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The Search for Value for New England Skiers

Colin J. Liebert
University of New Hampshire, Durham

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Colin Liebert

Department of Decision Sciences at the University of New Hampshire

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Instructor: John Franklin

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Introduction

Kids these days may never know what it was like to rip off the sticker or use a zip tie to put on a daily lift ticket. "Papa has the Ikon Pass." "I think Okemo is the better mountain." Just some of the chatter you will hear from the young ones as their parents struggle to put their boots on for them. For an avid skier it is easy to tell how over the past 5 to 10 years that the industry is changing. Not with sport adapting, but specifically with the methods it takes to get on the slopes. The traditional options were a daily lift ticket to whatever mountain you wanted to ski at which could either be purchased at the mountain or online. The second option was a season pass to one mountain, which in most cases the consumer would give their loyalty to this specific resort for the entire year.

Vail Resorts was the conglomerate disruptor that started the change of this industry by introducing the multi-mountain pass. This was a season pass option which would let you hop around to many different mountains on the pass throughout the season for a very competitive price. As a ski or snowboarder who loves the thrill of this extreme sport one mountain can get old really quick if you are continually hitting the same spot. In combination with that, these passes are seemingly more attractive if you can make it out 5+ times a year, and hence the search for value is on to see who these multi-mountain passes are the right fit for.

Literature Review

The research started with an overall look at the current state of the ski industry. An initial piece of journalism found in Forbes magazine, *How The Ski And Snowboard Industry Is Changing In 2022 (And What Comes Next)* by Michelle Bruton came into focus. This article, although published in April 2022 assesses how the COVID-19 pandemic caused the annual number of visitors to ski resorts to drop, but in 2020-2021 participation was up and growth was evident. With the never ending worry about injury and now unpredictability of something like a pandemic to happen again, lift ticket and season pass insurance started to become a new formality. According to the article, "Ikon Pass and Epic Pass purchases for the 2019-20 season were not refunded as a result of the unexpected closures. Alterra, which operates the Ikon Pass, did extend the deadline for early renewals and the payment plan deadline at the time, while Epic announced it would offer season pass holders from the 2019-20 season credits of up to 80 percent to apply to a 2020-21 pass, depending on how much they used their pass (Bruton)." Seemingly as a result of the COVID pandemic, Epic introduced an option called Epic Coverage for the 2020-2021 snow season. This would provide refunds for personal events and certain event closures and as a company they stated with transparency, "We understand that times have changed so Epic Coverage completely redefines your pass protection (Bruton)." Epic Coverage is free and included in all passes. Ikon mimicked Epic by introducing Adventure Assurance which initially gave pass holders the choice to defer for credit toward the 2021-22 season for any reason with no fee. Adventure Assurance currently comes free with the purchase of any 2022-2023 Ikon pass as well.

The multi-mountain pass industry specifically is the focus for this thesis as this has become commonplace among many avid skiers and boarders. As a multi-mountain season pass

seems to be ideal, it is relevant to understand if they are truly as cost effective as they appear. The Washington Post published an article by Andrea Sachs titled *Which multi-resort ski pass is best? We compared 4*. According to the article, "The multi-resort pass is a fairly new development (Sachs)." It was first developed in 2008 by Vail Resorts with the Epic pass as an improvement to single mountain season passes. After Epic's arrival three other mainstream competitors joined the field: Mountain Collective, Alterra Mountain Company's Ikon Pass, and Indy Pass. Other smaller collaborators exist regionally but these are the big four across the country. In comparison Epic and Ikon are very similar to each other, and Mountain Collective and Indy offer similar plans. The Epic/Ikon combination offer unlimited skiing with their passes as Mountain Collective/Indy offer only several days at each specific resort. This article has a section dedicated to choosing the right pass which is directly related to the research indicated in this thesis. The direction the author takes in helping a consumer determine which pass to purchase is to first start by asking themselves if they truly need a pass. If yes the follow up questions were, "You plan to spend at least a week or a several weekends skiing or snowboarding, especially at some of the pricier resorts. You want to try out several mountains in one season or are committed to chasing down the powder wherever it may fall. You have strict vacation time, because some resorts sell out of online tickets but will still welcome pass-holders (Sachs)." The act of buying a ski pass requires the purchaser to have a solid understanding of what their winter looks like in terms of time-off and budget. These questions provide a helpful direction in which to frame further research for this topic.

