ABC

Water Purification System

MARKET RESEARCH

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INTRODUCTION

ABC is a company based in the USA that is investigating, producing, and distributing a unique form of iodine, called ACB Iodine. The aim of this research is to understand the water purification systems market and to see if there is a room for developing new product iodine-based water purification system. The research will be contained in three main chapters. The first part Market Overview has three subchapters. The first one gives an outlook of the water purification systems market, and what the industry trends and forecast are. The second subchapter shows how the market is segmented and the third subchapter gives information about the target market and the preferences of the targeted groups. The second chapter is about the competition and the last part summarizes all the provided information.

MARKET OVERVIEW

Pure drinking water is the essential part of a healthy lifestyle but the current fettle has made it impossible to fetch pure water from the available sources. Hence, there is a dire need to have water purifying systems across households, industries, commercial units, and all other establishments. Water purifiers are equipment enabled to remove biological contaminants, suspended solids, toxins, harmful gases & chemicals, bacteria, fungi and other such impurities from contaminated water and making it safe for drinking.

The market for water purifiers has gained immense traction in recent years due to an awakening towards healthier living and the enforcement of national governments to provide pure drinking water to the populace. This has propelled the demand for water purifiers across the globe. Furthermore, the growth of industrialization across several regional pockets has resulted in the contamination of water bodies, thus, depleting fresh water resources. The penetration of water purifiers is relatively higher in developed regions while huge semi-urban and rural areas in developing countries still remain untapped. Water purifiers emerged as a primary necessity for urban consumers in developing economies, since a decade, due increase in the level of water pollution.

According to Transparency Market report the revenue generated by the global water purifier market was pegged at US$49.49 bn in 2015 and is projected to rise at an 8.0% CAGR during the forecast period to reach US$97.89 bn by 2024. Also according to this report Asia Pacific region is

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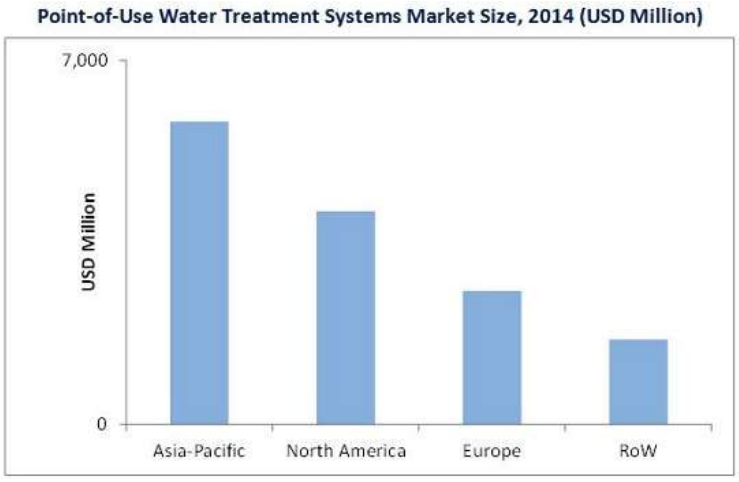
anticipated to be the leading as well as the fastest growing segment by geography, expanding at a CAGR of 11.4% from 2016 to 2024.

In comparison to other developed nations, the US is supplying the cleanest drinking water via public water utilities. According to "United States Water Purifier Market Forecast & Opportunities, 2020" report, water purifier market in the US is projected to witness a moderate CAGR of around 6% during 2015-20. In 2014, Midwest states of the US accounted for the largest share of the country's water purifier demand, followed by the Western states.

A separate segment of the global water purifier system is the portable water purifier market. Portable water purification devices or better described as point-of-use (POU) water conduct systems and field water fumigation techniques are self-contained, hand-carried units used by amusing enthusiasts, military personnel, survivalists, and others for water purification when they need to obtain drinking water from unrefined sources (e.g. rivers, lakes, groundwater etc.). Techniques comprise heat (including boiling), filtration, activated charcoal absorption, chemical disinfection (e.g. chlorine, iodine, ozone, etc.), ultraviolet cleansing (including SODIS), distillation (including solar distillation), and flocculation. Having in mind that iodine-based water purification system is part of portable water purification systems the further analysis will be for portable water purification systems.

According to Markets and Markets report the point-of-use (or portable) water treatment systems market is estimated to reach USD 24.5 Billion by 2020, with a projected CAGR of 9.86%, from 2015 to 2020.

