and performance. While internationalization can benefit a new venture by opening up the much

needed growth opportunities, there are also significant costs involved. In line with previous research (Fernhaber, 2013), we argue that the extent to which these costs inhibit a new venture depends largely on the extent to which the venture is committed to foreign markets. Specifically, for a new venture that is only dabbling with internationalization, typically through exporting, it can leverage its adaptability skills associated with the advantage of newness and compete while expending minimal resources. Internationalization is therefore hypothesized to initially increase new venture profitability, as the costs to configure the necessary resources are relatively low and can be done with minimal infrastructure in place. However, as the venture shifts to a majority reliance on international sales, it is forced to reconfigure major routines to support internationalization. Given the limited resources of new ventures, the high costs associated with a reconfiguration of routines and needed infrastructure investments (whether inside or outside of its home market) place the venture at greater risk and may threaten its very survival. In essence, the shock from internationalization described by Sapienza *et al.* (2006) increases with the extent to which a venture commits to the international marketplace. Thus, early on, internationalization is hypothesized to have a positive effect on new venture profitability as the benefits outweigh the costs. However, at a given point, the costs of the internationalization processes to the venture could exceed the benefits, causing the negative relationship suggested by Sapienza *et al.* (2006) to appear.

H1. The relationship between international intensity and new venture profitability will be an inverted U shape, with profitability increasing up to an optimal level beyond which higher levels of international intensity lead to a decline in performance.

Risk trade-offs and new venture internationalization

Given the decline in performance that is suggested to occur at higher levels of internationalization, one conclusion could be that less internationalization is better. Yet venture managers would have a difficult time identifying and capitalizing on an optimal level of internationalization, given that the implications of new-product introductions and/or managerial decisions can take varying times to realize and are multifaceted in nature. Alternatively, we suggest the importance of understanding how ventures can better manage higher levels of internationalization through limiting other sources of risk (Shrader *et al.* , 2000; Madsen, 1989). As summarized by Miller (1992), there are many sources of environmental, industrial and firm-level risks faced by internationalizing firms. Yet it is by trading off one risk with another that can lessen the overall risk experienced by the firm. Using a sample of new ventures, Shrader *et al.* (2000) confirmed that risk factors, such as foreign revenue exposure, country risk and entry mode commitment were indeed managed by exploiting simultaneous tradeoffs. Likewise, given that smaller firms perceive higher levels of risk when internationalizing (Kuivalainen *et al.* , 2007), this risk is argued to be reduced by pursuing multiple markets rather than a market concentration strategy (Madsen, 1989). We advocate the need for ventures to manage the overall risk associated with internationalizing with other sources of risk external to the internationalization process that the venture is being simultaneously exposed. In the section that follows, we examine how highly internationalized new ventures are able to better manage the process, and thus improve profitability, through minimizing risks via either:

a limited emphasis on product innovation; and/or

the attainment of larger firm size.

The moderating effect of product innovation.

As noted in the diversification literature, firms can diversify through innovating new products and/or geographic expansion into new markets. While a larger multinational may be able to simultaneously pursue both strategies to their fullest, we suggest that new ventures may not be as equipped to pursue both growth strategies simultaneously in an effective manner. This is due to the innate tradeoffs (Kumar *et al.* , 2012), as each growth option requires resources and the creation of a set of routines and capabilities to do so. Likewise, each growth option has its own set of associated risks. Yet new ventures typically have limited resources, and a misstep in a wrong strategic direction can be detrimental in terms of survival. Furthermore, due to new ventures' lack of operating history, routines and procedures are either nonexistent or in the process of being developed (Stinchcombe, 1965). The role ambiguity that accompanies new venture management teams can add to the coordination costs of a dual-growth strategy due to the inefficiencies that arise. For instance, role ambiguity can result in conflict among departments due to the lack of focus or common goal (Fisher *et al.* , 1999) or in increased time to make decisions (Sine *et al.* , 2006). Thus the complexities associated with the coordination of dual-growth strategies can take a cognitive toll on management that can be especially challenging for new ventures.