An article from the New York Times by Christopher Steiner titled *How to Ski Smarter in the Age of Multi-Mountain Passes* gives some breakdowns of how passes work regionally, with the Northeast being the focus of this research, the article proved relevant. "Ikon gives Northeast

skiers 10 hills to pick from, with some big destinations in Vermont's Killington and Sugarbush. West Virginia's Snowshoe gives Washington, D.C.-area skiers an option 4.5 hours away and New York's Windham Mountain is 3.5 hours from New York City (Steiner)." For the Epic pass, "Vermont's Stowe and New York's Hunter Mountain are among the pass's 14 options in the Northeast (Steiner)." Both of these industry leading companies have many variations in their passes that have different costs associated with them. Some of the factors include region specific, blackout dates, and exclusive access to certain resorts. There are also different price points based on the demographics of if one is a college student, in or previously in the military, as well as seniors (65+).

Another thought on these multi-mountain passes is looking at how they are affecting daily lift tickets. A thesis written by Sijia Lai titled *The Impacts of Supra-Regional Multi-Resort Season Passes: A Hedonic Pricing Model of SingleDay Lift Tickets for US Ski Areas* assessed just this. "Moreover, critics are suggesting that ski areas on the mega passes might charge higher prices for single-day lift tickets to nudge people into buying their season passes products (Lai 5)." With passes being able to match daily tickets after 3 or 4 days on the mountain it can be difficult to avoid them from a financial perspective.

In combination with this idea, a piece on Snow Brains titled *How Multi-Resort Season Passes Have Affected Single Lift Ticket Sales* by Brent Thomas that also looked at these costs. 2018-2019 ticket sales have skewed toward season passes with 51.9% of visitors coming from them, 37.3% from single day tickets, and the last 10.8% was made up of off-duty employees and complimentary tickets. A big reason for this is the decrease in prices on these multi-mountain passes while the daily lift tickets have mostly stayed constant in their pricing. "It is a brilliant marketing move by the ski resorts. They sell a bunch of season passes and get a ton of

predictable capital upfront. They add to the incentive to purchase early by enacting price increases as the season gets closer. Then it doesn't even matter if the season pass holders come skiing because they already have their money (Thomas)." By selling the passes like this, the mountains acquire the skier or snowboarder's business for the year regardless how many times the consumer uses the pass. According to Thomas and Snowbrains, pass sales seem to be continually trending upward.

Research Question(s)

The two main research questions I wanted to take a look at were: "As a New England skier, when does it make more sense to buy a multi-mountain pass over daily-lift tickets?" and "What are the biggest drivers that influence consumers buying decisions for ski tickets?" These two questions help shape my research and provide a framework for understanding the behavior and decision-making process of skiers in New England. By investigating the factors that impact the choice between multi-mountain passes and daily-lift tickets, I aim to identify the most cost-effective option for skiers. Additionally, by exploring the key drivers that influence the purchasing decisions of ski lift tickets, I hope to gain insights into the preferences and behaviors of consumers, which could inform marketing strategies for ski resorts and other businesses in the ski industry. Ultimately, the answers to these research questions will contribute to a better understanding of the ski market in New England and inform decision-making for skiers and businesses alike.