As can be seen in the chart from the same report APAC dominates the water treatment systems market worldwide in 2014. According to Portable Water Purification Systems Market Research Report 2021, it is expected that this market will further expand high during the forecast period 2016-2020. The APAC is one



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of the largest customer bases for water behaviour systems, especially countries like China and India. The increase in the industrialization in the region along with increased borne water diseases has stimulated the market. North America market is the second largest market worldwide.

According to information from Grand View Research report, North America point of use water treatment systems market, led by the U.S., was valued at over USD 3.5 Billion in 2016 and is predicted to expand over USD 4.6 by 2025. North America is an extremely mature market, where consumer awareness towards the importance of healthy lifestyle and potable drinking water is high.

The conclusion from the information provided is that the global market and the USA market of water purification systems is rising. The rising consciousness of people about the importance of drinking pure water is the main factor for the rising demand for water purifiers. The rising market makes room for new players to satisfy the demand of this kind of systems.

MARKET SEGMENTATION

This research categorizes the point-of-use water treatment systems market based on device, technology, application, and region. This segmentation is according to Grand View Research's report and many other reports in the field with the same or similar information.

On the basis of device, the point-of-use water treatment systems market has been segmented as follows:

- Tabletop Pitcher
- Faucet-Mounted Filters
- Counter-top Units
- Under-the-sink Filters

From this segmentation tabletop pitchers point of use water treatment systems market was valued at USD 6.9 billion in 2016 and is predicted to be valued at USD 14.6 billion by 2025. Faucet mounted filters are estimated to grow at 6.8% CAGR over the forecast period. In terms of units, countertop units segment contributed over 45.5 million in 2016 and is projected to account for

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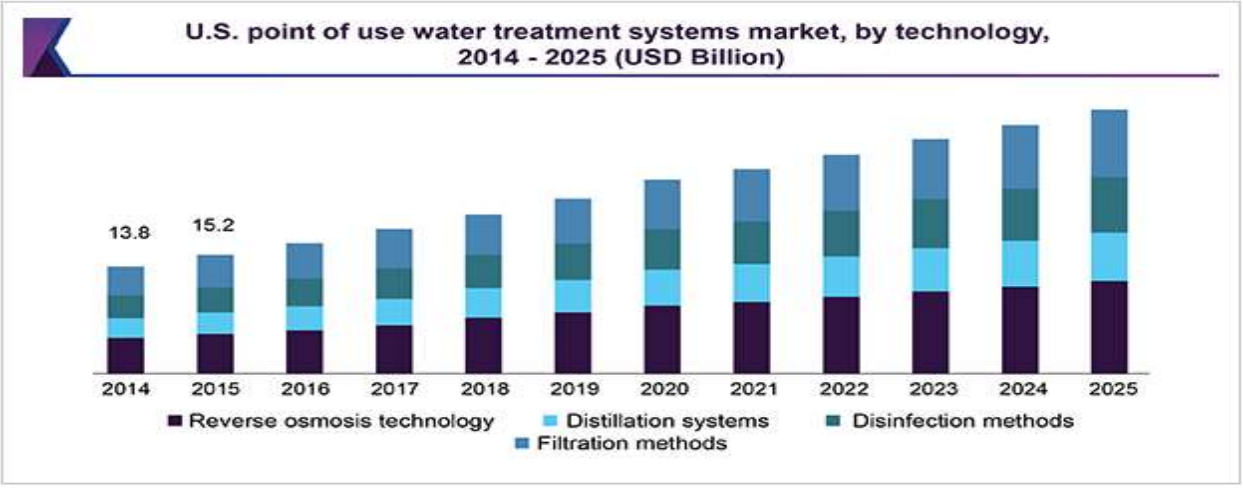
165.9 million by 2025. Under the sink, filters find wide adoption in Europe and North America. Under the sink, segment accounted for 28.7 million units of the point of use water treatment systems market in 2016 and is projected to reach 68.5 million units by 2025. According to "United States Water Purifier Market Forecast & Opportunities, 2020" in the United States over the years, the faucet mounted filters have been prevalent in the market, with dominant demand witnessed for carbon-based filters.

On the basis of technology, the market has been segmented as follows:

- Reverse Osmosis Systems
- Distillation Systems
- Disinfection Methods (chlorination, iodine, ozonation)
- Filtration Methods

Reverse osmosis systems led the technology segment in 2016, with a sizeable share of 43.9%. RO technology contributed over 208.9 million units in the global point of use water treatment systems market in 2016. Although RO systems are predicted to witness a slowdown by 2025, mainly due to manufacturers launching systems which have technologies in combination, for instance, RO and UV systems. On account of deteriorating water quality in North America, the country has been witnessing uptake in demand for RO water purifiers.



