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Entrepreneurial artisan products as regional tourism competitiveness

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Abstract

Purpose – The purpose of this paper is to explore and analyse the role of entrepreneurial artisan products in regional tourism competitiveness.

Design/methodology/approach – This study applies secondary data from different sources (Regional Directorate of Statistics of Madeira, the Madeira Institute of Wine, Embroideries and Handicrafts) covering a temporal period spanning the last 15 years (2001-2015). This deployed quantitative data analysis through an econometric approach with recourse to regression models and the Pearson's correlation technique.

Findings – According to the results, it is suggested that in terms of external support and funding, there should be a greater role and a boost in the number of projects carried out not only under the auspices of the European Union but also under the Autonomous Region of Madeira. Thus, participant companies may invest in greater business efficiency and entrepreneurship, in innovation, promotion and the internationalisation of their products, and thereby obtain greater overall regional competitiveness.

Research limitations/implications – The generalisation of results remains to a certain extent limited, given the findings stem from only one particular region. The exclusive utilisation of secondary data may also undermine the robustness of the results obtained.

Originality/value – The study provides empirical evidence that helps in identifying the role of artisan products within the capacity for regional tourism sector entrepreneurship and competitiveness. Furthermore, this also contributes to the knowledge of the scientific community particularly interested in artisan and cultural entrepreneurship and regional competitiveness in the tourism sector.

Keywords Innovation, Entrepreneurship, Small firm/new venture strategy, Regions, Clusters

Paper type Research paper

Introduction

Tourism represents one of the most important industries worldwide and performs a fundamental role in the development and competitiveness of many regions (Abreu *et al.*, 2018; Ayikoru *et al.*, 2013; Byun *et al.*, 2017; Camisón *et al.*, 2017; Cheng and Yiu, 2016). However, tourism does not only generate economic benefits but also brings socio-cultural gains (Hieu and Rasovska, 2017).

This importance of entrepreneurship to economic development, job creation and innovation has deepened the interest of researchers, and decision makers across various levels, in studying and understanding just how they may, in fact, impact in terms of regional entrepreneurial activities (Aron *et al.*, 2018; Niki and Konstantinos, 2018; Teixeira *et al.*, 2017).

As regards cultural entrepreneurship, this has received growing recognition of both its potential and the relevance of the arts to economic development alongside their role in society and in regional development. Furthermore, there has been greater emphasis placed both on local and artisan goods and on regional tourism (Ratten and Ferreira, 2017).

According to Lounsbury and Glynn (2001), cultural entrepreneurship consists of a historical process that interconnects the existing resources with private entrepreneurship, and the subsequent creation of capital and wealth. This form of entrepreneurship has risen in keeping with how attentions have concentrated more closely on the cultural forms of business.

Prior research has shown how cultural heritage is gaining importance across different and distinct levels of the economy (Alberti and Giusti, 2012; Florida, 2002; Hesmondhalgh, 2002; Scott, 2002) and that regions may develop competitiveness through taking advantage of their cultural and artisanal heritage (Alberti and Giusti, 2012; Bandarin et al., 2011; Boix et al., 2012; Cooke and Lazzeretti, 2008; Pereira and Von, 2011).

Earlier studies on small cultural companies and contributions to regional development refer to how shortcomings remain in terms of studying artisanship (Tregear, 2005). Artisanal entrepreneurship encapsulates the manufacturing of artisanal goods and services that are then sold onto others. Generally, the majority of artisan entrepreneurs focus on the clothing and foodstuff industries as they prefer to produce their own products bound up with their own cultural heritage (Rahman and Ramli, 2014; Tregear, 2005).

According to Ndegwa et al. (2015), different artisanal entrepreneurship projects have already prepared many artisans in the acquisition of entrepreneurial competences as well as providing technical skills and capacities, especially within the scope of developing countries above all focussing on the usage of new technologies.

Diverse studies have already approached themes such as artisanal products, artisanal entrepreneurship and the direct or indirect relationship between tourism competitiveness and artisan activities (Abreu et al., 2018; Benur and Bramwell, 2015; Kies, 2013; Llonch, 2012; Mokyr, 2013; Norcliffe and Rendace, 2003; Pansiri, 2014; Ratten and Ferreira, 2017; Stewart et al., 2008; Thompson, 2014).

According to Costa and Buhalis (2006), there is a need for a new conceptual approach to tourism that incorporates the introduction of new products with emerging solutions and industries such as: re-engineering established products and destinations, emerging destinations based on fashion and accessibility, products based on experience, products based on nature, eco and adventure tourism, sports and event tourism, urbanisation and residence tourism, new age travel/tourism: spiritual experiences, shopping and tourism, gastronomy, food and wines; thanatourism and dark tourism (including spiritual tourism and pilgrimage) as well as even space tourism.

There is furthermore still a need to attain a greater understanding about the relationships between culture and entrepreneurship due to their importance to management and strategic planning (Carlos, 2018; Daniela et al., 2018; Ferreira et al., 2016; Gërguri-Rashiti et al., 2015; Krueger et al., 2013; Ratten and Ferreira, 2017).

The success of regions in innovating stems from their capacity to take advantage of cultural entrepreneurial capacities. However, the literature contains very little detail on the issues around entrepreneurship and regional innovation (Ratten and Ferreira, 2017).

In the Autonomous Region of Madeira (RAM), a Portuguese island chain, tourism clearly prevails as the predominant sector and, according to various official sources (Regional Smart Specialisation Strategy RAM, and Regional Agency for the Development of Research, Technology and Innovation, there is a major lack of scientific studies on just how to best generate critical mass in this sector. Despite the growing controversy in the literature around cultural heritage clusters and tourism's contribution towards regional competitiveness, the relationship between cultural heritage and competitiveness still remains broadly unexplored, especially as regards the mediating role of the tourism sector's performance (Alberti and Giusti, 2012).

Indeed, there is a fairly clear gap as regards research on the contributions of entrepreneurial artisanship and artisan products towards the competitiveness of regions

and how these may influence the perceptions of consumer products (Bhaduri and Stanforth, 2017). This paper correspondingly seeks to overcome this issue through studying two regional products and analysing their contributions towards the competitiveness of the Madeira region.