When a new venture is pursuing a growth strategy involving geographic expansion into international markets, we suggest that being able to maintain a product innovation strategy that does not require excessive resources is important to ensuring higher levels of overall profitability. It is critical to point out that the importance of innovating new products to internationalization is not being downplayed for new ventures. Indeed, as noted by Oviatt and McDougall (1994), having control over unique resources is one of the necessary elements of new venture internationalization. Likewise, Fernhaber *et al.* (2007) point out how firms in technology or knowledge-driven industries are more likely to have a need to internationalize. Yet within an industry, firms can vary as to the extent to which resources toward an innovation strategy are used. New ventures that pursue a product innovation strategy that does not require an excessive amount of resources will have more resources available to devote to the development and application of an effective internationalization expansion strategy. This is consistent with Jolly *et al.* (1992), where, in their case study of technology-based start-ups, they concluded that having a standardized product is one of the keys to success within the global marketplace. Contrary to their expectations, Autio *et al.* (2000) found that imitability was positively, and significantly, related to international growth. This further supports the supposition that standardization or product exploitation may be an important key to the management of high levels of new venture internationalization. We argue that a limited focus on product innovation, in conjunction with a geographic diversification strategy of a high level of internationalization, results in superior profitability for the venture in comparison to new ventures that pursue a joint strategy of high levels of product innovation and high internationalization.

H2. A venture's emphasis on product innovation moderates the inverted U-shaped relationship between international intensity and new venture profitability, such that at high levels of international intensity, ventures with a lower emphasis on product innovation will outperform ventures placing a higher emphasis on product innovation.

The moderating effect of new venture size.

The premise of the liability of smallness is that, due to its size, a smaller firm will experience significant constraints due to resource limitations. As a venture grows and is able to achieve more sales volume, and thus, becomes larger in size, these constraints are somewhat lessened. Indeed, prior research confirms a positive relationship between new venture size and performance variables, such as survival (Freeman *et al.* , 1983; Strotmann, 2007). Thus a venture that is larger in size has overcome a major limitation and is therefore better able to take on the risks associated with a growth strategy, such as internationalization.

One of the reasons new ventures expand geographically into international markets is to cover high start-up costs. In other words, ventures hope to leverage economies of scale and bring in a stream of cash flow to help ensure survivability. Nonetheless there are also additional costs that go along with internationalizing. The liability of foreignness outlines some of these costs relating to higher transportation needs, the need for specific foreign knowledge and lack of legitimacy abroad (Zaheer, 1995). Internationalization requires resources to build the necessary routines and capabilities, so much so that Sapienza *et al.* (2006) argue that the building of such capabilities can cause a shock to the venture and decrease its likelihood of survival. Yet the size of a venture can aid in serving as a buffer to lessen the implications of such a shock and increased resource requirements. If a venture is relatively small and has limited revenue, it is going to struggle more to be able to cover these costs. On the other hand, if a venture has more revenue, and thus cash flow coming in, it will be able to better cover the increase in costs associated with internationalization. Thus we also suggest that when pursuing high levels of internationalization, new ventures of larger size will be able to better manage such an ambitious strategy.

H3. Venture size moderates the inverted U-shaped relationship between international intensity and new venture performance, such that at high levels of international intensity, larger ventures outperform smaller ventures.

Methodology

Using SDC Platinum, a sample of 210 high-technology new ventures headquartered in the USA that issued an initial public offering (IPO) between 1995 and 2005 were identified. To be consistent with other new venture studies (i.e. Coviello and Jones, 2004), a six-year cut-off was used. Ventures were part of the biotechnology, computer equipment or communications sector of the high-technology classification in SDC Platinum (Ranft and Lord, 2000). Following other studies using IPO venture data (Carpenter *et al.* , 2003), all firms that were corporately held or the result of a corporate spin-off were eliminated from the sample.

Consistent with the majority of performance studies of larger multinationals (Hejazi and Santor, 2010; Geringer *et al.* , 1989) as well as emerging studies on new ventures (Fernhaber and Li, 2010; Khavul *et al.* , 2010), performance was assessed through new venture *profitability* . There are many different ways in the literature to measure new venture profitability, most notably return on assets (ROA) and return on sales (ROS). Consistent with prior observations that profitability ratios have very similar correlation coefficients (Farjoun, 1998), ROA and ROS exhibited a highly significant pair-wise correlation ($p < 0.01$) in this study's sample. ROA was chosen over ROS because ROS

has a mathematical relationship with the independent variable, which could affect the predictive power of the model. Sourced through Compustat, ROA was calculated for each of the three years post-IPO and then averaged (Robinson and McDougall, 2001).

Internationalization was operationalized as the ratio of foreign sales to total sales as of the IPO year. The propensity of a venture to internationalize its sales is the most common approach used (Keupp and Gassmann, 2009) and therefore deemed most relevant to helping reconcile prior studies. These data were sourced through the segments file of Compustat. After centering the variable, the measure was then squared to assess the curvilinear relationships.

For the moderating variables, the total number of employees of the venture was sourced through Compustat and used to assess *firm size* . The number of employees was chosen over sales, given that sales are used in the calculation of the internationalization variable. *Product innovation* was operationalized as R&D intensity (Hitt *et al.* , 1996), calculated as the percentage of expenses allocated to R&D divided by assets. The operationalizations of both moderating variables were measured as of the IPO year.

