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Closure Wars

The Impact of Wine Closure Alternatives on Portuguese Cork Exporters

Natalie McIver

Portugal is one of the few countries whose environment can support the cork oak. Cork is a versatile, durable and 100% renewable material. Cork is used in many applications; however, internationally, it is most commonly used to produce wine stoppers. Portuguese cork companies are starting to see increased competition in the wine stopper market as new alternatives such as synthetic corks and screw tops are gradually being accepted by wine producers and end consumers. The technical capabilities of all of the closure methods are relatively equal but in general, natural corks are still perceived to be the highest quality closure. Unfortunately for cork producers, this perception is not always reflected in consumer buying decisions. Amorim is an example of a Portuguese cork company that has had to adapt to the growing competition in the wine stopper market. The company has invested heavily in R&D and product development and is pushing the sustainable aspect of the material in order to stay competitive. Amorim is also diversifying its international portfolio in order to mitigate business risks. This paper uses Amorim to illustrate that adaptation and innovation are critical for business success in the face of political and competitive uncertainty.

INTRODUCTION

Quercus Suber L.

The cork oak, *Quercus Suber L.*, only grows in a very specific environment, one that is unique to the Atlantic side of the Mediterranean (Meneses, n.d.). Portugal is one of the few places in the world that possess the sandy soil, moderate rainfall and moderate temperature characteristic of this environment. Usable cork comes from the bark of the oak tree; however, harvesting and stripping this bark is no easy feat. The oak takes 25 years before it is ready to be harvested for the first time; and even then, the virgin cork is irregular and stiff and can only be used for industrial applications such as flooring and insulation rather than more finessed applications such as cork stoppers. After the initial harvest, the cork oak can then be stripped every 9 years; making the average number of strippings, 15-18 per tree ("About Cork," 2015). Although the time between harvests is relatively long, the cork oak is the only tree whose bark can fully regenerate between harvests without harming the physical tree ("About Cork," 2015). With the public's rising concern for the environment, cork producers are focusing a lot of their attention on marketing this sustainable aspect of cork. The unique environment imperative for supporting the oak combined with the complexity and length of the harvesting process make the resource quite an interesting commodity.

Applications

Cork is used in numerous applications since it is extremely durable, lightweight and sustainable. These applications range from floor and wall coverings to fashion and material goods. It is elastic, flexible and impermeable to liquids and gases making it an extremely unique material ("About Cork," 2015). There has been a recent push in cork R&D that has further expanded the number of products that the material is being used in. The transportation industry, construction industry and even the aerospace industry have recently discovered and begun to utilize the remarkable properties of cork ("About Cork," 2015). Cork can be found in products worldwide but it is clear that cork is more prevalent in the countries in which it is harvested than in those that have to import it. In Portugal, for example, you will see cork purses and wallets being sold on almost every block; whereas in North America, it is usually only seen in wine bottles. Nevertheless, cork companies rely on the international market. Exports account for a large part of cork producers' portfolios, especially the producers in Portugal.

Wine Stopper Alternatives

Cork stoppers are iconic products in the cork industry and make up a large part of Portuguese manufacturers' portfolios. Although cork stoppers are extremely common, the number of wine stopper alternatives on the market is growing in number and in popularity. Cork stoppers date back to 3rd Century B.C., in France where "several amphorae were discovered containing wine considered to be still today in good condition" ("The Art of Cork", 2015, p.2). This is a testament to cork's preservation qualities; however, with technical advances, other stopper alternatives are beginning to penetrate the market. All levels of wine producers, as well as end consumers, are beginning to accept synthetic closures and screw tops as viable alternatives to natural cork. No closure method is perfect but each has its own unique benefits; thus, a so-called "closure war" is taking place (Veseth, 2015). All of the wine stopper producers are fighting to win over both wine producers and end consumers.

The verdict is mixed on which closure method reigns supreme. Natural cork is associated with quality and tradition and advocates will point out the importance of this. Conversely, advocates of alternative methods point to the associated "cost savings, prevention of spoilage and changing tastes worldwide" as reasons to switch from natural corks to alternative closures (Wilcox, 2002). Undoubtedly, when comparing alternatives, screw tops are the most convenient closure method and synthetic closures are the cheapest. Natural cork producers have responded to these competitive pressures by inventing new products and by rebranding cork as versatile, sustainable and trendy. Many natural cork companies are beginning to manufacture technical corks, which are a combination of varying degrees of natural cork and some plastic components. This type of cork is a cheaper option than natural cork and is a response to the growth in synthetic cork sales. Clearly, cork producers are reasonably concerned about the growing competition in the wine closure market. They understand the urgency of creating new, technically superior and affordable corking options.

RESEARCH

Closure Alternatives Effect on Wine Composition

Giunchi, Versari, Parpinello & Galassi (2008) found that synthetic closures had less variation in terms of physical and mechanical properties than did natural cork closures. The consistency of synthetic corks serves to counteract the cork taint often associated with natural corks. They are made out of plastic compounds and are a cheaper alternative to natural cork closures. Opponents of synthetic corks argue that harmful air often enters the wine through these closures but although this might be the case for poorly formed synthetic corks, well-made synthetic corks have proven to have little variability in terms of their mechanical properties (Giunchi et al., 2008). In comparison, natural cork has a lot of "heterogeneity [in its] structure" due to the fact that it is a product of nature (Giunchi et al., 2008, p. 578). The quality of the natural cork at the time of harvest and the producers manufacturing techniques greatly affect the quality of the natural cork closure. This explains why in the same batch of wine; some bottles will have cork taint while others will not. Overall, Giunchi et al. (2008) concluded that the predictability of synthetic closures makes them a better choice than natural cork closures.