The process of interaction between visitors and residents, specifically on island destinations, remains broadly unexplored (Moyle *et al.*, 2010), while cold water and secondary islands also fall off the general scope of academic study (Brent and Mikko, 2006). Hence, understanding the value perceived by clients is important as luxury products frequently get purchased both due to the quality of the product and for the emotional and symbolic value that the products represent (Hwang and Kandampully, 2012; Rahman and Ramli, 2014; Santagata, 2004). This study thus seeks to explore and analyse the role of entrepreneurial artisan products in regional tourism competitiveness.

Hence, this paper focusses on the following research question:

RQ1. What are the contributions and impacts of artisan entrepreneurship and its various outputs to regional tourism competitiveness?

The paper's structure is the following: after the introduction here in the first section, the second section sets out a literature review on this theme. The third section characterises the methodology and methods used. The fourth section empirically analyses the data for two artisan products. Finally, the fifth section contains a discussion of the results, some final considerations, the main study limitations and suggestions for future lines of research.

Literature review
Artisan products
Over the years, some studies have identified growing cultural diversity in the marketplace and the subsequent development of learning mechanisms adopted and adapted by both entrepreneurs and consumers (Elliot *et al.*, 2018). In western traditions, the production of artisan goods reflects particular ethical qualities, attractive to a certain extent through embodying dignity, skill, integrity, self-confidence and also a special emphasis on the factors around the skills related to artisanal production. However, this does not only involve codified and cognitive knowledge but also tacit knowledge and the originality necessary to such products (Thompson, 2014).

Despite the diversity in the literature applying the expression "culture", Mokyr (2013) refers to how there is a lack of knowledge about the ideas and beliefs that come to the fore in competitive markets. Apart from the limited scenario Santamaría and Lecuona (2016) describe in their study, artisanship and its products remain understudied. Such studies might enable improvements in and wider recourse to artisanal production with inputs worth taking into consideration when implementing projects designed to develop this sector.

According to the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2011), the artisanal product classification incorporates the experiences of exporting products produced at the local level that enable the promotion of the image of a destination and represent artisanal production, identified in the market with the presence of cultural, economic and commercial features of artisanal production, and the image of a strong heritage that spans the competitiveness of the entire region.

The great importance attributed to artisanal products and their impact on regional competitiveness and development features in various different studies (Draper *et al.*, 2016; Hassan, 2000; Mokyr, 2013; Ramadani *et al.*, 2017; Santamaría and Lecuona, 2016; Thompson, 2014).

The artisan industry ranks as one of the major sectors not only for its ability to absorb a larger sale force in comparison with larger industrial sectors but also for making more significant contributions towards regional gross domestic product (GDP) (Tambunan, 2011).

The artisan industry produces a diverse range of products such as textiles, handicrafts, paintings, clothing, batik, curtains and tablecloths, among others (Amin, 2006).

The tourism sector, in turn, plays a fulcral role in the economy of the Autonomous Region of Madeira (Portuguese acronym RAM hereafter), involving the most diverse sectors of its economic activities, including tourism operators, hotels and restaurants, travel agencies, retail and commerce, ports, airports, airline companies, tourism entertainment companies, transport companies, teaching establishments and government entities as well as the companies producing regional and local products.

Thus, and taking 2013 as our year of reference, it is possible to verify that the overall impact of the tourism sector on the RAM economy represented around 30 per cent of the GAV generated, 24 per cent of GDP and over 15 per cent of total employment in the region. Hence, the importance of grasping what impact some of this sector's segments holds for the tourism competitiveness of the region and, to this end, it was carried out a study of two regional products, specifically Madeira Wine and Embroidery (DREM, 2017).

Regional competitiveness and the wine sector have both come in for widespread debate and the subject of research undertaken by politicians, political decision makers as well as some academics (Viassone *et al.*, 2016). The literature defines regional competitiveness as the "capacity of a destination to deliver goods and services so that they function better than other destinations as regards aspects of the tourist experience deemed important by tourists" (Dwyer and Kim, 2003), and the capacity to design and integrate products with added value that sustain resources while maintaining the market position in relation to other competitors (Hassan, 2000). There is consequently, therefore, a great need to study the factors shaping the wine sector and the questions surrounding regional attractiveness and competitiveness (Gardiner *et al.*, 2004; Viassone and Casalegno, 2011; Viassone *et al.*, 2016). Furthermore, the rise in the number and volume of wine sector-related events and festivals has resulted from the greater interest in this niche market by the tourism sector (Draper *et al.*, 2016; Frost and Laing, 2015; Mare and Whitford, 2013; Viassone *et al.*, 2016).

Wine tourism began emerging in importance from the mid-1990s onwards when there appeared constant growth in the number of tourists interested in wine and coupled with relatively high levels of purchasing power. This motivational facet to wine tourism involves services and products related to the region but complemented by wine (Brown and Getz, 2006; Peri, 2016). This definition of wine tourism spans the activities of visiting vineyards, wineries and wine events, including the tasting and experiencing of the different attributes associated with wine (Chong, 2017; Hall and Mitchell, 2000). Regional competitiveness and the wine sector have received significant attention from politicians and political decision makers as well as academics (Viassone *et al.*, 2016).

However, and despite the existence of some literature on the wine sector and regional competitiveness, there remain only scant measurements evaluating the contribution made by this relationship; thus, the importance the wine sector holds for regional competitiveness (Viassone *et al.*, 2016). Nevertheless, some researchers have already turned their attention to this product, wine, in various different contexts and regions associated with regional competitiveness (Chong, 2017; Hira, 2013; Sarturi *et al.*, 2016; Viassone *et al.*, 2016; Wang, 2017).

Embroidery in Madeira represents a traditional activity that was subject to protectionist policies in 1926 and regulated by corporatist rules after 1935. Regional embroidery sector clusters – in this case, that of Madeira – provide the grounds for analysing shared strategies for strengthening business competitiveness. The government strategy incorporated an initiative designed to improve the well-being and material conditions of workers through the launching of a collective brand, Madeira Embroidery. However, the state protection following 1926 and rules implemented in effect amounted to an excess of regulation that hindered companies seeking to innovate and compete (Câmara, 2011).