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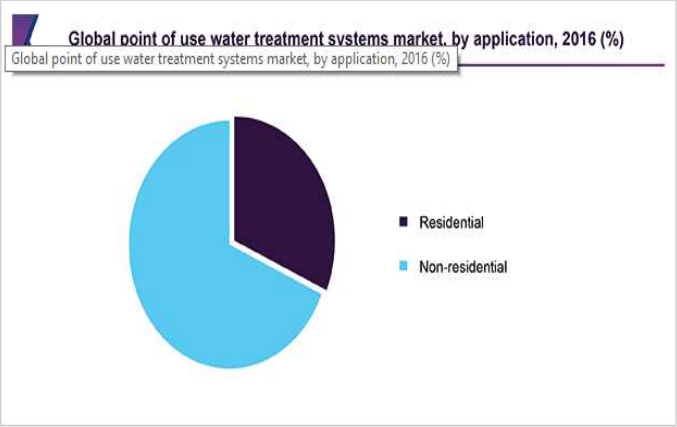
The second largest application is distillation technology and is estimated to witness a measured increase. Disinfection systems technology is a mature established technology at the point of use water treatment systems market and is predicted to be valued at USD 5.7 billion by 2025. Filtration systems were valued at USD 3.5 billion in 2016, is also a mature technology in the point of use water treatment systems market.

On the basis of application, the market has been segmented as follows:

- Residential
- Non-Residential

In the segmentation on the basis of application non-residential segment was valued at USD 12.1 billion in 2016 and is projected to reach over USD 25.9 billion by 2025. Small-scale commercial, industrial, healthcare facilities, education institutions, sports facilities and transportation facilities are included in the non-residential segment. In terms of units, residential segment contributed 113.5 million units in 2016 and is projected to reach 392.0 million units by 2025. Growth in the residential segment can be attributed to the exponential growth in the residential construction across the world.



On the basis of region, the water treatment systems (point-of-use) market has been segmented as follows

- Asia-Pacific
- Europe
- North America
- Rest of the World (RoW)

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The Asia Pacific dominated the global point of use water treatment systems market with over 31% of the global revenues in the world. Europe emerged as the second-largest market in 2016 and is projected to be valued at USD 4.5 Billion, in terms of revenue, in the global point of use water treatment systems market over the forecast period. North America point of use water treatment systems market, led by the U.S., was valued at over USD 3.5 Billion in 2016.

When all the information from the market segmentation is summarized there a few most relevant points. From the segmentation on the basis of device in the United States over the years, the faucet mounted filters have been prevalent in the market, with dominant demand witnessed for carbon-based filters. From the segmentation on the basis of technology RO water purifiers witnessed the highest demand in the United States. And when it comes to the segmentation on the basis of application non-residential segment has the largest market share. Form the segmentation basic of the region in portable water purifier market North America market is the third largest market in the world.

INDUSTRY TRENDS

According to "Global Water Purifier Market 2015-2025" report the key trends in the water purifier system market are:

- Growing demand for RO+UV water purifiers.
- Increased residential and commercial projects driving fresh installations.
- Economic stability post economic recession has improved residential discretionary income.
- Lack of health awareness, especially in rural areas.
- Government initiatives to promote hygiene and sanitation is presumed to have a positive impact on the overall market growth.

TARGET MARKET

The people that are the most interested in portable water purification systems are people camping, fishing, hiking, hunting, or backpacking in the mountains or in the wilderness and need to purify water from natural sources like lakes and rivers. Another category of people that uses this kind of system are "preppers" or "survivalists" and solders. The following subchapters will provide

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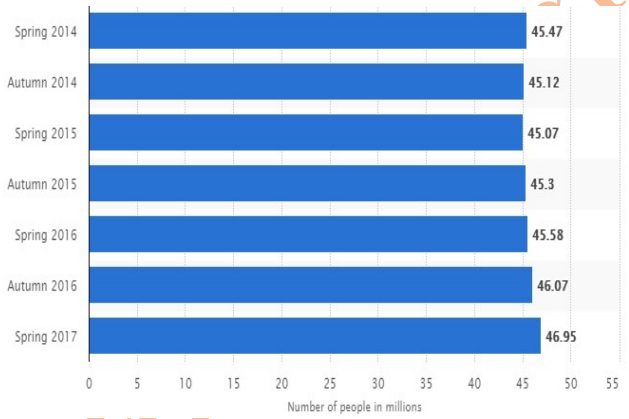
information about these target groups in the United States and their preferences for water purification systems.