The research of Guiata et al. (2013) on the corking alternatives effect on the physical and sensory characteristics of a Montepulciano d'Abruzzo Rosé wine reinforce the fact that synthetic closures should be seen as viable options for wine producers. They found that after 12 months of storage, all closure methods tested (natural cork and synthetic corks) "guaranteed a good preservability [...] and the changes in composition did not significantly affect wine sensory characteristic" (Guiata et al., 2013, p. C160). Gooden et al. (2001) also found negligible differences in wine composition after testing closure alternatives 12 months after bottling a Semillon wine. This shows that independent of the type of wine being sealed, all of the closure types are viable options when comparing technical capabilities. It should be noted that although the composition of the wine remained stable under all of the alternatives tested, the coloring of the wine varied slightly. Natural cork preserved the integrity of the Rosé's color more than did any of the other alternatives (Guiata et al., 2013). This is purely an esthetic difference, not a quality difference; however, the perception of wine quality is arguably as important to consumers as is the actual wine quality. Consumers will not buy wine that is discolored regardless of its

composition. Objectively, synthetic closures are technically as capable of sealing and preserving wine; however, subjective differences do exist and should not be neglected when comparing closure methods.

In addition to their unfavorable perception, another downside of synthetic closures is the fact that they are not consumer friendly. Out of all of the alternatives, “in terms of extraction forces, energies, and ease of closure re-insertion,” synthetic closures performed the worst when compared to all of the other closure alternatives (Gooden et al., 2001, p. 64). This is due to the plastic-compounds tendency to be inflexible. Synthetic closures do not, however, carry the risk of producing any noticeable plastic-type taint in wines because their inflexibility is congruent with consistency. The results of wine sealed with synthetics are far more predictable than those sealed with natural cork. Wine producers must decide if they want to risk having corks that are viewed as difficult and not consumer friendly or if they want to risk the cork taint so often associated with natural cork and sometimes associated with technical cork. A trade-off exists between the pros and cons associated with each method of corking. Wine producers as well as consumers must keep all of these differences in mind when choosing a method of corking.

Closure Alternatives Effect on Perception of Quality

While synthetic corks and screw tops may be functional alternatives to natural cork, consumers often perceive them negatively. Specifically, these closure alternatives are often seen as cheap and tacky. Wine producers should not overlook this fact since subjective views (what the consumer *thinks* he/she knows) actually affect purchase decisions more than objective views (what the consumer *actually* knows) (Barber, Taylor & Dodd, 2009). Even if the closure method does not change the composition of the wine in any material way, it will change the consumer’s perception of quality. This is especially important in an industry where large numbers of consumers think that they are connoisseurs. If you have ever been to a wine tasting party, you will likely be able to relate to this fact. If people know that a bottle of wine was expensive, they will rave about it far more than if they believed that it was just another cheap bottle made by your Italian Nonno! Subjective views can have large impacts on purchase decisions and this can subsequently have large impacts on producers.

Barber et al. (2009) researched subjective views on closure types and found that currently, alternative closures are viewed as cheap and inappropriate to bring to special occasions. This view is more pronounced in the baby boomer generation but is also fairly significant in the millennial generation (Barber et al., 2009). In order for alternative closures to succeed in the market, “a large number of consumers need to become familiarized with and more comfortable making a purchase involving these closure innovations” (Barber et al., 2009, p. 608). The association between natural cork and quality is quite ingrained in our society and such an ingrained view is not easy to change. Most consumers are relatively uneducated on the effect of the different closure alternatives on wine preservation and thus base their purchase decisions purely on rituals and traditions passed down from older generations.

My own personal research fortifies the findings of Barber et al. (2009) – that there is still a strong perception that natural cork is superior to alternative closure methods (Figure 1). This research relied on a survey of 120 respondents to better analyze consumers’ perceptions and purchase decisions. Interestingly, although the majority of the survey respondents associated natural cork with quality, only 12% of these respondents actually based their purchase decisions on their perceptions (Figure 2). These findings contrast Barber et al.’s (2009) findings that consumers’ perceptions have significant implications on purchase decisions. Although the results differed from Barber et al. (2009), it should be acknowledged that 78% of the respondents of my personal survey belong to the millennial generation (as defined by people born in the years 1977-1995). It may indeed be the case that people from generations other than the millennial generation still base their purchase decisions on their perceptions of quality. This is a limitation of the research; however, it is clear that millennials seem to be more open to the varying closure methods. This trend in consumer buying patterns may have implications for cork producers.

Although millennials are beginning to accept closure alternatives as viable options, the diffusion of this acceptance will be a lengthy process due to the fact that older generations are still faithful to the tradition of natural cork. The adoption of cork alternatives will follow Rogers classic adoption curve (Figure 3). Currently, the late majority and the laggards have yet to accept natural cork alternatives. The view that screw tops and synthetic corks signify cheapness will continue to pervade in society until the innovators, early adopters, and early majority actively promote closure alternatives. Only through education and advocacy will there be an effective shift in purchase decisions in the greater population. Many consumers are unaware that alternative closure methods are technically as capable as natural corks and until this changes, the preference for natural corks will endure.