At that time, there was a common strategy to strengthen the business competitiveness of a range of export-oriented artisanal production companies. This made recourse to a system for certifying product quality and promoting a collective brand.

Madeira Embroidery is traditional to the archipelago of Madeira in Portugal and involves such materials as linen, silk, cotton and organdie with manual techniques serving for the production of tablecloths, shirts, dresses, handkerchiefs and scarves, among other such items.

Some artisan villages have contributed by making these products for retail to the tourism sector but this does not reflect the extent of the opportunities and potential for tourism development and that also faces major challenges, including product competition and trends in the exchange rate markets (Hieu and Rasovska, 2017). Some studies have focussed on this artisanal type, embroidery, as a competitive product, even while only a few studies have approached this question (Câmara, 2011; He and Zhang, 2013; Hieu and Rasovska, 2017; Patke, 2015; Scrase, 2003).

Artisanal tourism entrepreneurship and innovation
Hand-made and personalised artisan goods have experienced a global resurgence in various market niche segments. While representing only a small scale of production and consumption, the perceptions of artisan goods fall within the scope of contemporary development and processes of production. Artisan production has since moved on from purely traditional methods and evolved to incorporate innovative practices (Lorella *et al.*, 2017; Rao and Gopi, 2016).

The importance of families to economic success clearly represents a fulcral dimension to those artisan masters that seek to expand beyond the small-scale sphere of production and establish themselves as commercial or industrial producers (Ehmer, 2001).

The artisanal and small-scale clusters form the central point of a local economic development strategy due to their intense capacity for labour and job creation, very often in regions where there are not many other economic opportunities (Milanez and Oliveira, 2013). Hence, innovation in the artisan sector, in the tradition and the capacity of artisans, in the technical domain, in empowering the actors involved in new market trends, among other innovative characteristics so as to be able to attract tourism, helps in preventing the authenticity of regions and their cultural heritage from dying out. Some studies have already approached these questions interconnected with artisanal innovation in the tourism sector (Hjalager *et al.*, 2017; Milanez and Oliveira, 2013; Norcliffe and Rendace, 2003; Sundbo *et al.*, 2007; Tregear, 2005), but few associate this with an innovative capacity and a factor driving regional competitiveness.

The role of individual entrepreneurs in developing a destination often gets referenced as crucial to its potential for innovation and destination competitiveness (Pikkemaat *et al.*, 2018).

Cultural entrepreneurship emerges out of the increasing rise in the recognition and importance attributed to the arts in the economic development of a region (Ratten and Ferreira, 2017). Diverse authors account for how global socioeconomic changes have driven innovation and the restructuring of rural spaces with the objective of participating in the service economy as tourism entrepreneurs (Prince, 2017). Some authors have also already approached the importance of questions of entrepreneurship as fundamental tools for artisanship and tourism (Mokyr, 2013; Ndegwa *et al.*, 2015; Prince, 2017; Ratten and Ferreira, 2017; Stewart *et al.*, 2008).

George and Zahra (2002) define culture as the enduring set of values of a nation, region or organisation and entrepreneurship as the acts and the processes by which societies, regions, organisations and individuals identify with the search for opportunities to generate wealth. This combined definition contains the values but also the role of persons in enabling cultural entrepreneurship to prosper (Ratten, 2011).

Unless there is the intention to discard the role of entrepreneurship and entrepreneurs in economic history, their role in focussing and coordinating cultural beliefs should remain on the historical economic agenda reflecting their role as a factor driving economic change (Mokyr, 2013).

Artisanal production has regained its value and again now perceived as a pillar of development with the measures applied by international organisms and states confirming this vision. Artisanal production may transform the creative value of an area or a region and therefore requires protection and support for growth so as to leverage its core essence. The productive potential should also not ignore the usage of tools that generate benefits, while enabling interactions with other sectors might also provide a transcendental strategy (Santamaría and Lecuona, 2016).

Regional tourism competitiveness
The competitiveness of a destination encapsulates a combination of competitive and comparative advantages. Comparative advantage incorporates the inherited resources such as the climate, landscapes, fauna, flora, handicrafts, traditional products; competitive advantage interrelates with created items such as the quality of management, tourism structures, the competences of employees and government policies (Dwyer and Kim, 2003; Wilde *et al.*, 2017). Regional competitiveness can be defined with the capacity that the regions gain in terms of providing an attractive place for companies and inhabitants to live and work there (Annoni and Dijkstra, 2010). Dunning *et al.* (1998) argue that competitiveness represents a means of discussing the relative performance of an economy in comparative terms. Some authors consider any definition of competitiveness difficult beyond identifying GDP as a key indicator. There are various studies of national levels of competitiveness (Alberti and Giusti, 2012; Eickelpasch *et al.*, 2007; Guerrero *et al.*, 2016; Neutzling *et al.*, 2015; Porter, 2000; Wilde *et al.*, 2017).

According to a study by Ritchie and Crouch (2003), there are six dimensions to the competitiveness of destinations: economic, political, social, cultural, technological and the environment. These authors propose a rather vast framework for the competitiveness of destinations that includes both the main facets of macro (national) and micro (regional) competitiveness as well as the competitive and comparative advantage of tourism destinations. Other authors (Jingyi and Chung-shing, 2018; Marica, 2014; Matthew *et al.*, 2016; Reve and Sasson, 2015; Ritchie and Crouch, 2003), in turn, propose that five main components make up the competitiveness of tourism destinations: essential and attractive resources; support factors and resources; destination management; destination policies, planning and development; and determinants of qualification and amplification. The conceptual model set out in Figure 1 conveys the factors that may positively contribute to regional tourism competitiveness in general terms. Among the multiple factors existing, this model identifies those factors that constitute the focus of this study: the importance of internal and external markets, artisan products, Madeira wine, Madeira embroidery, tourism innovation, touristic entrepreneurship and regional tourism competitiveness.
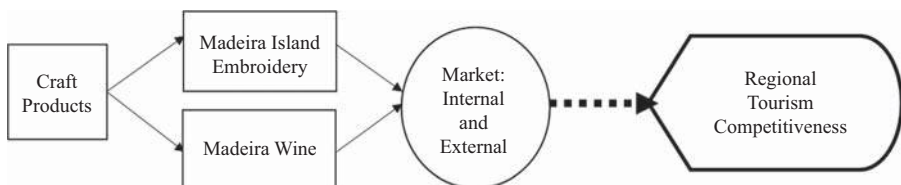