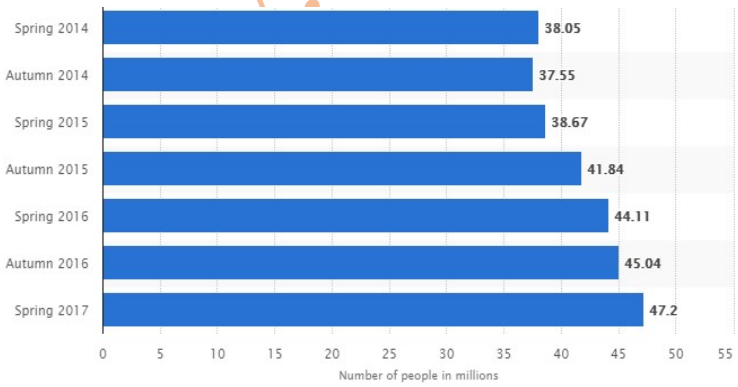
TARGET GROUPS

- **Campers**



One of the target groups that use the most this kind of water purification systems are the people that are going camping. According to Statista, the number of people camping from 2015-2017 in the USA is rising. In spring 2017, the number of people who went camping within the last 12 months amounted to 46.95 million, which is the highest number of participants. This means that from this target group are expected more potential customers because the number of campers is rising. According to the "Camping is Up in the U.S., Trend Expected to Continue as Millennials Seek the Positive Health Impacts of Time Spent Outdoors" report number of campers in the United States will continue to rise further in the future because of the millennials. Millennials are driving this growth as they take to the outdoors in greater numbers, and they have no intention of letting up.

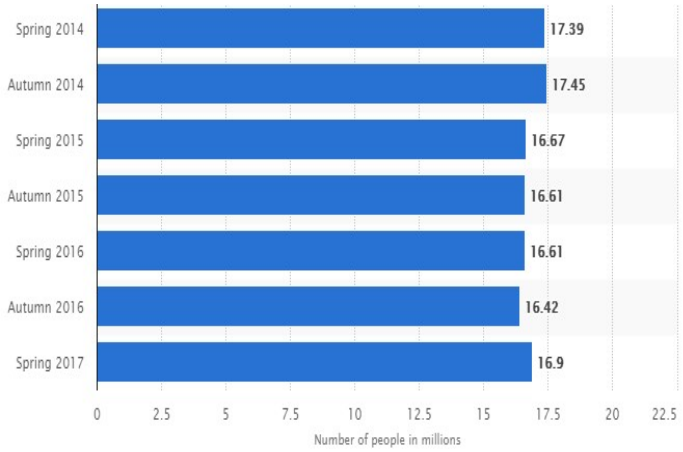
- **Hikers/ Backpackers**



Another target group that uses this kind of water purification systems are hikers or backpackers. This statistic illustrates the number of hikers and backpackers within the last 12 months in the United According to Statista the number of hikers and backpackers is rising in the last four years. In spring 2017, the number of people who went hiking/backpacking within the

last 12 months amounted to 47.2 million in the United States. This means that this target group also is becoming larger. There will be new potential customers that will need some kind of water purification system when they go hiking.

- **Hunters**



When it comes to the number of hunters the latest data according to Statista shows that the number of hunters in the USA increased in spring 2017. This statistic illustrates the number of hunters within the last 12 months in the United States from spring 2014 to spring 2017. In spring 2017, the number of people who went hunting within the last 12 months amounted to 16.9 million in the United States. According to another source press release from U.S. Department of the Interior, the number of hunters has dropped. Hunting participation dropped by about 2 million participants, but still remained strong at 11.5 million hunters in 2016 which is different from the previous source. In the press release is stated that total expenditures by hunters declined 29 percent from 2011 to 2016, from $36.3 billion to $25.6 billion. But, expenditures for related items such as taxidermy and camping equipment experienced a 27-percent uptick, and hunting trip-related expenses increased 15 percent.

- **People that are going Fishing**

According to data from Statista, the number of people that are going fishing from 2012 to 2015 is around 46 million. In 2016 the number increased to 47.1 million.

Freshwater, saltwater, and fly fishing in the USA				
2012	2013	2014	2015	2016
46 m.	45.9 m.	46 m.	45.7 m.	47.1 m.