Consumers' preference for natural cork has been proven in a number of countries. In the US, 94% of wine consumers prefer natural stoppers ("About Cork Stoppers," 2015). In Spain, 92% prefer natural cork; in France, 89%; in Italy, 85%; in China, 85%; and in Brazil, 80% respectively ("About Cork," 2015). These numbers are substantial especially considering that these countries have high wine consumption rates. Again, this preference for natural cork is likely due to its association with quality and tradition rather than its actual effect on the wine's composition. The subjective perception that natural cork preserves quality appears to be global so it is important for manufacturers to appeal to consumers' ethos – for them to use their credibility to persuade consumers that natural cork is of higher quality than other alternatives. Since there are a limited number of countries that can actually produce cork, the relative scarcity of the material may actually be a factor in its premium perception. Exporters should capitalize on this perception and use it to stay competitive in an industry that is becoming increasingly competitive.

Amorim: A Look at a Portuguese Cork Company

Amorim is the world's largest producer of cork solutions and the most international of Portuguese companies. It leads the whole sector, making a crucial contribution to the economy and innovation of the cork industry. With its origins dating back to 1870, the company soon became aware of the endless potential of this 100% natural raw material, transforming it into the sustainable choice for a modern, informed society, aware of the environmental problems that result from its consumption related choices. ("About Amorim," 2015, p.2)

The cork stoppers business unit of Amorim is particularly important to the company. The company began as a cork stopper manufacturer in 1870 and today, has expanded this business unit internationally. They now have a worldwide network of wine producers that they distribute their many products to. The company has felt the competitive pressure of the closure war mentioned earlier and have had to respond by investing heavily in R&D and rebranding. In particular, the company has focused on the sustainable aspect of cork and has boasted, "a cork stopper is the only closure that combines high performance and sustainability credentials" ("About Sustainability," 2015). The company is FSC certified and continuously works to make its processes more eco-efficient (Figure 4). In 2008, as corking alternatives began to gain popularity in the market, Amorim, in partnership with Quercus, the main Portuguese environmental association, launched the first-ever cork recycling initiative ("About Sustainability," 2015). This initiative was extremely successful and has now been implemented in a number of other countries. Additionally, the company now has Annual Sustainable Reports to supplement their Annual Financial Reports ("Sustainability Report," 2015). These voluntary reports show that the company has a forward thinking mentality and strategy. The Sustainability Reports will positively affect the company since many investors positively value companies who have engaged in these types of initiatives (Berthelot, Coulmont & Serret, 2012).

Amorim: New Products as a Response to Competitive Pressures

As a response to the closure war, Amorim has invested heavily in R&D. This investment in R&D has resulted in a number of new product offerings from the company. Twin Top corks were one of Amorim's first products that responded to the growing competitive pressures in the technical cork market. Similarly to technical cork, the Twin

Top is made from plastic components; however, it has natural cork discs on both ends (“The Art of Cork,” 2015). This hybrid cork is more affordable than Amorim’s traditional cork stoppers since it has the addition of plastic components but still “retains all the properties of natural cork stoppers” (“The Art of Cork,” 2015, p. 50). Another product that Amorim has released as a lower cost alternative to their traditional corks is the Neutro Cork. This cork “offers great structural stability resulting from its composition: micro cork granules of uniform size” (“The Art of Cork,” 2015, p. 51). The stability of the cork addresses the findings of Giunchi et al. (2008) - that synthetic closures have less variation in terms of physical and mechanical properties than do natural cork closures. This product is another response from Amorim to stay competitive.

Amorim has also invented a number of corks to address the functionality differences between natural corks and screw tops. Proponents of screw tops attest to their ease of extraction and reinsertion as reasons to switch from natural cork. The Top Series Cork Stopper (Figure 5) and The Helix (Figure 6) are two new products offered by Amorim that offer these functionalities while still keeping the integrity and tradition of natural cork. The Top Series Cork “has the most varied range of appearance options [and] is recommended for the most prestigious beverages” (“The Art of Cork,” 2015, p. 52). The Helix is a screw off cork that combines “quality, sustainability and premium image – with user-friendly, re-sealable convenience” (Helix Concept, 2016). The Helix can only be used with glass bottles that were designed for the cork; however, it is relatively easy and inexpensive to change the specification of glass bottles to fit with the Helix (Helix Concept, 2016). Both of these products respond to traditional corks’ lack of consumer friendliness. They show that Amorim is adapting and innovating as a means to remain competitive.

Amorim: Findings from Financial Reports

Amorim’s sales figures have been steadily increasing since 2010 after they stalled during the global recession of 2008/2009. This is a testament to the company’s innovative and forward-looking strategy. Taking a closer look at Amorim’s 2015 Annual Report, the company reported record sales of €604.8 million up from €560.34 million in 2014 (“Annual Report,” 2015, p. 46). This translates into an increase of net income from €35.756 million to €55.012 million (“Annual Report,” 2015, p. 46). The company’s recent successes are largely attributable to its Cork Stopper Business Unit (BU). The Cork Stopper BU contributed 64.2% of the company’s sales (Figure 7) and €62.753 million towards the company’s EBITDA in 2015 (Figure 8). Amorim relies on the Cork Stopper BU for the company’s overall financial health and although the company has been facing stronger competition in the wine stopper market, this BU has maintained steady growth.

