

**A History of the Ski Industry in the United States and Switzerland: An Examination  
of Industry Success and Failure**

**Richard J. Mills Jr. Ph. D.  
Robert Morris University**

**Frank R. Flanegin Ph. D.  
Robert Morris University**

## **Abstract**

Throughout the past two decades, the United States ski industry has been in a state of virtual stagnation and more realistically an increasing state of decline. Many industry experts are quick to place the blame on a permanent problem, a reduction in annual snowfall over the past few seasons. By ignoring other possible problems or contributing factors, the industry is potentially setting itself up to repeat the mistakes of the past 25 years while missing possible solutions. While the American ski industry has faced a considerable amount of reduction in total visits, the European market, in particular, the Swiss Market has remained unwavering and at times seen growth. This study of the Swiss and US ski markets may provide some insight and possible solutions to the increasing stagnation and possible problems of the American ski market.

## **Introduction**

Skiing is considered to be one of the world's oldest sports, dating back over 5,000 years, although the development of the alpine ski resort has been a relatively modern phenomenon. The earliest ski resorts began as extensions of summer time travel resorts for the wealthy in Europe, and now have evolved to a capacity of several thousand acres and can also support over a million visitors a year. Today's modern mega resorts have expanded to include retail shopping, real estate development and housing, fine cuisine, summer time activities, and a host of other modern luxuries meeting and in some cases exceeding all economic levels.

The growth of the ski industry originally began around the turn of the 20<sup>th</sup> century, when a drastic change came in ski technique thanks to a man named Mathias Zdarsky. Zdarsky's invention of the stem ski technique allowed for the ability to teach the average person how to ski in a relatively short time. This new turn technique was quickly adopted by the British and, in the 1910s they introduced alpine skiing, or downhill skiing as it is commonly known today.

As alpine skiing grew in popularity, summer inns and resorts began to stay open all over Europe during the low business winter months (Meijer 2005). By the 1930s, older resorts were expanding and newer resorts were being established. America also saw the introduction of several alpine resorts, especially in the densely populated East coast. Over the next 40 years, resorts would begin to crop up all over Europe and North America. According to J. Rivera and P. Leon, around the mid 1970s an estimated 735 ski

resorts operated in the United States alone (2004). By the late 1970s, there came a slowing of ski resort expansion in the United States thanks to the work of environmentalist groups and an over saturation of the ski resort market. The slow down, combined with a consolidation movement in the early 1980s saw a number of small, privately owned resorts discontinue skiing and shut down completely. According to *Skier* magazine, the past 30 years has seen an estimated 250 US ski resorts shut down completely (Mejer 2005).

In response to this dormant period of ski resort expansion and consolidation, a new trend began to develop in the ski resort industry. Up until the mid 1980s, ski resorts had generally been privately owned and were developed and owned by a family or a small group of community members who had come together to start the resort. In 1986 the founding of Intrawest Corp. a public company, which acquires and operates a conglomerate of resorts across North America, was developed. Since the introduction of Intrawest Corp, several other ski conglomerates have emerged, including American Skiing Company, Vail Resorts Inc., and Booth Creek Ski Holdings Inc.

These new resort conglomerates have brought a fresh face to the ski industry, offering options for skiing at multiple locations on one ticket, the financial backing needed for improvements and renovations, while providing the capacity for expansion of current resort facilities and skiable terrain. Despite the introduction of these conglomerates offering consistent service, modernized facilities, and an expanded offering of nightlife, resort terrain, and non-skier related activities, ski resort visits have continued to remain stagnant or decrease in the past 15 years. It is vital that ski resorts

take the time to examine the ski industry market and make corrections in the near future so this billion dollar industry in the United States does not continue to decline.

### **Basic Questions and Problem**

Facing a potentially dangerous downturn in the skier services market, the industry has largely ignored the ongoing volatility of the past 25 years. Many resorts have recently adopted the stance that the downturn is solely reflective of recent increasing temperatures and lower levels of snowfall. However, this narrow minded approach leads to a general sense of indifference, based upon the problem being linked to an uncontrollable environmental factor. Because increasing temperatures are leading to reduced levels of snowfall, the resorts naturally assume the emotional effects of not seeing snow associate to fewer skier visits. This idea becomes problematic because unless some form of change occurs in the near future, a substantial revenue generator for the hospitality and tourism industry during a typically slow winter period could be lost.