Several control variables were utilized. To calculate the *age* at IPO, the founding year of the new venture was identified through SDC Platinum and cross-referenced within the firm prospectus. A dummy variable was used to consider whether the venture had utilized *venture capital financing* prior to IPO, as determined through VentureXpert. To distinguish among the three high-technology sectors, *industry* dummy variables were created. Finally, dummy variables were included to control for the *year of IPO* .

Analysis and results

Correlations, means and standard deviations are presented in Table I. The average new venture in our sample was 3.7 years old as of its IPO year and had $42 million dollars in revenue. Approximately 80 per cent of the ventures had received venture capital backing prior to the IPO. While the average percentage of international sales for the entire sample was approximately 11 per cent, this increased to 29 per cent for the subset of 82 ventures that were international as of the IPO year. Of these 82 ventures, 22 were focused solely in the North American region of the triad. An additional 24 ventures reported sales within two regions of the triad, with the remaining 36 ventures operating in all three regions. Interestingly, among the 83 ventures, only 3.3 per cent of their assets were reported as being located outside of the USA. The average profitability of a venture, in terms of return on assets, over the three-year time period following IPO was -42 per cent. Such a negative figure is common among technology-based new ventures during this time period. To assess the potential for multicollinearity, we calculated the variance inflation factors (VIF) for all variables. The mean VIF was 2.18, and all obtained VIFs were well below the concerning value of 10 (Neter *et al.* , 1996).

While the independent variable of interest in this study is new venture internationalization, it is recognized that internationalization is a strategic choice that not all ventures pursue. To parcel out any bias that may result, a Heckman selection procedure was undertaken. In the first stage, a model is developed for the probability of internationalization. Based on prior research, this included the original control variables as well as an additional variable that assessed the *international*

experience of the top management team (Bloodgood *et al.* , 1996; Carpenter *et al.* , 2003). The international experience was determined by examining the IPO prospectus for each of the ventures and creating a count of the number of top management team members with prior international work experience. In the second stage, a correction is made for the internationalization selection by incorporating these predicted individual probabilities into the estimation of the final model.

Prior research demonstrates that the headquartered location of a new venture can be influential for both its internationalization behavior (Fernhaber *et al.* , 2008) and performance (Gilbert *et al.* , 2008). As the database comprises new ventures that are nested within geographic locations, the observations are no longer independent and could bias the results with correlated standard errors (Bryk and Raudenbush, 1992). Thus, the Heckman selection model was run using the cluster option within Stata. This uses a classing feature for the new venture's geographic location, using the metropolitan statistical area, based on intragroup correlations.

The results can be found in Table II. *H1* posited an inverted U-shaped relationship between new venture internationalization and profitability. Thus it was expected that the slope would be positive at lower levels of internationalization and negative at higher levels. As shown in Model 2, a linear relationship does not indicate significance. Yet when the squared internationalization variable is added to the equation in Model 3, the internationalization variable is positive and approaching significant ([beta] = 0.56, $p < 0.11$), while the squared variable is negative and significant ([beta] = -0.93, $p < 0.05$). Figure 1 offers a graphical depiction of the relationship. As hypothesized, the slope between internationalization and profitability is initially positive. However, the relationship turns negative at the 41.46 per cent inflection point. *H1* is therefore supported. Interestingly, within the sample, only 19 of the ventures fall above the inflection point.

The second hypothesis posited that the curvilinear relationship between new venture internationalization and profitability was moderated by an emphasis on product innovation. As shown in Model 5, significance is achieved with the interaction between product innovation and the linear ([beta] = 8.72, $p < 0.05$) and squared ([beta] = -13.40, $p < 0.001$) internationalization variable. Figure 2 offers a graphical depiction of this relationship, using plots of one standard deviation above and below product innovation. While new ventures with a high emphasis on product innovation experience an inverted U-shaped relationship between internationalization and profitability, the exact opposite U-shaped relationship is experienced by new ventures, with a low emphasis on product innovation. Thus the negative costs at high levels of internationalization appear to be overcome by new ventures with low product innovation, supporting *H2* . However, it is somewhat unexpected that new ventures with low product innovation actually experience a decline in performance at lower levels of internationalization.