Another important aspect of Amorim’s financial statements is its debt to equity ratio. The company had a debt to equity ratio of 0.96 in 2014 and 0.88 in 2015 (“Annual Report,” 2015). This indicates that the company is becoming slightly less leveraged with debt and slightly more leveraged with equity. This is a good sign especially when considering the current uncertainty surrounding the banks in Portugal. Amorim should continue to pursue this strategy in case the banking system in Portugal defaults. Gradually yet continuously paying off its debt is the best way for a company based in Portugal to mitigate economic risk.

Looking towards the future, Amorim expects wine consumption to decline slightly in the European Union as well as in China. The US wine market, on the other hand, is expected “to drive the growth of the world wine market” until 2018 (“Annual Report,” 2015, p. 49). The country’s sheer size and economic capacity are the main reasons that the country is driving the entire wine industry. Because of this, Amorim plans to allocate a lot of its resources and attention to the US market in coming years. The company is extremely reliant on its exports because although the Portuguese economy is forecasted to grow by 1.7% this year, it will never grow to a size that will support the sales that Amorim is accustomed to. In order to strengthen its position in the face of growing competition, Amorim states that:

It is imperative that the [Cork Stopper] BU consolidates and defends its market position, broadens its customer base and improves its customer retention rate. It also needs to gain

market positions for alternative products based on their sustainability and product reliability (“Annual Report,” 2015, p. 50).

The above quote reinforces the fact that the company is focusing on product innovation and brand image in order to stay competitive in the closures market. Amorim plans on developing a “differentiated product portfolio” of “disruptive products” with “the same level of quality and service at a lower cost” than its traditional natural corks. (“Annual Report,” 2015, p. 50). So far, this strategy has been working for Amorim; however, if it finds that it can no longer compete in the closures market, it will have to find alternative methods to keep the business alive.

Amorim: Alternative Routes for Future Growth

If the competitive pressures edge Amorim out of the closure market, or if they lose substantial market share, the company will need to pursue alternative business paths to survive. The BU that contributes the second most sales to the company, after the Cork Stoppers BU, is the Floor and Wall Coverings BU. This BU contributes 17.8% of the company’s sales (Figure 7) and Amorim is already the “world leader in the production and distribution of cork floor and wall coverings” (“Floor & Wall Coverings,” 2015). It would seem logical that the company invests heavily in this business unit in order to proactively anticipate the risk of competitive pressures edging them out of their current position in the closures market. Cork is an ideal material for flooring and walling since it is durable, low maintenance, comfortable and sound resistant (“Floor & Wall Coverings,” 2015). The Floor and Wall Coverings BU could be a substantial driver of growth for Amorim in the future.

Additionally, cork is becoming increasingly trendy and is being noticed at an international level by interior designers from all realms. Blogs and magazines are starting to recognize and promote cork by making bold statements such as “[y]ou may only associate cork with your five o’clock wine, but it could be time to give it a second chance” (Morrissett, n.d.). Sustainable design is not only becoming popularized in home applications but in business applications as well. The eco-efficiencies of cork could actually lower heating and maintenance bills having an immediate payback to businesses that utilize the material for their flooring and walls (Kanani, 2014). Since Amorim is already focusing on branding the sustainable characteristics of cork, the company should publicize quantitative facts to demonstrate the practical value of building and designing with cork.

The company should also work to advertise cork overseas since it is already common to see cork applications in homes and businesses in Portugal but not in North America. It appears that the company’s American operations are currently only selling wine corks (Amorim Cork America, 2010). The company should capitalize on its established operations by introducing more of its business units abroad. Since Amorim already has offices and factories in the US, the potential for growth is large. The company could introduce more of its business units to the American market with relative ease. It could look into partnering with North American building companies in order to strengthen its presence in the flooring and walling market worldwide. If Amorim did decide to pursue this route, it would need to take cultural, administrative, geographic and economic differences into account.

CAGE Framework: Analysis of Portugal and North America

Although Amorim already operates internationally, The CAGE distances are something that the company should address before expanding or modifying its international strategy. This expansion might be necessary with all of the new entrants in the wine closure market and with the expectation that the US market could be a more substantial source of revenue than the European Union in the coming years (“Annual Report,” 2015).

Culturally, Portugal is becoming more westernized and therefore more similar to North America but substantial differences still remain between the two areas. The main cultural difference that could impact Amorim’s strategy is the fact that cork products are a part of Portugal’s national identity whereas in North America, the product is foreign and not a part of people’s day-to-day lives. In Portugal, people have grown up around the material and are aware of its physical properties. In North America, people are relatively uneducated about the many beneficial characteristics that the material possesses. North American consumers may not even consider cork as a

viable material for their product or building needs simply because they are unaware that it is even an option. The company needs to recognize and address this by putting out strong marketing and awareness campaigns in North America. Amorim needs to find ways to establish cork's presence and diffusion even though the cork oak is not, and will never be, native to the North American environment.