By ignoring other potential factors that could be contributing to the downturn in the skier services industry, should a return to normalcy in climate levels occur the industry will be sent scrambling to find other solutions? Additionally, while climate may be the dominant factor that the industry is facing, many other factors are contributing to the problem. Therefore, it is a necessity that to ensure the long term health of the industry, an in depth study must be conducted in order to determine those factors that are ultimately causing the industry's struggling growth.

Therefore, the United States skiing industry has faced a dramatic downturn from record highs in skier visits during the early 1980s while the European Sector of the

industry has remained relatively strong, Switzerland in particular. Through a comparative analysis of the winter sports market in the United States and Switzerland, it may be possible to explain the most recent decline in the American market, and provide new solutions to help prevent further downturns and the continual closing of properties in this multimillion dollar industry.

### **Basic Definition of Sports and Recreation Ski Terms**

In order to understand the remainder of this study the following terms must be defined:

- Skier Services Industry – the encompassing industry that includes all facets of alpine skiing, including, but not limited to, ski resorts, ski and ski accessory manufacturers, retailers, wholesalers, and non direct affiliation lodging establishments.
- Resort – A place frequented by people for relaxation or recreation.
- Alpine Skiing – The form of skiing where the participants go downhill rather than cross country.
- Winter Sports – Any sport that is performed at a ski resort, such as skiing or snowboarding.
- Uphill Capacity – The total number of winter sport participants a ski resort can transport up the mountain in one hour.
- Season Pass – A one time purchase that entitles a person to use the resort's ski slopes an unlimited amount of times for the specified season.

### **The United States**

Over the past two decades, the winter sports industry has faced a general decline in participation. While the past 2 winters have shown a general increase in the industry

figures, it is still imperative that steps be taken to help correct this decline. In an article by J. Rivera and P. Leon, the authors cite a study by the National Ski Areas Association which states, “For the last 20 years, the number of annual skier-snowboarder visits has remained relatively constant, averaging about 54 million visits per year” (2004). This figure is surprising when one considers that the entire ski sports market has remained stagnant for two whole decades despite increases in population and increased access to travel. Even the conglomerates have felt the sting in recent months. J. Rivera and P. Leon go on to say, “intense competition, price discounts, and large capital investments have kept profits significantly low even for the largest ski resort chains such as Vail Resorts, Intrawest, and American Skiing Company” (2004).

The most recent downturn has been caused by a multitude of events in the history of the ski industry which all seem to have compounded each other, bringing the industry to its current state. The industry has been under pressure by their inability to respond to these changes and take the appropriate actions, which have further driven the business into the state of ineffectiveness it faces today. The problems many resorts face today can be organized into many distinct categories: internal factors, market forces, and environmental factors. Response to the basic factors the industry has struggled with will enable many resorts to adapt their business models to meet future needs.

### **Basic Factors Affecting Resorts Today**

Many problems first began to develop for ski resorts in the early 1980s as the industry moved from the small ski resort for recreation, to a more destination oriented approach. As resorts began to compete for new business, huge expenditures on resort amenities began to occur. “Major areas spent millions of dollars on snowmaking

equipment during the late 1970s and early 1980s. The successful ones left behind other areas that could not keep up with the pace of investment” (Hamilton et. al. 2003).

Resorts began offering snowmaking as a way to extend the season beyond what natural snowfall could provide and a competitive advantage over those resorts without snowmaking emerged. Resorts were now able to open earlier in the year and close far later. At the same time resorts began converting many surface lifts, such as J-Bars and tow ropes, over to ski lifts that allowed a larger uphill capacity and lengthened the skier’s run. These new lifts cost substantially more than the small surface lifts that were traditionally found at ski resorts and soon many resorts were forced to add them or lose out to a competitor. As the 1980’s progressed, resorts began to spend money on high tech grooming equipment that could “manicure” the slopes for the ultimate skiing experience. Many resorts began adding base lodges that include night life, dining services, convention services, and lodging facilities. The capital expenditures became so large that many resorts had trouble keeping pace. As large resorts began adding these extra amenities “...they were really becoming a class ahead. And as the medium size areas... tried to compete, they overextended themselves and [in] light economic downturns or bad snow years they had no reserves to back them” (Hamilton et. al. 2003). This began to drive many of the mid size resorts out of business, due to either an inability to spend the capital required to advance their properties or an unwillingness to adapt to the changing industry. In fact, according to L. Hamilton, of the 123 shut down ski resorts in New Hampshire, 93 of these resorts were small scale resorts that operated using only surface lifts and today just 2 of the 19 resorts in operation in New Hampshire operate



without a ski lift (2003). On the other hand, the Swiss resorts seem to have not been sucked into this expansion trend.