Figure 1.
Conceptual model

Methods and data

The selection of methods took place in accordance with the various means of data collection, such as observation and content analysis based upon secondary data so as to avoid any excessive dependence on any single source and therefore avoiding jeopardising the reliability of the findings (Chong, 2017). Research into the winery sector has thus far tended to ignore the client perspective Dressler (2016) and Garcia-Granata *et al.* (2013). The academic community identified the need to return insights derived from empirical studies and put forward analysis of segments (Barber *et al.*, 2009; Manoj, 2015), multidimensional approaches (Engelbrecht *et al.*, 2014), analysis of the impacts of profit (Garcia-Granata *et al.*, 2013) and researching client side experiences (Füller *et al.*, 2009) as priorities. To this end, it was made recourse to the databases run by the DREM – Regional Directorate of Statistics, INE – Instituto Nacional de Estatística (Statistics Portugal) and IVBAM – Institute of Madeira Wine, Embroidery and Handicrafts. These databases contain information referring to the commercialisation of Madeira wine and embroideries ever since 1976 in the case of wine and since 1998 in the case of embroideries and artisan products.

The databases also detail the annual sales (whether at the regional or national levels) and as well as the main European markets alongside others worldwide. In the case of Madeira wine, it was verified production per litre and the total value of exports in euros; in turn, in the case of embroidered and artisan products, it was a report on the annual production in euros and its main export markets. It nevertheless opted to analyse only the data for the last 15 years, from 2001 to 2015, covering the main export markets as well as Portuguese GDP, Portuguese Mainland GDP, Madeira GDP and European Union (EU) GDP. These data were subsequently transported to SPSS.23 before undertaking analytical regression processes both for National GDP and Madeira GDP for the aforementioned period.

Pearson's correlation was applied to the data for Madeira wine and for the embroidered and artisan products. Then, variable normality tests, the *Kolmogorov-Smirnov* tests and correlation analysis for the variables were carried out. Pearson's coefficient serves to measure the intensity and direction of the association between two quantitative variables (Casaca, 2015), while multiple linear regression analyses the product impacts on regional GDP and its respective competitiveness. Based on this analysis, it was able to identify the weighting of these products in GDP and the products generating the greatest weighting in overall exports.

A correlation purely and simply measures the association between the variables and without any implication as regards the cause and effect between the pairing. This coefficient varies between -1 and $+1 = (-1 \leqslant R \leqslant +1)$, in which $r > 0$ means the variables vary in the same direction, while $r < 0$ holds that the variables vary in the opposite direction. In the present study, before carrying out the correlation study, the authors undertook analysis of the normality of the variables under analysis, especially the figures for National GDP, Madeira GDP and Mainland Portugal GDP for the period between 2001 and 2015. Hence, through the Kolmogorov-Smirnov test, the existence of a distribution for these three variables bordering on that of a normal curve was verified ($p > 0.05$), enabling the option in favour of parametric statistics for the subsequent analytical procedures.

Unit of analysis: RAM – Autonomous RAM

The Autonomous RAM is an archipelago located in the Atlantic Ocean, to the Southwest of the Portuguese coast and an EU region. This region spans, in conjunction with the islands of Porto Santo, Ilhas Desertas and Ilhas Selvagens, the archipelago of Madeira, and thus forms the Autonomous RAM, which has the city of Funchal as its regional capital. The island of Madeira was of volcanic origin and now covers an area of approximately 742.4 km², with an average altitude of 1371.6 m, a perimeter of 179.3 km,

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with its highest point at Pico Ruivo at 1,862 m, and endowed with extensive exotic flora and a subtropical climate. The regional economy focusses broadly on the tourism sector.

The region contains 11 councils (see Figure 2): Calheta, Câmara de Lobos, Funchal, Machico, Ponta do Sol, Porto Moniz, Porto Santo, Ribeira Brava, Santa Cruz, Santana and São Vicente, with a total population, according to the most recent census (2011), standing at 267,785 inhabitants, of whom 126,268 are male and 141,517 are female.

According to IVBAM – the Institute of Madeira Wine, Embroidery and Handicrafts – there are currently (November 2017) 85 registered artisans and 70 productive artisan units, 30 companies producing Madeira embroideries and around 3,000 embroiderers dedicating themselves daily to this art. In the wine sector, there are 8 major producers and exporters of Madeira wine alongside 2,044 designated wine producers registered with IVBAM.

Results and data analysis

As regards the results, it was first opted to identify, as detailed in Table I, the main artisan products and the leading artisan productive units in each RAM council constituting the main artisan producers currently active in the region.

The quantitative analysis of the data refers to two artisanal products: Madeira wine and embroideries in accordance with the official data produced by IVBAM – Instituto do Vinho, do Bordado and do Artesanato da Madeira, I.P. – and DREM – Direção Regional de Estatística da Madeira – for the period between 2001 and 2015.

Madeira embroideries and handicrafts

Madeira embroidery stems from a traditional activity undertaken to strengthen the competitiveness of a specific cluster of export oriented artisanal producers (Câmara, 2011).

Correspondingly, Figure 3 sets out the data on the evolution in Madeira Embroideries and Handicrafts for the period between 1976 and 2016. It can thus be noted how this market experienced growth from 1976 to 1990, but has henceforth entered into a period of sustained decline.