Data & Methodology

For me to have a chance to analyze this data I had to manipulate the data in a few minor ways. I first acquired the ticket prices for all 65 New England Ski mountains, which included weekend and midweek lift tickets. The demographics that I standardized them into were adult, junior, and senior. Even though lots of resorts may offer many different variations in age or price breakdowns these three were the most common distinctions. I also collected the season pass prices from these mountains. It was interesting to see 20 of the 65 locations did not offer a regular season pass, so they were excluded from this part of the data. The demographic breakdown for this set of data included the previous three as well as college and military as a lot of mountains offered a discount for having that trait. For the places that did not have a discount for college, military, or both the adult price was used to represent the season price for that slot in the data set. The final, and most important prices I gained were for all the multi-mountain passes that are available in New England as of the 2022/23 season. Those were the Epic Pass, Ikon Pass, Indy Pass, New England Pass, White Mountain Super Pass, and the Maine Pack. The price demographic groups for this section were also adult, junior, senior, college, and military. For a quick breakdown of the pass specifics refer Chart A in the appendix. The biggest takeaways from it are that Epic, Ikon, New England, and White Mountain Super Pass are the unlimited skiing options (including minimal blackout dates) and the Indy Pass and Maine Pack are ticket bundles that only offer a limited number of days on the snow. It is also worth mentioning that as the lead pass competitors in this study the Epic offers a regional specific pass which prices were used in the data set, but Ikon currently does not, so the prices for it are the nationwide pass that has mountains all around the country included on it.

The method I used to analyze this data was regression analysis. I created three separate regressions. I did one for daily tickets, one for season passes, and one for multi-mountain passes (this excluded Indy Pass and Maine Pack as they do not offer a full season of skiing/snowboarding).

Refer to Charts B, C and D for the entire regression statistics but for daily tickets, season passes, and multi mountain passes this is what the regression equations came out to:

$$\text{Daily Cost} = 49.56 + (.69 * x_{trails}) + (3.12 * x_{VT}) + (-15.90 * x_{ME}) + (13.52 * x_{MA}) + (6.00 * x_{CT}) +$$
$$(4.49 * x_{RI}) + (-11.33 * x_{Junior}) + (-11.48 * x_{Senior}) + (-13.18 * x_{Midweek})$$

$$\text{Season Cost} = 437.63 + (4.90 * x_{Trails}) + (8.60 * x_{VT}) + (-20.76 * x_{ME}) + (98.92 * x_{MA}) +$$
$$(228.60 * x_{CT}) + (-197.76 * x_{Junior}) + (-203.8 * x_{Senior}) + (-75.16 * x_{College}) + (-28.87 * x_{Military})$$

$$\text{Multi-Mountain Cost} = 733.04 + (2.73 * x_{AVG\_Trails}) + (-277 * x_{Junior}) + (-34.5 * x_{Senior})$$
$$+(-286.25 * x_{College}) + (-161.75 * x_{Military})$$

By using dummy variables to execute all of the regression the assumption was that the most common daily lift ticket being bought in New England was an adult weekend ticket in New Hampshire. The coefficient number of 49.56 represents that without trails being added. For the season pass model the 733.04 was a season pass for an adult in New Hampshire without trails added yet. The multi-mountain one was a bit different as the coefficient of 733.04 just assumed the average adult price before the average trails per mountain were added in. With main mountains and varying trails being on each multi-mountain pass it made more sense to average the trails for all of the passes and the specific resorts they offer.

The regression analysis that was performed and the equations that were constructed do not give the consumer a perfect answer or recommendation of what they should do but it does

get the gears in motion. By punching in your demographic, the state you would like to ski in, and the type of day (weekend versus midweek), you will get a ballpark number of what this daily ticket will cost you. From there you can continually repeat that process for the amount of days you intend to ski. If it is just one, then boom start planning the day trip and look for the specific mountain you would like to go. If it ends up being 3, 4, or 5+ then the prices start adding up for it to make sense to look at the season and multi-mountain passes. Other than Maine having a relatively cheaper season pass on average, Vermont, Massachusetts, and Connecticut have a higher season pass cost that will make them very comparable to the multi-mountain pass option. As a ski or snowboarder, if you are willing to commit the money to a pass you then have to ask yourself if you want to bounce around to many different mountains throughout the season. If the answer for this is yes it is evident that looking into and choosing a multi-mountain pass is in your best interest to create the most value in your season on the slopes.