Those who were able to make it through expansion have been left in a very at risk situation. Still financing the debt undertaken to expand the resort, many resorts were left in a position where one bad winter could potentially bury the company. Also, in an industry where “margins are thin, ranging from 2.8% to 12.4% before interest costs and depreciation...” (McCune 1994) companies have been buried by the amount of debt they have taken to finance their expansion, which has led to further resorts closing. J. McCune found one ski executive who describes the situation as being so dire that "... profits are so slim there's no margin for error" (1994).

Additionally, as resorts all raced to keep up with the latest expansion efforts in the industry, trying to provide the biggest, best, or newest form of entertainment, two major events happened: (1) they entered into the destination market area of tourism, and (2) began to lose brand identity. As the resorts began to add new features, such as alternative forms of recreation, including at some locations, laser tag, snowtubing, and night clubs, the resorts began to leave the niche market and become more all-inclusive destinations. By doing this, resorts attempted to attract customers, not on their original product of skiing, but other attractions as well. The result was that ski resorts found themselves competing with major tourist attractions such as Disney. In fact, R. Lane found ski resorts executives feel you can no longer think of it as a ski business because it is a part of the entertainment/vacation industry (1996). Many resort executives even feel that it is a necessity for their industry to survive. According to David Perry, director of marketing

for Whistler Mountain Ski Corp in J. McCune's article "...since the ski industry isn't growing, we're growing by grabbing market share from others" (1994).

The problem has become that as resorts have expanded, they have all attempted to expand by offering the same services. This leads to the next reason why resorts are failing to attract new winter sports enthusiasts, a failure to brand differentiate. Most full scale ski resorts offer very similar services, including recreation, lodging, retail opportunities, and food and beverage. By failing to provide brand differentiation, the resorts have failed to entice a new market of non skiers to the resort and reduced the potential to attract new participants. Only recently have resorts that have attempted to differentiate themselves from the industry shown positive results, such as Mountain High in Southern California that has had overwhelming success marketing themselves as a snowboard only resort and providing features that snowboarders enjoy (Makens 2001).

### **Switzerland**

While resorts in the United States rushed to expand skiable terrain, many ski resorts in Switzerland stayed true to their market segment. According to the Swiss Tourism website, Switzerland has over 209 ski resorts in their country of all shapes and sizes (Switzerland Tourism n.d.). Of those 209 resorts, 106 are at or under 25 km of skiable terrain, some even as small as just 1 km of skiable terrain. With over 50% of ski resorts in Switzerland at or under 25 km, the country has not forced itself into a competition for the biggest and best equipment and services available thereby, outgrowing themselves.

Recently though, Switzerland has started to expand, but not into additional services. In recent years, Swiss resorts have begun to expand the terrain their mountain

offers. This move toward expansion has been spurred greatly by climate concerns in recent years. In an article by CBS News, they paraphrase a United Nations report that states “estimated temperatures will rise by a range of 2.5 degrees to 10.4 degrees Fahrenheit by 2100, unless dramatic action is taken to reduce greenhouse gas emissions” (Dampf 2003). Many resorts would be greatly affected by this, especially Switzerland, due to the fact that the Alps lie much lower than most US mountain ranges. In fact, most Swiss resorts right now sit in the 4,000-8,000 foot range. Economic Geographer Rolf Buerk, who headed the U.N. Study says that “right now the magic number for ski resorts is 4,265 feet” (Dampf 2003). This means, that at or above this height there is reliable snow for Swiss resorts. Anything underneath this level would be forced to rely on snowmaking equipment and grooming techniques to survive the winter months. The Guardian Newspaper reported a study by Zurich University that stated 70% of the Alps glaciers would be gone within a generation (Hickman 2005). The disappearance of glaciers means no year round skiing for many Swiss residents and the end of numerous resorts that survive solely on the glacier.