Table II provides the results of the analysis of the market data for Madeira Embroideries and Handicrafts, and the respective Pearson's correlations.
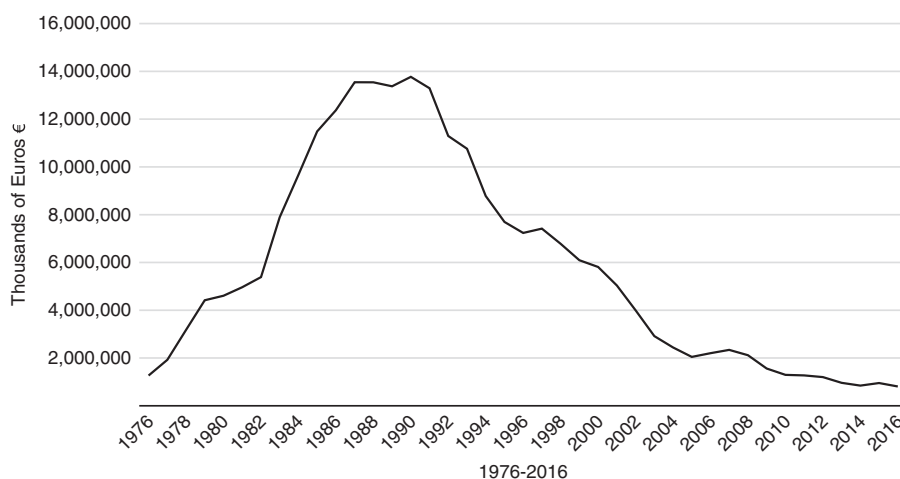

Figure 2.
Geographic map of the Autonomous Region of Madeira

Council	No. of artisans	Activities – artisan types
Calheta	2	02.05 – tiles; 02.01 – ceramics; 02.06 – painted ceramics
Câmara de Lobos	7	05.16 – production of utensils and other wooden objects; 02.01 – ceramics; 02.05 – tiles; 01.14 – embroidered products; 13.32 – art of working synthetic materials; 01.07 – production of clothing accessories; 02.03 – figurative ceramics
Funchal	38	13.09 – art of glass working; 13.27 – art of wax working; 01.11 – rag doll making; 13.12 – jewellery; 05.13 – cooperage; 13.32 – art of working synthetic materials; 01.07 – production of clothing accessories; 02.01- ceramics; 13.18 – production of miniatures; 04.02 – art of leather working; 13.07 – art of stained glass making; 06.06 – art of brass working; 02.05 – tiles; 01.12 – making of knitted articles; 05.09 – art of gilding; 08.02 – art of paper working; 05.16 – production of utensils and other wooden objects; 13.32 – art of working synthetic materials; 13.36 – production of accessories
Machico	1	01.07 – production of clothing accessories
Ponta do Sol	1	13.15 – production of musical wind instruments
Ribeira Brava	4	05.16 – production of utensils and other wooden objects; 13.32 – art of working synthetic materials; 04.04 – production and repair of cobblestones; 05.16 – production of utensils and other wooden objects
Santa Cruz	22	01.07 – production of clothing accessories; 01.06 – production of tailored clothing; 02.03 – figurative ceramics; 01.13 – production of lace goods; 01.09 – production of home fabrics; 01.03 – art of printing; 05.06 – wood sculptures; 03.01 – basket weaving; 03.16 – production of straw and other similar articles; 01.11 – making of rag dolls; 13.36 – production of accessories; 01.12 – production of knitted articles; 01.17 – wool felting; 13.09 – art of glass working
Santana	8	13.18 – production of miniatures; 03.13 – production of corn leaf dolls; 03.01 – baskets; 01.01 – preparation and weaving of textile fibres
São Vicente	2	02.01 – ceramics; 01.07 – production of clothing accessories
Total	85 – artisan producers	

Source: Adapted from IVBAM (2017)

Source: Adapted from IVBAM (2017) and DREM (2017)

	National GDP	Mainland GDP	Madeira GDP
Embroideries and handicrafts – total General Sales	−0.870**	−0.870**	−0.860**
Embroideries and handicrafts – total national sales	−0.838**	−0.838**	−0.829**
Embroideries and handicrafts – Madeira sales	−0.829**	−0.828**	−0.812**
Embroideries and handicrafts – Mainland and Azores sales	−0.826**	−0.825**	−0.862**
Embroideries and handicrafts – total international exports	−0.893**	−0.893**	−0.882**
Embroideries and handicrafts – exports to Australia	−0.920**	−0.921**	−0.861**
Embroideries and handicrafts – exports to Bermuda	−0.934**	−0.933**	−0.937**
Embroideries and handicrafts – exports to Canada	−0.634*	−0.632*	−0.717**
Embroideries and handicrafts – exports to Spain	−0.808**	−0.809**	−0.740**
Embroideries and handicrafts – exports to the USA	−0.855**	−0.854**	−0.847**
Embroideries and handicrafts – exports to France	−0.479	−0.477	−0.542*
Embroideries and handicrafts – exports to Italy	−0.874**	−0.874**	−0.853**
Embroideries and handicrafts – exports to the UK	−0.896**	−0.895**	−0.887**
Embroideries and handicrafts – exports to Switzerland	−0.603*	−0.604*	−0.504

Table II.
Pearson's correlation between the GDP values and the Madeira embroideries and handicrafts markets

Notes: $*p < 0.05$; $**p < 0.01$

Given that the Pearson's correlation results for the GDP values and the sales figures for Madeira Embroideries and Handicrafts, both in national and international markets, return negative values and generally lack significance, it was concluded that while the GDP totals have risen, the sales of embroideries and handicrafts have tended to decline, and hence there is no association with the rise in GDP.