Analyzing the administrative differences, Portuguese companies are often more heavily reliant on business connections and relationships than are North American companies. It is also easier for companies, such as Amorim, to supply product to the European Union rather than North America since they already share an established free trade zone. Although globalization is making trade freer worldwide, it is still undeniably easier to export to countries within your own free trade area. Amorim should stay up to date with the advances in the Transatlantic Trade and Investment Partnership (TTIP) and other such agreements that could potentially affect trade between the EU and North America. If this type of trade agreement is eventually ratified between the two areas, the potential and ease of expansion in North America will be magnified. Amorim needs to focus and plan the most appropriate time to take its other business units international.

The geographic distance between Portugal and North America is not a huge obstacle given the advancements in global trade technologies. It is unavoidable that the raw material comes from Portugal since the cork oak cannot grow in North America. Amorim just needs to continue to ensure that it finds trade routes that are relatively inexpensive and efficient to adequately supply the global demand. It will never be able to completely transfer the business from Portugal to North America so all that it can do is keep this in mind and continuously pursue cheaper and more efficient trade routes.

Economically, it is obvious that there are distinct differences between Portugal and North America. Portugal is currently dealing with an ongoing banking crisis stemming from the European Sovereign Debt Crisis. Portuguese companies such as Amorim need to take note of the "material slowing in the wider Portuguese economy" and the moderate growth in the North American economy (Martin, 2016). The company needs to position itself in such a way as to capitalize on other economies' growth rates and relative stabilities. So far, the company seems to have come out on top of the debt crisis; however, these economic differences are constantly changing and should be addressed in order for Amorim to realize new sources of revenue.

Although the CAGE framework did not uncover any areas that would prohibit Amorim from expanding its operations in North America, the framework highlights differences that the company should be aware of when expanding. Given the mild nature of most of these distances, it seems logical for the company to develop more of its business units into North America, especially given the economic opportunities in the US and the growing competition in the closures market. If the success of the Cork Stopper BU in North America is any indication of how Amorim's other BU's would perform, the company should seriously look into pursuing this strategy.

CONCLUSION

Cork is an incredibly versatile and durable material. Cork can be found in numerous products across Portugal but the material is only commonly found in North America in wine bottles as stoppers. Although Portuguese manufacturers export large numbers of cork stoppers internationally, there are a growing number of wine stopper alternatives penetrating the market. This is a cause of concern for Portuguese cork manufacturers - Amorim being one of these companies.

Although a majority of consumers associate natural cork with wine quality, their purchase decisions do not always reflect this perception. Synthetic corks, technical corks and screw tops are all gaining popularity as consumers gain awareness of their technical capabilities and lower costs. In the face of growing competition, Amorim should continue to innovate and adapt its products in the stopper market and advertise the eco-friendliness of cork. Additionally, although Amorim's Cork Stopper BU is performing well and is contributing the majority of the company's sales, Amorim should still consider diversifying its international portfolio by introducing more of its

other business units to the international stage. This strategy would help the company to mitigate cultural, administrative, geographic and economic risks.

Amorim should continue to adapt and create new products. The Twin Top, Neutro Cork, Top Series Cork and Helix are proving to be effective strategies to compete with the alternative corks in the market. By continuously investing in R&D, the company will be able to fulfill the needs of each market segment rather than just the high-end segment traditionally served by natural corks. The company should also consider shifting its strategy to focus more on expanding its other business units into North America. Currently, the company is forgoing revenue in the US by only operating its Cork Stopper BU in the country. There is unfulfilled demand in North America that Amorim could potentially supply. If Amorim did decide to pursue this strategy, it would have to advertise the versatility of cork in the US market. North American consumers would need to be educated about the material since it is not native to the area. This strategy would mitigate the economic risk of the slowing of Portuguese economy in the near future. Amorim should consider shifting its strategy in order to address opportunities beyond just the bark to the bottle opportunities.

Currently, Amorim seems to be positioned in such a way as to prosper in the future. The company is forward thinking and innovative. It also has a fairly strong financial position that will allow it to face the looming uncertainty in Portugal. Although this financial base will suffice for the short-term, the company should still continue to adapt its strategy to survive in the long-term. Other Portuguese cork companies may not have the same fate. The growing competition in the market and the inevitable changes in the world economy will undoubtedly impact cork exporters. Amorim should be a guiding figure for managers who are facing growing competition and economic uncertainty in their areas of business.

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APPENDIX

Figure 1: Survey results showing that the majority of respondents associate quality with natural corks