In response to recent climate problems, many Swiss resorts are attempting two strategies: (1) diversify into low cost seasonal alternatives or (2) attempt to move higher into the mountains, providing more consistent snowfall. Eduardo Zwissig, marketing director of Gstaad in Switzerland is quoted by CBS News as saying that Gstaad is looking for ways to add new hiking trails that can be used year-round and adding a convention center to their current offerings (Dampf 2003). Ideas such as additional hiking trails are just one of the many alternatives to attempt to attract year round tourists. Other resorts are looking at the possibilities of promoting scenic lakes or bicycling. The

Tour de Romandie is a cycling event that explores the French speaking regions of Switzerland with several stages ending in ski towns throughout the region. The second option is to attempt to move to higher elevations and extend ski lifts to parts of mountains that are, at the current time, inaccessible. Places all over the Alps, not just Switzerland, are trying to be proactive about global warming and attempting to expand to mountains that are untouched and undeveloped. Resorts such as Silvretta on the Swiss/German border is attempting to expand to the Piz Val Gronda mountain peak over 9,000 feet high (Traynor 2005). Traynor reports that Silvretta is poised to invest “8m [Euros] to obtain a further 45 miles of pistes” (Traynor 2005).

The Swiss have not been immune to governmental regulation either. With the most recent push for expansion comes immense pressure from local populations and government officials. “Building of new ski resorts has been banned in Switzerland and Germany” (Traynor 2005). Many governments are responding to pressure from local citizens groups who are opposed to resorts in their backyards. As resorts have expanded and grown throughout the Alps, many local populations have complained of over crowding, increased car traffic, and environmental impacts to name just a few. The countries of the Alps initially reached an agreement back in 1995 trying to curb development issues with the Alpine Convention, but recent bureaucracy has bogged down the organization and allowed developers to run rampant (Traynor 2005).

While the ski resorts have been faced with numerous challenges in the European market, in recent years, ski numbers have remained steady and quite strong. While Switzerland fails to keep statistics on skier visits and lift tickets sold, the government does track the number of lessons administered in regional government ski schools.

According to the Swiss Federal Statistics Office 2005 Tourism Figures, 2,074,321 half day lessons were administered via public ski schools for the 2003/2004 ski year. Additionally, 5 of the 8 provinces of Switzerland have experienced an increase in total number of lessons since the 2000/2001 ski season (Switzerland Federal Statistical Office 2005). With 5 provinces increasing their number of skier visits, these figures suggest the industry is growing in Switzerland. While numbers have dropped off in 3 of the provinces, overall numbers have remained consistent. The Swiss market is beginning to see a shift to increased skiing in several provinces that should provide continued growth for the industry. The unique feature, but pitfall of the ski school lessons statistic is that it only shows new or intermediate skiers. More experienced skiers do not typically require a lesson and, therefore, it is tough to gauge the exact level of skiers in the market, but the statistics on lessons show that there is a market and it appears to be growing in some respects.

### **Conclusion and Basic Research Questions**

Ski resorts all over the United States have fallen on tough times the last two decades. With so many factors impacting the pool of potential skiers, a clear and definitive explanation needs to be made on the following key points:

- Can smaller resorts compete by offering technology or amenities over larger sized resorts?
- Is the recent downturn the product of poor public relations and a negative image of the sport due to the high profile deaths and safety concerns?
- How big of a psychological impact does temperature and snow have on the participant's decision to participate?

- Would differentiating a product to a specific market attract more participants or does differentiation become lost in the core industry?
- To what extent does cost affect the participation of individuals?
- Does the hassle or stress associated with skiing/snowboarding impact the industry, and, if so, to what extent?

By examining these questions, the hope is that United States ski industry professionals can get a better sense of the problems their own market is facing. Then by examining how the Swiss operate their resorts, it may become obvious how American ski resorts can apply various Swiss techniques and hopefully revive the industry.

As stated, the ski industry in the United States has been in a struggle over the past two decades and has shown little sign of hope. Meanwhile, the Swiss have had a strong industry and have managed to keep over 200 resorts of all sizes in operation. When reviewing the two markets, we find many similarities, with most categories being differentiated by less than a full point. However, when examining the top 5 major influences for each market we find some significant differences.