It can therefore be concluded that the trend in the annual sales of embroideries, tapestries and decorative article to global markets stems from the fact that the artisans have encountered certain problems, such as limited access to financing, shortages in raw material supplies, limited production capacity, the interests of third party intermediaries, the non-existence of organised business structures, minimum access to technology and other resources in conjunction with the lack of organisation and low levels of associational activities (Ramadani et al., 2017; Rubel, 2018).
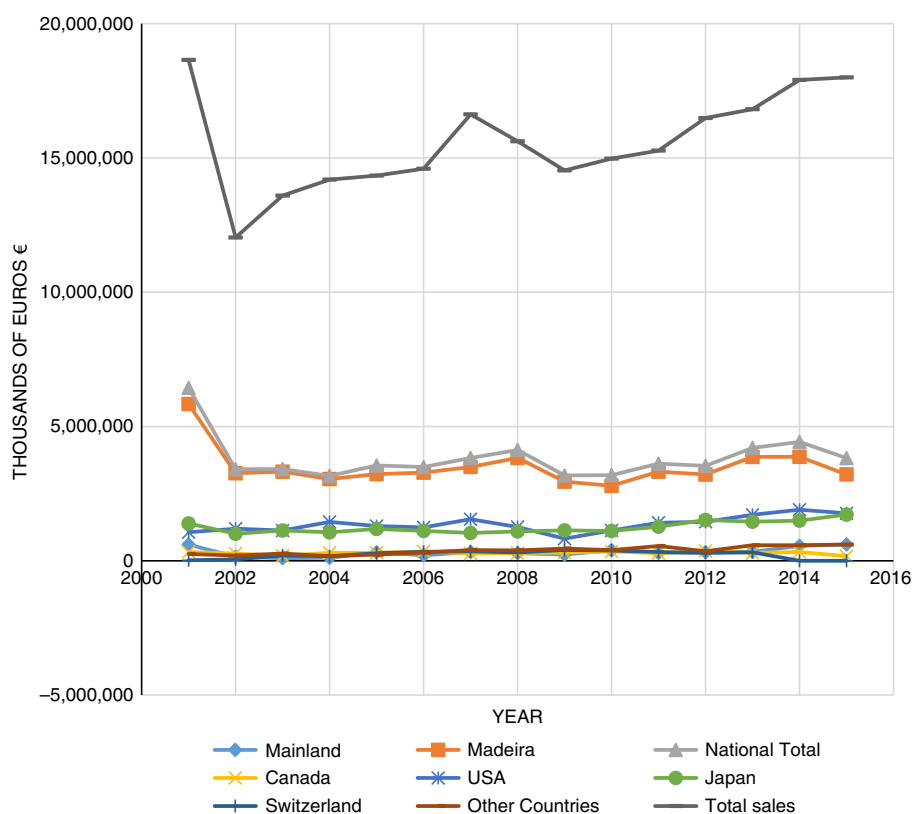
Madeira wine

Consumers are increasingly displaying a rising preference for regional and local products (Guy, 2011). The role of exports in the Autonomous RAM economy became a highly important factor within the scope of ascertaining to what extent exports may contribute towards the regional economy and how they might best contribute towards regional competitiveness.

This correspondingly aims to verify whether there is an interconnection between exports, in this case of artisanal goods (wine and handicrafts), economic growth and the respective regional competitiveness. This region produces a fair number of goods, services and products that contribute towards its wealth and the tourism activities for example that generate its main source of income. However, also playing a role in this story are the other goods that get exported, including those focussed on by this study, Madeira wine, embroideries and handicrafts. Figure 4 sets out the trends in these products for the period between 2001 and 2015, and their main exports by destination.

The measurements quantify the intensity and direction of association between these two variables. The results show that the financial output in euros have risen over the years and attaining €17,688,588.45 in 2015. Hence, it is found that the quantity produced does not hold any major influence over the revenues obtained from wine sales, which instead experience variations in the prices in effect for exports.

Table III sets out the data analysis steps taken for the Madeira wine market through recourse to Pearson's correlation.

Figure 4.
Commercialisation of
Madeira fortified
wines and main
markets 2001-2015

Source: Adapted from IVBAM (2017) and DREM (2017)

	National GDP	Mainland GDP	Madeira GDP
Wines – Mainland sales	0.242	0.246	0.089
Wines – Madeira sales	−0.446	−0.442	−0.543*
Wines – total national sales	−0.344	−0.340	−0.459
Wines – total general sales	0.284	0.290	0.137
Wines – exports to Canada	0.111	0.108	0.149
Wines – exports to U.S.A.	0.339	0.343	0.266
Wines – exports to Japan	0.247	0.251	0.091
Wines – exports to Switzerland	0.924**	0.923**	0.939**
Wines – exports to Other Countries	0.760**	0.763**	0.652**

Notes: *$p < 0.05$; **$p < 0.01$

Table III.
Pearson's correlation
between the GDP
totals and the Madeira
wine market

As regards the correlations for the Madeira wine data, and through the Pearson's correlation
coefficient, wine production revenues in thousands of euros were analysed, comparing the trend
in the GDP for the Autonomous RAM with the National, Mainland and Madeira figures ($n = 15$)
figures. It also analysed sales on the Mainland, on Madeira, the national total, the general total,
and exports to Canada, USA, Japan, Switzerland and other countries.

Following the analysis of the earlier data (Table III), it may be reported that there are only significant correlations, positive and strong $p < 0.01$, between the revenues from wine exports to Switzerland and the three GDP values. In addition to these values, it also returns significant correlations, positive and strong $p < 0.01$, for exports to other countries. Furthermore, another incidence of significant correlation, moderate and negative, between the totals for Madeira wine sales and the Madeira GDP performance is accounted for. Thus, these variables display inverse behaviours as whenever there is an increase in one, there is a decline in the other. The remaining correlations turn out to be practically non-existent or weak, and failing to attain statistical significance.

Multiple linear regression of national GDP assumes the existence of a linear relationship between variable Y (the dependent variable) and the k independent variables, $j \times (j = 1, \ldots, k)$. The independent variables serve to explain the variation in Y when not predicting such variation. In this specific case, the objective is to understand to what extent may some variables (wine exports to Switzerland) return predictive capacities as regards both national GDP and Madeira GDP so that, in the following step, it is able to define a regression model that enables us to estimate the values under similar conditions to our sample (data relative to a timeframe of 15 years), based on already known parameters. Furthermore, this ensures an understanding as regards the weightings these exports hold in terms of GDP variations over this same timeframe.

Given the reduced scope of the data, it is not able to include more than two variables in the model and took the option to construct a multiple linear regression model in accordance with the stepwise method that represents the strategy chosen by exploratory studies, given that the selection of the entrance sequence for the predictors in the equation takes place statistically due to the lack of any alternative consistent theoretical model.

The model begins with all the variables in the set and progressively removes those returning the statistically least significant results. This process continues until the remaining variables all hold their own importance (statistically relevant), thus until there are also no further improvements in the performance of the model or there are no further variables for removal. The variable that attains the greatest correlation and the greatest significance is that for wine exports to Switzerland.

Hence, to explain national GDP, the two variables for wine sales that attained pertinence (exports to Switzerland and to other countries) were introduced and, through the stepwise method, a significant model was obtained, $F = 75.854$, $p < 0.001$, with the inclusion of one variable. The resulting linear regression model significantly explains 84.2 per cent of the variations in national GDP (with results of $R^2 = 0.854$ and of R^2 adjusted $= 0.842$), with only a single variable achieving relevance to the model as detailed in Tables IV and V.