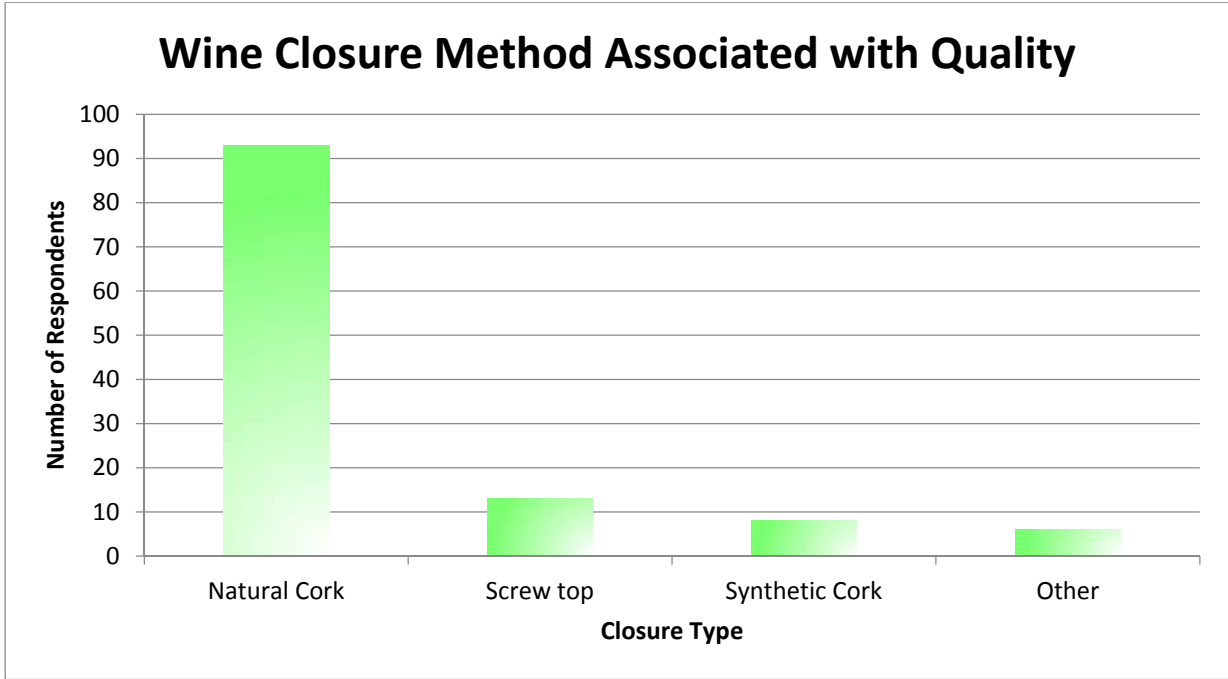


Figure 2: Survey results showing that the majority of respondents wine purchase decision is not, or is only sometimes, impacted by the bottle's method of closure