Future Applications

There are many places this concept can go in terms of finding the best value for New England Skiers. The regression analysis is the right step for evaluating ticket and pass prices as a pricing or budgeting study. It involves weighing out the factors that contribute to pushing a consumer to move from a daily ticket to a season or multi-mountain pass. It is essentially a break-even evaluation for when it makes more sense to go for unlimited skiing based on the states you want to ski in, the amount of trails you are looking to ski, and your age demographic. As mentioned, lots of places also offer college or military discounts which is also a strong driver.

An attractive idea that I looked into but could not complete due to feasibility and lack of coding knowledge is something called a recommendation model. Refer to chart E for what this model could have possibly looked like from the user input persepctive. The idea was the user would input their age (numerical), if they are a college student (yes/no), if they are or were in the military (yes/no), their budget (numerical), the number of days they intend to ski (numerical), and the states they would like to ski in New England (nominal: CT, MA, ME, NH, RI VT). The model would then spit out an answer based on all those attributes what the consumer should buy. For this to be possible age had to be broken down and standardized into the categories of adult, junior, and senior again. For that I had it as junior ages 0-17, adult ages 18-65, and seniors ages 65+. Of course those age breakdowns would be variable by mountain, but based on how I structured the same data I used for the regression that is how it would make the most sense.

Since I have acquired and standardized the data of all the daily weekend/midweek lift tickets, season passes, and multi-mountain passes, this idea of coding a recommendation model could likely be finished easily by a data engineer or someone who has a strong background in python. This next step would elevate my idea of helping New Englanders get the most bang for

their buck when hitting the slopes. A tool like this would be very relevant to the industry since these multi-mountain passes are not going anywhere. With other personalization factors being added to this recommendation model it could be possible that a service like this could in turn be profitable as well.

Conclusion

From a ski industry perspective the first evident conclusion from my research is that the regular season pass to one mountain is dying and will one day be a thing of the past. The only exception for purchasing a season pass to one specific mountain would be if you own a home on or really close to said mountain and it was not on any multi-mountain pass already. Most popular resorts that have an abundance of condos and ski houses likely are large enough to also be a part of a multi-mountain pass company as well. The specific ski mountains, whether they are owned by a larger conglomerate or are just collaborating with other local resorts, definitely win from the multi-mountain pass industry. With a larger combined capital together rather than separate it has a stronger chance to lead to attracting more customers and making more revenue in turn.

However, the most important perspective from my research was the consumer, and how we could find the most value for them during their ski season. From the regression and my personal opinion the answers seem pretty transparent. Before looking at daily lift tickets, season passes, or multi-mountain passes you must first ask yourself how many days you intend to ski and how many trails are you looking for the mountain to have (mountain size). Although this was primarily a pricing study that all those factors will help determine the choice, they go hand-in-hand. That being said, if you intend on skiing 4 or less times, stick to daily tickets unless you have ties to the Maine area where you can take advantage of the Maine Pack. If you intend on skiing at least 5 times and you only plan on skiing within New England that is when I would turn to the Epic Pass as the most value is there. You get 7 mountains and unlimited skiing for under $600 (adult price). Another takeaway is if you intend to ski New England and also have been planning a trip out west, then I would say it is time to consider the Ikon Pass. Passes I would stay away from are the White Mountain Super Pass and New England Pass just because

they are much more expensive and offer less which make sense because they are smaller regional companies and not the huge juggernauts like Vail Resorts (Epic) and Alterra Mountain Company (Ikon). The Indy Pass is also perplexing as it is nearly $400 for only 2 days of skiing. That pass or ticket pack has a lot of potential if the price could lower drastically because the idea of two days of skiing to any 1 of 13 mountains in New England is really intriguing for busy adults with careers and family since it would only be committing to those 2 days and they would not have to feel like they would have to get their moneys worth by going 5 to 10 times.

The ski industry is evolving and for big time ski and snowboarders multi-mountain passes are becoming the new norm. Ski resorts will continue collaborating and forming larger conglomerates, which in turn attract more customers and generate more revenue. Before hopping on the wave and buying one of these passes it is essential that the consumer considers how many days they are going to go. As of now the Epic and Ikon passes will offer the most value when it comes to skiing or snowboarding frequently. As this industry continues to change it will be interesting to see what the next big market disruptor will be. Overall this winter pastime will remain to be a fan favorite as consumers patiently wait for the next snow fall.