When looking at the top 5 influences on skiing in the United States, either positive or negative, we find that in order: (1) other activities, (2) modern technology, (3) additional terrain, (4) equipment cost, and (5) recent snowfall provide the biggest impact on the US ski market. Throughout the early 90s, many resorts competed against each other to rapidly expand and meet the needs of their customer base. While it did help to steal customers from each other it did nothing to expand the customer base for the entire sport. When viewing the top 5 determinants for infrequent participants in the United States we find that other activities, modern technology, additional terrain, equipment

cost, and participation cost are the largest concerns. The industry has done well to address the top 3 answers, but in doing so has driven industry costs out of control, reduced their profit margin, and made it increasingly harder for participants to partake in the industry.

When looking at Switzerland, we find that they deal with many of the same issues, but have approached them differently. Looking at the Swiss top 5 determinants that affect the entire industry we find that other activities, additional terrain, establishing a destination market, recent snowfall, and differentiation of product are the top priorities. The Swiss have done a nice job controlling costs and making it affordable to everyone to participate. The Swiss Market has done a nice job differentiating themselves with a multitude of resort sizes. The key will be for resorts to not expand too quickly and then pass the cost on to consumers. By preparing for bad winters and only overextending funds when necessary, resorts can remain competitive in the current climate.

Looking toward the future for U.S. ski resorts, they should take that smaller resorts are able to compete by either offering updated technology or additional amenities. Additional terrain is not always a priority as evidenced by the Swiss market. Furthermore, safety does not play as much of an impact in the industry as one might expect. Neither the United States nor Swiss respondents appeared concerned with personal safety on the hill to a great extent. Temperature and climate does have some impact on participants, but not in equal ways in both countries. The United States market needs to focus on ensuring awareness of good skiing during warm temperatures and promoting recent snowfall as selling points. The United States shows a positive response toward destination marketing and differentiation, but not as much as one would hope.

There is a tough battle with destination markets that the Swiss seem to fend off much easier. Therefore, destination marketing may not be the correct direction. To the beginning skier cost is an incredible expense and should be monitored very closely. Rapid expansion has forced slim margins, but also priced people out of the sport from both the participation standpoint and the equipment standpoint. Lastly, the hassle and stress associated with skiing comes mainly from trying to get there. Local resorts that place themselves close to population centers may see increased benefits because they are providing services at a certain level of convenience.

While no research can ever fully get a complete, in-depth retrospective of the industry, this study can provide an initial starting point for further research on the topic and an opportunity for ski resorts to begin focusing on particular areas of study. By providing an initial exploratory study of the topic, further surveying and a more encompassing survey can thus begin. Moving on from here, recommendations for future action would call for a more in-depth look at the industry with greater coverage of survey data. Factors such as region, income, and participation bias all must be considered to get a completely accurate picture. Hopefully some of these results can lead to a stronger future for the ski industry.



## References

Anonymous (1986). Marketing exchange: Vermont bank finds skiing a sporting opportunity.

Anonymous (2005). Relationship between organizational commitment and organizational citizenship behavior: ski resort employees in Korea. Research Quarterly for Exercise and Sport, 76(1), A48.

Blevins, J. (2004, March 11). Colorado Ski Resorts See Visits Climb Back toward Records after Decline. Knight Ridder Tribune Business News.

Blevins, J. (2004, November 16). Slumping dollar may spur more foreign visitors to hit Colorado ski slopes. Knight Ridder Tribune Business News. Building the perfect ski slope?. Civil Engineering, 64(3), 10.

Dampf, A. (2003, December 3). Ski Industry Facing Meltdown? *CBS News*. Retrieved March 2, 2007, from <http://www.cbsnews.com/stories/2003/12/03/tech/main586554.shtml>

Ferrendelli, B. (2001). Low snowfall results in double-digit decline. Puget Sound

Business Journal, 22(16), 40.

Goodrich, J. (2001). Snow business: a study of the international ski industry. Journal of Travel Research, 39(4), 470.

Hamilton, L., Rohall, D., Brown, B., Hayward, G., Keim, B. (2003). Warming winters and NewHampshire's lost ski areas: An integrated case study. The International Journal of Sociology and Social Policy, 23(10), 52. Hay, K. (2006, June 19). Ski season was the worst in 6 years. Knight Ridder Tribune Business News.