The third hypothesis suggested that the size of a venture will moderate the relationship between internationalization and profitability. Specifically, larger ventures are posited to enhance the effect of internationalization on profitability at higher levels of internationalization. As shown in Models 6 and 7, only the interaction between size and the linear internationalization variable is significant ([beta] = 0.54, $p < 0.001$). To depict the relationship, curves for smaller ventures and for larger ventures were plotted based on one standard deviation above and below the centered mean for new venture size. As shown in Figure 3, smaller new ventures exhibit almost a linear, negative relationship between internationalization and profitability. However, for larger new ventures, the

relationship remains nearly positive. Thus, at higher levels of internationalization, the negative costs appear to be mitigated by larger ventures, offering support for *H3* . In Model 8, both sets of moderating relationships were simultaneously tested, offering further support for the findings.

Discussion

This study reveals several important findings. Most notably, the results provide strong support for the existence of a curvilinear relationship between internationalization and performance, as measured by profitability. Being able to recognize the benefits and costs associated with new venture, internationalization is helpful in reconciling prior inconsistencies in the literature. Such a relationship is consistent with the international business literature (Gomes and Ramaswamy, 1999) and emphasizes the danger of examining the international entrepreneurship literature too narrowly without fully taking into account the insight from its overlap with the international business field.

Another key contribution is that our results suggest that the negative tradeoffs at higher levels of internationalization can be managed. From a risk-management perspective, Miller (1992) has argued that international risk can be managed by making tradeoffs among the risk elements within the firm. Shrader *et al.* (2000) were able to confirm the existence of tradeoffs among three international risk factors faced by internationalizing new ventures, namely, foreign location choice, entry mode and revenue exposure. We further contribute to the dialogue by demonstrating how limiting other sources of risk pertinent to new ventures can facilitate greater profitability among ventures that have chosen a strategy of high levels of internationalization. Such an approach is consistent with Han's and Celly's (2008) view on strategic ambidexterity, which highlights the importance of the simultaneous pursuit of the pro-growth strategy of internationalization with pro-profit strategies - which could entail limiting expenditures relating to product innovation or achieving high sales volume.

Internationalizing new ventures are often presumed to be highly innovative, perhaps due to the frequent reliance on ventures from high-technology industries in empirical studies (Jolly *et al.* , 1992). As argued by Fernhaber *et al.* (2007), the reliance of knowledge in high-technology industries leads toward a higher tendency for new ventures operating within these industries to internationalize. Yet it is less clear whether the intensity of a venture's focus on innovation development within these industries, as indicated via a venture's research and development expenditures, is a defining factor of its subsequent internationalization activity. Indeed, when controlling for industry-level effects, many of the studies that test research and development expenditures as a direct indicator of new venture internationalization do not find support (Yu *et al.* , 2011). The results of this study suggest that the relationship may be more complex than previously thought. Specifically, it is those ventures with less emphasis on product innovation that perform better at higher levels of internationalization. This calls into question how the internationalization performance relationship may possibly differ by industry.

For practitioners, we contribute by acknowledging both the advantages and disadvantages of new venture internationalization and how to manage the tradeoffs. For new ventures in high-technology industries that are either small or have a high emphasis on product innovation, it is recommended that moderate levels of internationalization be pursued. In contrast, larger ventures or those

ventures that have lower relative emphasis on product innovation may be able to attain higher levels of performance when pursuing more extreme levels of internationalization.

Limitations and future research

While this study helps shed insight for the international entrepreneurship literature in terms of the performance implications for new venture internationalization, there are several limitations, and subsequently many opportunities for future research that also emerge. Foremost, given that the sample is based on publicly held ventures in the USA, the findings may not hold for the rest of the population of new ventures. Thus, future research would benefit greatly by testing the performance implications for international ventures that are smaller, privately held, outside the USA and in moderate or lower-technology industries. This is of particular interest, given our finding that internationalizing new ventures are able to perform better when expending less resources on product development. Although we focus in this study on the role of risk management, an interesting area for future research would be to explore other ways to manage the negative tradeoffs. The literature on resourcefulness and slack resources could potentially offer new insight as well as the literature on risk management. In addition, it would be interesting to extend our paper beyond the implications of the intensity of international sales to also consider the scope or diversity of countries entered (Kuivalainen *et al.* , 2012). By reconciling the performance implications for new venture internationalization, it is ultimately hoped that the insight will be leveraged to stimulate many new inquiries.

Figure 1.
Relationship between new venture internationalization and profitability (Inflection Point: 41.46 per cent)

[Image omitted: See Version of Record]

Figure 2.
Moderating effect of product innovation on the relationship between new venture internationalization and profitability

[Image omitted: See Version of Record]

Figure 3.
Moderating effect of size on the relationship between new venture internationalization and profitability

[Image omitted: See Version of Record]

Table I.
Descriptive statistics and pair-wise correlations

[Image omitted: See Version of Record]

Table II.
Heckman selection results for new venture profitability (ROA)

[Image omitted: See Version of Record]

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