Table IV.
Summary of the Regression Model for Predicting National GDP

	R	R^2	R^2 adjusted	F	gl^2	Sig.	Durbin-Watson
1	0.924[a]	0.854	0.842	75.854	13	0.000	1.749

Notes: [a]Predictors: (Constants), Wine-Exports Switzerland

Table V.
Linear regression model for predicting national GDP

		Non-standardised coefficients		Standardised coefficients			Collinearity statistics	
Model		β	SE	β	t	Sig.	Tolerance	VIF
1	(Constant)	127,141.080	4,326.521		29.386	0.000		
	Wine exports to Switzerland	0.125	0.014	0.924	8.709	0.000	1.000	1.000

National GDP may correspondingly be defined by the equation:

$$\text{National GDP} = 127,141.080 + 0.125 \times \text{Value of Wine Exports to Switzerland.}$$

In order to analyse the quality of this model, it has to test the assumptions. Hence, beginning with analysis of the independence of errors, it is possible that the Durbin-Watson test returns an inconclusive result ($D-W = 1.749$). Furthermore, whether through a graphic analysis of the residuals or through descriptive statistics, it is found that these organise themselves in a random fashion around zero, and it can therefore be concluded that the errors are independent.

The multicollinearity prevailing among variables constitutes a serious problem in regression analytical procedures (Roozbeh, 2018). There may be another assumption of the absence of multicollinearity among the explanatory variables, through the results returned for tolerance (which should be greater than 0.1) and variance inflation factor (VIF) (which should be below either 5 or 10). In the case of this regression model, the tolerance stands at 1.000 and the VIF result is 1.000, therefore clearly indicating the absence of multicollinearity. In regression analysis, researchers generally encounter a problem with multicollinearity defined as the linear dependence between variables. The absence of multicollinearity may lead to either a broad range of confidence in the individual parameters or the linear combination of erroneous signals (Roozbeh, 2018).

The assumptions related with the normality of this residual distribution were also robust: $K-S = 113$, $p > 0.200$. In sum, it is possible to state that this model is significant, robust and explains 84.2 per cent of the variance encountered in the figures for national GDP while ensuring various indicators favourable to validating the assumptions.

In the construction of this regression model, the same procedure as in the previous models was adopted with the introduction of the same variables in keeping with how these had correlated with Madeira GDP (exports to Switzerland and to other countries). Therefore, in order to explain national GDP, the two variables relating to the wine sales that had attained relevance were introduced (wine exports to Switzerland and to other countries) and, through the stepwise method, the significant model was obtained, $F = 97.558$, $p < 0.001$, with the inclusion of one variable as featured in the linear regression model set out in Tables VI and VII.

This model, in addition to attaining significance, explains 87.3 per cent of the variations in Madeira GDP (value of $R^2 = 0.873$ and R^2 adjusted $= 0.882$).

Model	R	R^2	R^2 adjusted	F	gl^2	Sig.	Durbin-Watson
1	0.939[a]	0.882	0.873	97.558	13	0.000	2.299

Notes: [a]Predictors: (Constants), Wine-Exports Switzerland

Table VI.
Summary of the Regression Model for Predicting Madeira GDP

Model	Non-standardised coefficients		Standardised coefficients			Collinearity statistics	
	β	SE	β	t	Sig.	Tolerance	VIF
1 (Constant)	2,723.049	124.838		21.813	0.000		
Wine exports to Switzerland	0.004	0.000	0.939	9.877	0.000	1.000	1.000

Table VII.
Linear regression model for predicting Madeira GDP

Thus, the GDP of Madeira can be defined for the period under analysis by the equation:

$$\text{Madeira } GDP = 2,723.049 + 0.004 \times \text{Value of Wine Exports to Switzerland.}$$

Furthermore, the regression assumptions, especially the independence of errors (despite the Durbin-Watson result of 2.299, situated in this test's undefined zone of null hypothesis, the error distribution returns a zero average, and a random dispersion around this value), the non-existence of any correlation between the explanatory variable (with tolerance = 1.000 and VIF = 1.000) and a normal distribution of residuals (K-S = 0.197, p = 0.121) were validated. In summary, it is possible to assume that this model holds significance, is robust and explains 87.3 per cent of the variance verified in the Madeira GDP for the period under analysis while also returning various other indicators favourable to the validation of these assumptions.

Discussion of results

The development of artisanal tourism has contributed towards the preservation and development of regional artisanal traditions in a sustainable fashion as this assists not only in expanding the market but also in opportunities favourable to developing production as well as preserving and promoting the cultural values of regions (Hieu and Rasovska, 2017).

Within the scope of its competences, IVBAM highlights its role as the entity issuing quality certificates for Madeira embroideries, handicraft and wine as well as the organism responsible for promoting and raising the profile of these regional products, both nationally and internationally.

Within the framework of a study analysing the behaviours of the artisanal Madeira wine, embroidery and handicraft product sectors, and in order to correlate these with regional competitiveness, the authors sought to achieve these aims through statistical tests and analysis, in particular, correlation analysis and linear regression models.

In general, the results and some of their findings are necessary, given the period of time for activity development, both in terms of the commercialisation of wine and embroidered products and handicrafts as well as other regional products. In addition to activities interrelated with entrepreneurship, regional competitiveness and artisan culture rank as extremely important to the majority of regions, and, as a result of these activities, local sales, service quality standards, market growth, relationships with clients and the portfolio of products and services all clearly rose.

Correspondingly, this returned only a very weak correlation for embroidered and artisan products and a positive correlation for the Madeira wine variable in terms of GDP and the competitiveness of activities; thus, there are indeed some associations between the variables studied. Another relevant question stems from the fact that the regional artisan and embroidery sector cluster provided a strategic base focussed on strengthening business and industrial competitiveness (Câmara, 2011).

The proposal presented provides an important contribution to the sector, especially given the lack of studies approaching these analytical problems in wine companies. Furthermore, in keeping with the position of Rodríguez *et al.* (2010), this affirms that rural territories, especially around tourism destinations, receive influences from increases in competitiveness arising out of their closest heritage and traditions as regards what they produce and what they have (products such as wine).