Hickman, L. (2005, November 8). Is it ok... to go skiing? *The Guardian*. Retrieved March 2, 2007, from <http://money.guardian.co.uk/ethicalliving/story/0,,1636682,00.html>

Hunt, R. (1995). On the road to quality, watch out for the bumps. A Journal for Quality and Participation, 18(1), 24.

Kenworthy, T. (1996, March 21). Skiing-Only Resorts Are By the Board; Economics Slide Over Resistance to New Sport:[FINAL Edition]. The Washington Post. Retrieved from ProQuest Database on November 13, 2006.

Klein, K. (2006). Review of Coleman, Ski Style: Sport and Culture in the Rockies. Pacific Historical Review, 75(2), 351.

Lane, R. (1996). Shakeout in Skiing. *Forbes*, 157(9), 56. Retrieved from ProQuest Database on November 13, 2006.

Makens, J. (2001). A Ski-industry Challenge. Cornell Hotel and Restaurant Administration Quarterly, 42(3), 74.

Marlantes, L. (1999, November 30). At resorts, you don't have to ski:[ALL Edition]. Christian Science Monitor.

McCune, J. (1994). A downhill battle: ski resorts fight for survival. Management Review, 83(2), 38.

Meijer, M. (2005, February 16). The evolution of a prehistoric sport: skiing. Retrieved April 25,2005, from <http://www.geocities.com/Paris/Chateau/6110/ski.htm>

Murphy, J. (2003, August 7). Sun Valley, Idaho, Resort to Unveil Master Plan. Knight Ridder Tribune Business News.

Nelson, E. (1997, December 24). Hitting the Slopes, Without Skis --- As Ranks of Skiers Decline, Resorts Bet on Tubing, Ski-Bicycling. Wall Street Journal

Nesbitt, S. (2002, June 7). Colorado Ski Resorts See 4 Percent Decline in Number of Skiers, Snowboarders. Knight Ridder Tribune Business News.

Olson, E., Slater, S., & Anthony, T. (1998). Staying on top at Vail. Marketing Management, 7(4), 47.

Ormiston, D., Gilbert, A., & Manning, R. (1998). Indicators and standards of quality for ski resort management. Journal of Travel Research, 36(3), 35.

Paraventi, K. (2000). Matt & Mary Kelly building a mountain of compassion. The Animal's Agenda, 20(1), 21.

Perdue, R. (2002). Perishability, yield management, and cross-product elasticity: A case study of deep discount season passes in the Colorado ski industry. Journal of Travel Research, 41(1), 15.

Perdue, R. (1996). Target market selection and marketing strategy: the Colorado downhill skiing industry. Journal of Travel Research, 34(4), 39.

Pullman, M. & Thompson, G. (2002). Evaluating capacity and demand management decisions at a ski resort. Cornell Hotel and Restaurant Administration Quarterly, 43(6), 25.

Pullman, M. & Thompson, G. (2003). Strategies for integrating capacity with demand in service networks. Journal of Service Research: JSR , 5(3), 169.

Rivera, J. & Leon, P. (2004). Is greener whiter? Voluntary environmental performance of western ski areas. Policy Studies Journal, 32(3), 417.

Sawyer, T. (2002). Sports facility liability. Journal of Physical Education, Recreation & Dance, 73(9), 10.

Shapera, T. (2002). A skier's mountain. The World & I, 17(2), 112.

Sherry, J. (1994). Ski-resort operators' liability for employee's action. Cornell Hotel and Restaurant Administration Quarterly, 35(4), 16.

Smith, V. (1991). Recreation Trends and Mountain Resort Development. Journal of Travel Research, 30(2), 53.

Switzerland Federal Statistical Office (2004). *Swiss Tourism in Figures 2004, 2003, 2002, 2001, 2000*. Retrieved March 2, 2007, from <http://www.bfs.admin.ch/bfs.../publikationskatalog.Document.48712.html>

Switzerland Federal Statistical Office. (2005). *Swiss Tourism in Figures 2005, 2004, 2003, 2002, 2001*. Retrieved March 2, 2007, from <http://www.bfs.admin.ch/bfs/porta.../publikationen.Document.63859.html>

Switzerland Tourism (n.d.). *Snow Reports*. Retrieved March 2, 2007, from <http://wispo.myswitzerland.com/servlet/services?object=SearchModel&command=search>

Traynor, I. (2005, March 26). Higher and higher: ski resorts in fight to survive global warming. *The Guardian*.