Appendix

Chart A

PASS DETAILS	epic	IKON PASS	INDY PASS	NEP	WHITE MOUNTAIN SUPERPASS	MAINE PACK	N/A
New England Mountains on Pass	4 NH 3 VT	2 ME 1 NH 4 VT	1 CT 3 ME 1 MA 4 NH 4 VT	2 ME 1 NH	3 NH	3 ME	3 CT 5 ME 10 MA 10 NH 1 RI 6 VT
Pass Price (Adult)	$557	$1,229*	$399*	$1,299*	$1,209	$309*	N/A
College or Military Discount?	Yes, both	Yes, both. Also have Nurse discount.	None	College	None	None	Varies by Mountain
Unlimited Days?	Yes	Yes	No, 2 Day Pass	Yes	Yes	No, 4 Day Pass	Some mountains have season passes

Ikon*- Price is full pass and has mountains all around the country included.
Indy*- 2 Day Pass.
New England Pass*- Many tiers of pricing, Gold is shown.
Maine Pack*- 4 Day Pass.
**Indy and Main Pack are not in MM regression.

Chart B

SUMMARY OUTPUT

Daily Pass	
Regression Statistics	
Multiple R	0.788488
R Square	0.621713
Adjusted R	0.612609
Standard E	20.96232
Observatic	384

ANOVA

	df	SS	MS	F	ignificance F
Regressior	9	270095.9	30010.65	68.29626	1.73E-73
Residual	374	164342.6	439.4187		
Total	383	434438.5			

	Coefficients	andard Err	t Stat	P-value	Lower 95%	Upper 95%	ower 95.0%	pper 95.0%
Intercept	49.56309	3.013985	16.44437	4.12E-46	43.63661	55.48957	43.63661	55.48957
Trails	0.692436	0.034218	20.23596	4.98E-62	0.625152	0.75972	0.625152	0.75972
VT	3.119176	3.029714	1.029528	0.303897	-2.83823	9.076584	-2.83823	9.076584
ME	-15.9027	3.204926	-4.96195	1.06E-06	-22.2046	-9.60074	-22.2046	-9.60074
MA	13.51619	3.283032	4.116983	4.73E-05	7.060674	19.97171	7.060674	19.97171
CT	6.002011	4.740499	1.266114	0.20626	-3.31936	15.32338	-3.31936	15.32338
RI	4.486947	8.825387	0.508414	0.611463	-12.8667	21.84055	-12.8667	21.84055
Junior	-11.3281	2.62029	-4.32323	1.97E-05	-16.4805	-6.17578	-16.4805	-6.17578
Senior	-11.483	2.620353	-4.38222	1.53E-05	-16.6354	-6.33049	-16.6354	-6.33049
Midweek	-13.1778	2.139948	-6.158	1.9E-09	-17.3856	-8.96996	-17.3856	-8.96996

Chart C

SUMMARY OUTPUT
Seadon Pass

Regression Statistics	
Multiple R	0.624833
R Square	0.390416
Adjusted R	0.361931
Standard I	200.0186
Observati	225

ANOVA

	df	SS	MS	F	ignificance F
Regression	10	5483390	548339	13.70593	1.47E-18
Residual	214	8561589	40007.43		
Total	224	14044979			