Indeed, as other studies carried out in the meanwhile point out, wine tourism represents an essential facet to boosting the competitiveness of wine-producing regions, generally managed by small- and medium-sized companies (Alpizar and Maldonado, 2009; Medina and Tresserras, 2008; Millán *et al.*, 2008; Rodríguez *et al.*, 2010; Ruiz and Pelegrín, 2011). Our study does emphasise that their value is important and contributes towards a higher competitive level. It can thus be stated that, in order to overcome problems as regards exports of Madeira

embroideries and handicrafts, there is a need to invest in innovation, quality and entrepreneurship without overlooking improvements to business infrastructures so as to keep up with the embroidered and handicraft products produced in other countries with lower quality standards.

GDP with exports for a given period of time was compared so as to ascertain the extent to which export earnings contributed towards the creation of wealth for a determined year or period of years. This comparison demonstrated how the total weighting of handicraft and embroidered exports does not attain a very significant level in terms of GDP within the economy, given its low percentage input over the period of analysis. Nevertheless, wine does display some impact on GDP even while embroidered and handicraft products hold practically no relevance, perhaps due to the sheer scale of the decline in exports over recent years. Hence, economic and political transitions bring unknown information and uncertain results, whether positive or negative (Ramadani *et al.*, 2017).

However, despite the modest role played in exports, these two products, wine and embroideries, indirectly perform an important role for the regional economy due to the number of companies involved as well as the level of employment generated in addition to the economic activities generated by the production and spread effects of such activities, and correspondingly contributing to the RAM economy.

Conclusions

Tourism, in its artisan facet, plays an important role in commercialising the tourist basket of products that provide a fundamental input into regional tourism competitiveness.

The artisan industry ranks as one of the core industries in terms of its ability to absorb a larger sales force in comparison with other larger industries while also making significant contributions towards the region's GDP (Tambunan, 2011). The first major consideration and in accordance with the Animation Cell of the Portuguese Network Leader II (2003), artisanship performs a major cultural role and fulfilling functions such as: productive utility, aesthetic and decorative, cultural, heritage and symbolic, social, recreational and pedagogical and environmental roles and functions.

However, as a main contribution, these facets can be added to these other functions as inputs into the touristic, entrepreneurial, innovative, complementary product and regional tourism competitiveness dimensions.

Cultural entrepreneurship has received growing levels of recognition, which has arisen from the great importance of the arts to economic development, and their role both in society and in regional development (Nur, 2016; Ratten and Ferreira, 2017). There has also been a greater emphasis on local and artisanal goods interconnected with culture and with the tourism of a region (Ratten and Ferreira, 2017). In turn, Lounsbury and Glynn (2001) understand cultural entrepreneurship as a historical process interconnecting existing and business resources with the subsequent creation of capital and wealth. This form of entrepreneurship rises in keeping with the extent to which persons concentrate on cultural forms of business (Lounsbury and Glynn, 2001).

Nevertheless, in studies of small cultural companies and their contributions towards regional development, there remains a significant gap as regards the relationship between artisan goods and artisans (Tregear, 2005). Artisanal entrepreneurship involves the production of artisanal goods and services, then sold to others. Normally, the majority of artisan entrepreneurs operate in the clothing and food and beverage sectors as they prefer to produce their own products interconnected with their cultural heritage (Tregear, 2005). Another phenomenon emerging in recent years derives from the growing demand for protected food products that display constant quality over time and guarantee a high level of satisfaction in relation to both taste and emotion (Bellia, 2014). In July 2006, IVBAM – the Institute of Wine, Embroidery and Handicrafts of Madeira – emerged out of the merger of

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the IVM – the Institute of Madeira Wine – and IBTAM – the Institute of Embroideries, Tapestries and Handicrafts of Madeira.

In a global market in which the level of competitiveness requires a constant focus on quality and its promotion without ever losing sight of consolidation and sustainable growth in the production of the traditional regional products, there is correspondingly a requirement, in service of the goal of public service efficiency and economies of resources, to concentrate on the promotion and profile of these products within the framework of a single organism, endowed with administrative and financial autonomy. Within this framework, the IVBAM seeks to provide continuity to the support policies for regional embroideries and handicrafts and wine and wineries while preserving all the capital of credibility built up in the meanwhile by IVM and IBTAM.

It is also important to state how these two products gain international recognition as high-quality products and are associated with the Madeira image, which certainly benefits emerging exports labelled with the "Madeira Product" brand, alongside other transformative industries such as the sugarcane derivatives, especially Madeira rum, honey and sweets/desserts based on sugarcane molasses, tropical fruits and flowers, among others. Consequently, based on this methodology and based on information from the territory analysed, as future research studies, comparative works enabling the presentation of solutions for the discrepancies observed and resulting from statistical analysis that better defines the best means of returning more reliable and realistic estimates of the products produced by winery and artisan activities on the island of Madeira should also be mentioned, as put forward by Beverland (2000).

Comparing the case studies on wine tourism across different geographic areas while applying similar methodologies, Mitchell and Hall (2006) report an influence on the relationship between tourism and companies, analysing each specific context, emphasising the festivals, wine routes and other wine-related attractions.

Wine tourism, regional development, the socioeconomic impact of tourism and its respective host areas are susceptible to analysis, including restaurants, hotels, employment and local artisan and handicraft activities, given the reported only modest strategy with its weak linkage with competitiveness. Hence, taking the new scenario into consideration, the study here approaches this discussion in terms of both regional competitiveness and GDP.

The authors may thus conclude that in order to overcome the problems regarding the impact of artisan goods and exports, there is a need to invest in innovation, quality and entrepreneurship but while also without overlooking investments in boosting company infrastructures in order to avoid getting overtaken by the lower quality embroideries and handicrafts produced in other countries.

Within the scope of these conclusions, it would emphasise that the Madeira wine sector should consider the series of looming challenges to maintaining its position in the market and thus its overall competitive level.

Finally, it is possible confirmed that in terms of external support and funding, there should be a greater role and a boost in the number of projects carried out not only under the auspices of the EU but also under the RAM regional government so that participant companies may invest in greater business efficiency and entrepreneurship, and in innovation, promotion and the internationalisation of their products.

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