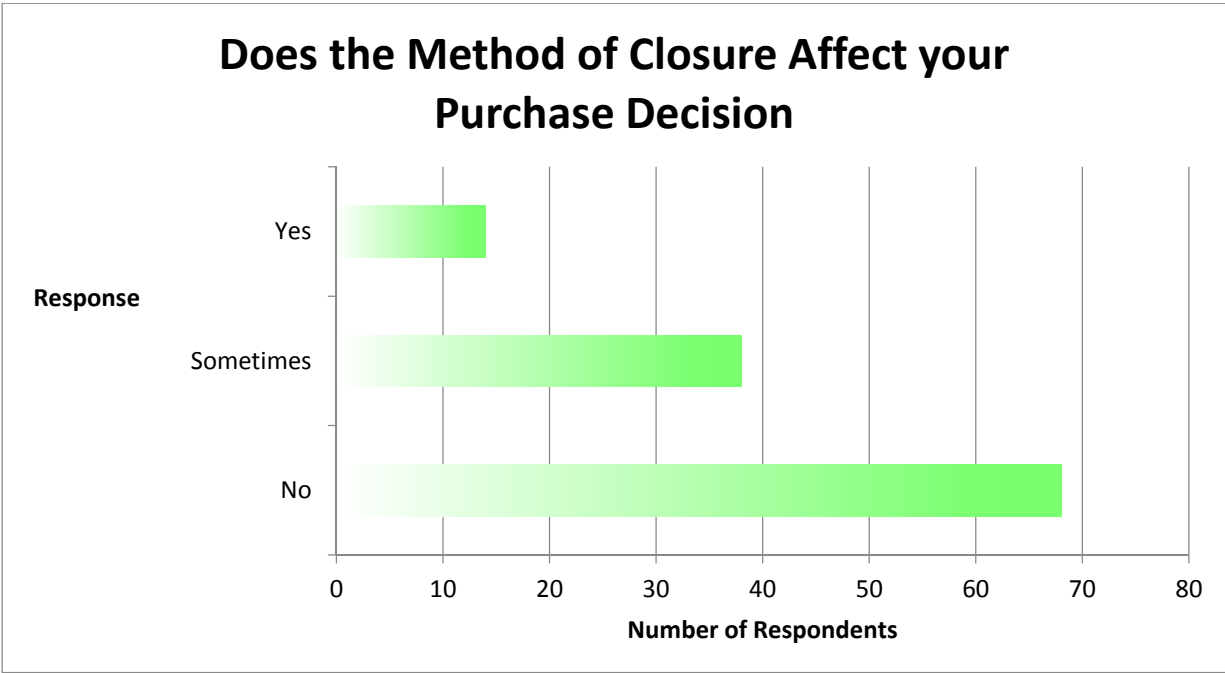
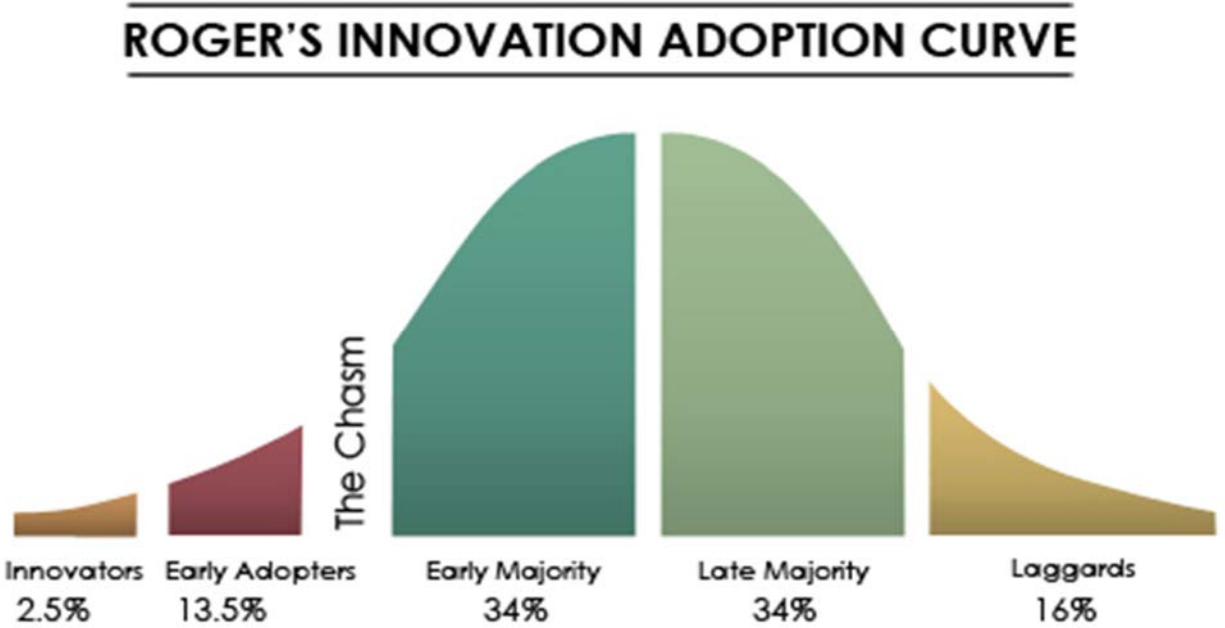
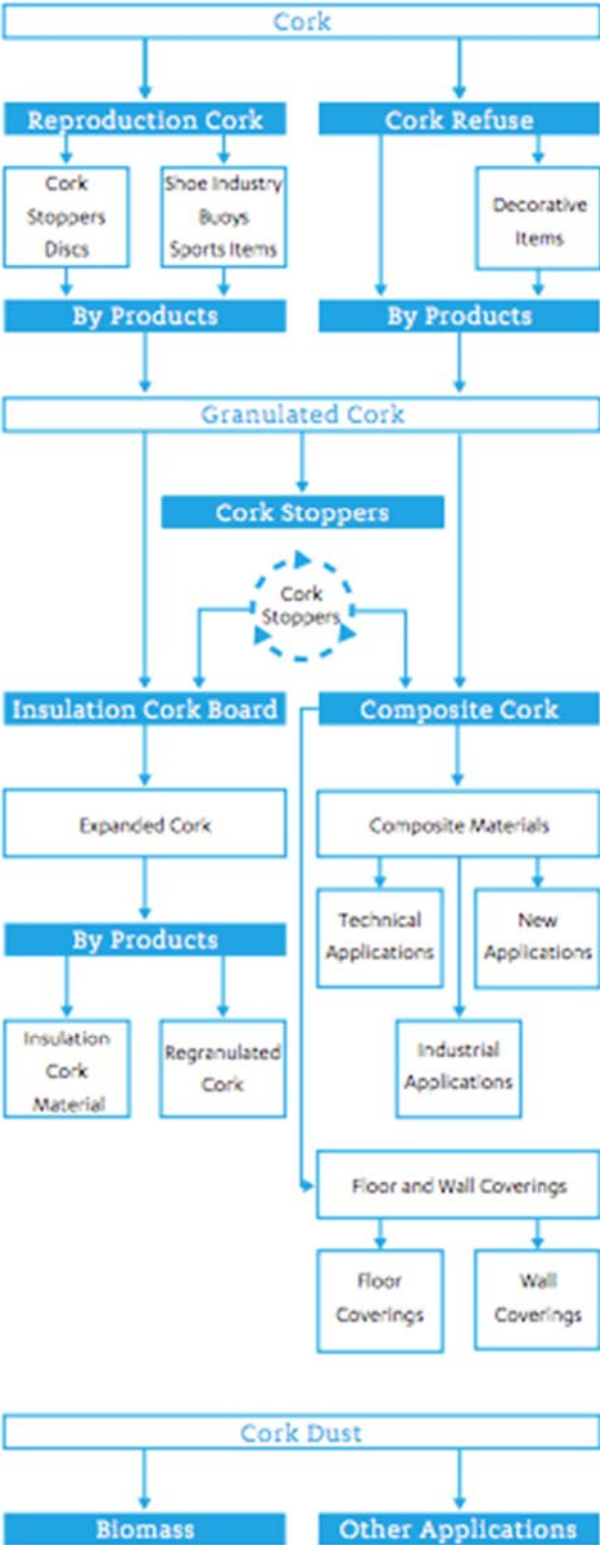


Figure 3: Roger's Innovation Adoption Curve to demonstrate that the adoption of alternative wine closure methods will be a lengthy process



Retrieved from <http://www.jacobcurtis.com/rogers-adoption-curve/>

Figure 4: Amorim’s eco-efficient processes



(“About Sustainability,” 2015)