	Coefficients	andard Err	t Stat	P-value	Lower 95%	Upper 95%	ower 95.0%	pper 95.0%
Intercept	437.6292	43.95515	9.956267	1.97E-19	350.9887	524.2696	350.9887	524.2696
Trails	4.901059	0.557104	8.79738	4.72E-16	3.802944	5.999173	3.802944	5.999173
VT	8.594876	36.78832	0.233631	0.815495	-63.919	81.10875	-63.919	81.10875
ME	-20.7601	41.21642	-0.50369	0.615	-102.002	60.48204	-102.002	60.48204
MA	98.91831	40.97509	2.414108	0.016615	18.15184	179.6848	18.15184	179.6848
CT	228.5993	59.135	3.865719	0.000147	112.0376	345.1609	112.0376	345.1609
Junior	-197.756	42.16762	-4.68975	#NUM!	-280.873	-114.638	-280.873	-114.638
Senior	-203.8	42.16762	-4.83309	2.56E-06	-286.917	-120.683	-286.917	-120.683
College	-75.1556	42.16762	-1.78231	0.076117	-158.273	7.961506	-158.273	7.961506
Military	-29.8667	42.16762	-0.70828	0.479539	-112.984	53.2504	-112.984	53.2504

Chart D

SUMMARY OUTPUT
Mulit-Mountain

Regression Statistics	
Multiple R	0.364842
R Square	0.133109
Adjusted R	-0.17649
Standard E	394.5656
Observatic	20

ANOVA

	df	SS	MS	F	ignificance F
Regressior	5	334665.3	66933.06	0.429934	0.820341
Residual	14	2179548	155682		
Total	19	2514214			

	Coefficients	andard Err	t Stat	P-value	Lower 95%	Upper 95%	ower 95.0%	lpper 95.0%
Intercept	733.042	495.7131	1.478763	0.161349	-330.157	1796.241	-330.157	1796.241
Average Number of Trails	2.732031	4.724829	0.578229	0.572294	-7.40172	12.86578	-7.40172	12.86578
Junior	-277	279	-0.99283	0.337643	-875.396	321.3956	-875.396	321.3956
Senior	-34.5	279	-0.12366	0.903346	-632.896	563.8956	-632.896	563.8956
College	-286.25	279	-1.02599	0.3223	-884.646	312.1456	-884.646	312.1456
Military	-161.75	279	-0.57975	0.571296	-760.146	436.6456	-760.146	436.6456

Chart E

```
...   Enter your age:
      Enter your college_student:
      Enter your military:
      Enter your budget:
      Enter the number of days you intend to ski:
      Enter the preferred state(s) you would like to ski in, separated by commas
```

References

Bruton, M. (2022, October 12). *How the ski and snowboard industry is changing in 2022 (and What comes next)*. Forbes. Retrieved December 13, 2022, from https://www.forbes.com/sites/michellebruton/2022/04/27/how-the-ski-and-snowboard-industry-is-changing-in-2022-and-what-comes-next/?sh=991a68971fe5

Lai, S. (2019, April 29). *The Impacts of Supra-Regional Multi-Resort Season Passes: A Hedonic Pricing Model of SingleDay Lift Tickets for US Ski Areas*. scholarship.claremont.edu/cmc_theses/. Retrieved December 13, 2022, from https://scholarship.claremont.edu/cgi/viewcontent.cgi?article=3226&context=cmc_theses

Mountain News Corporation. (n.d.). Northeast Value Pass. Retrieved April 5, 2023, from https://www.mtnscoop.com/ski-resorts/epic-season-pass/northeast-value-pass

Mountain News Corporation. (n.d.). Epic Military Pass. Retrieved April 10, 2023, from https://www.mtnscoop.com/ski-resorts/epic-season-pass/epic-military-pass

Sachs, A. (2022, December 6). *Which multi-resort ski pass is best? we compared 4*. The Washington Post. Retrieved December 13, 2022, from https://www.washingtonpost.com/travel/2022/12/07/best-ski-pass-multi-resort/

Steiner, C. (2021, November 16). *How to ski smarter in the age of multi-mountain passes*. The New York Times. Retrieved December 13, 2022, from https://www.nytimes.com/2021/11/16/travel/multi-mountain-pass.html

Thomas, B. (2022, September 9). *How multi-resort season passes have affected single lift ticket sales*. SnowBrains. Retrieved December 13, 2022, from

https://snowbrains.com/how-multi-resort-season-passes-have-affected-single-lift-ticket-sales/

All ticket/pass prices and information regarding them were pulled from their company websites