Figure 5: Amorim’s Top Series Cork that offers easier extraction and reinsertion than traditional corks



(“The Art of Cork,” 2015, p.52)

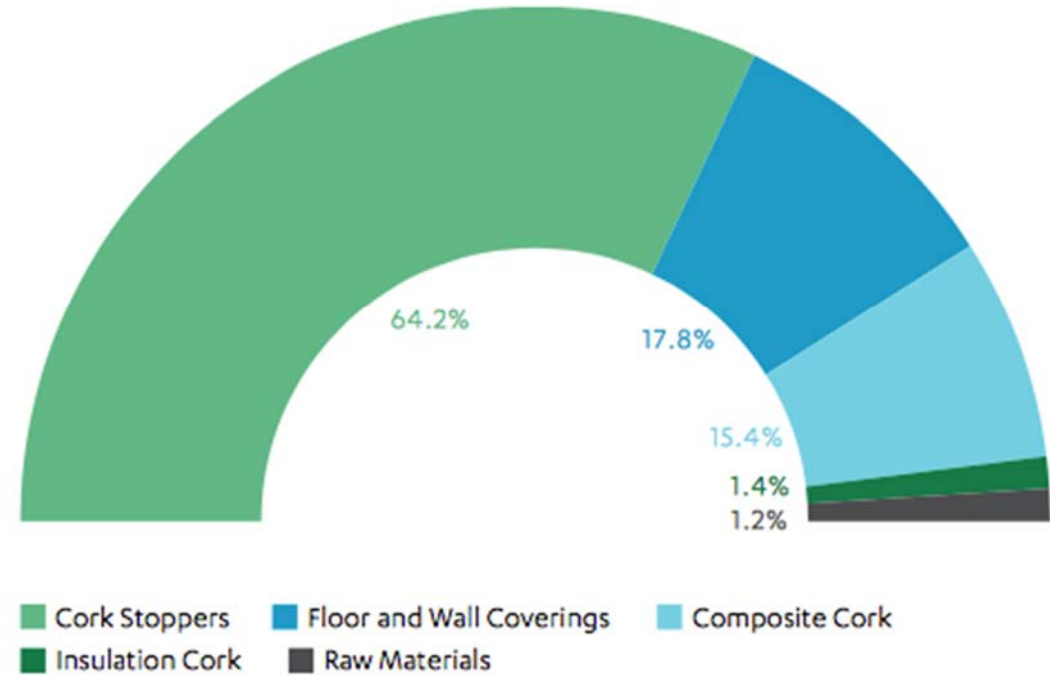
Figure 6: The Helix Cork - Amorim’s response to the competitive pressures of screw tops



(“The Art of Cork,” 2015, p.55)

Figure 7: Amorim’s Sales by Business Unit

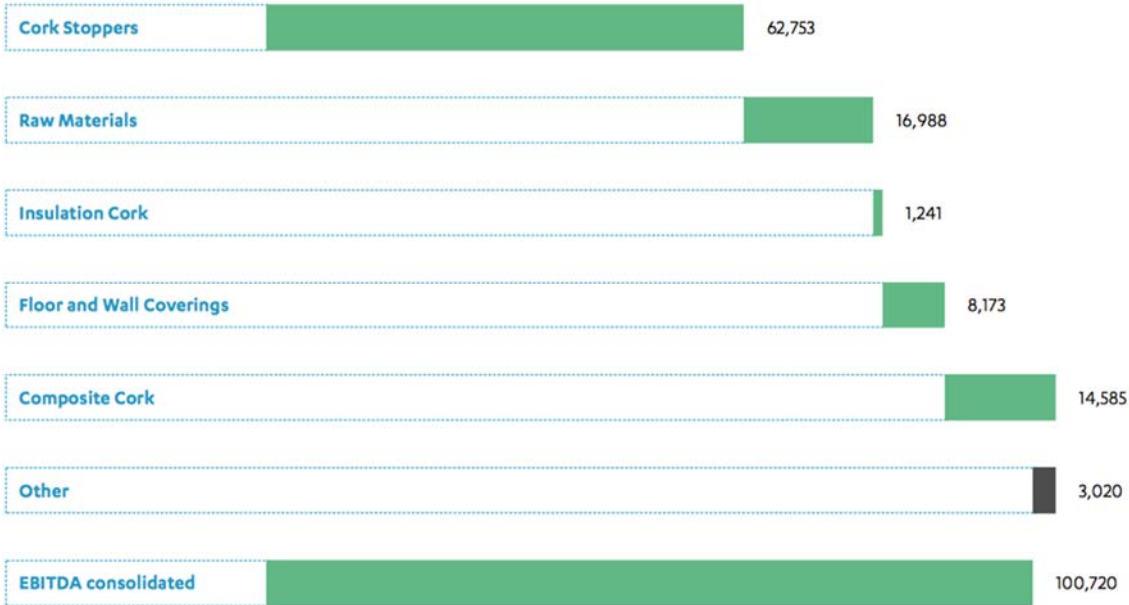
Sales by Business Unit



(“Annual Report,” 2015, p. 42)

Figure 8: Amorim’s Business Units Contribution to EBITDA

EBITDA: BU Contribution (thousands euros)



(“Annual Report,” 2015, p. 43)