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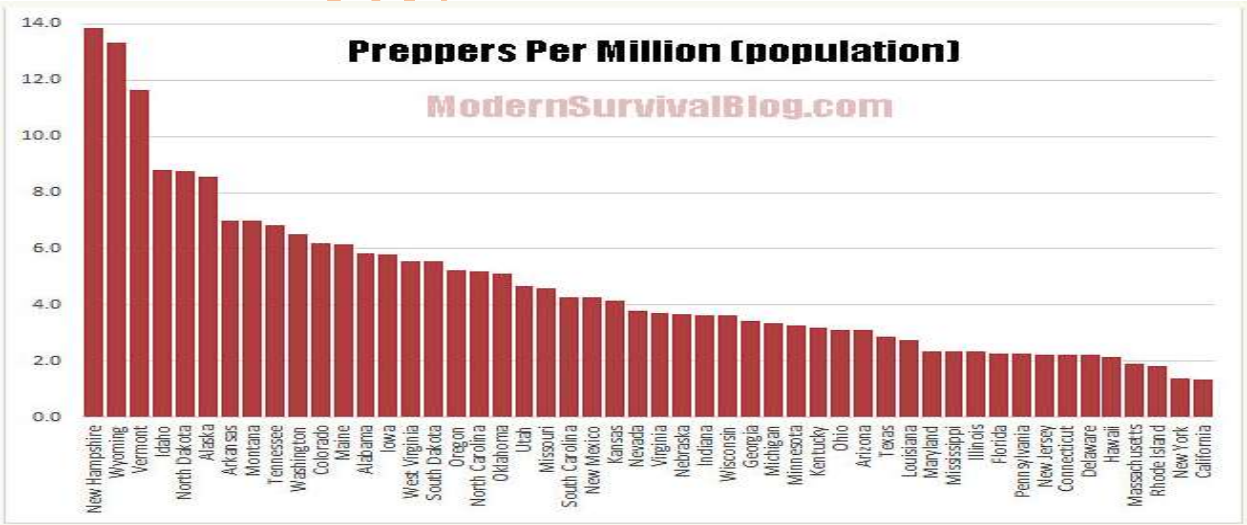
According to another source press release from U.S. Department of the Interior, this number is different. The report indicates an 8 percent increase in participation of people that are going fishing since 2011, from 33.1 million anglers to 35.8 million in 2016. Expenditures by anglers nationwide rose 2 percent from 2011 to 2016, from $45 billion to $46.1 billion.

- **"Preppers" or "Survivalists"**

Another category of people that uses this kind of system are "preppers" or "survivalists". According to one survey about Doomsday prepper statistics. More than 68 million American doomsday preppers are estimated to have purchased survival gear in light of recent political events or natural disasters. According to this survey, more than 160 million American adults (65.45%) are estimated to have either recently purchased survival gear or, interestingly, are already in possession of survival gear because they always keep them on hand. The remaining 85 million (34.55%) are not preparing for the end of the world as we know it. Of those who report prepping, 36.35% spent up to $400 on survival kits in the past 12 months.

Other areas in which preppers spent money to keep emergencies at bay include:

- Insurance — 39.40% spent up to $2,000
- Donations — 32.55% donated up to $400
- Medical expenses — 37.65% spent up to $5,000



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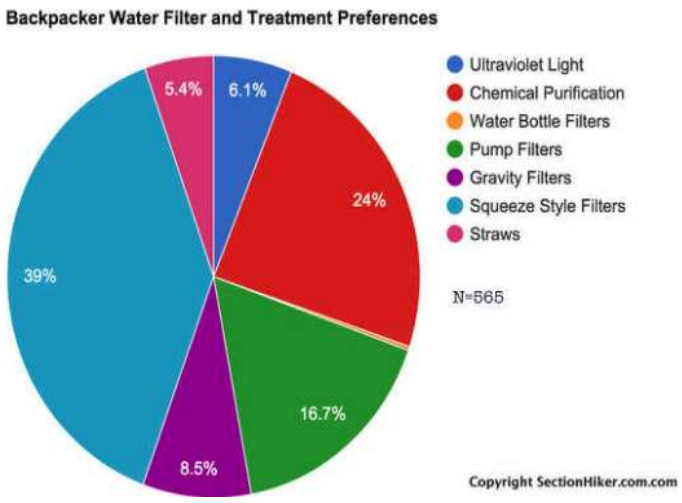
According to a survey from Modern Survival Blog New Hampshire, Wyoming and Vermont are the states with the largest number of preppers. The survey is conducted with more than 1,000 participants about which states in the USA have the highest percentage of preppers.

- **Soldiers**

According to our research, another group that uses this kind of filters are soldiers. Soldiers use this kind of purifiers when they are on the field. According to a post "The Best Lightweight Water Filters for the Armed Forces" in extreme scenarios or climates, reliable access to safe drinking water is crucial for military success. Bottled water is a convenient way to hydrate, but it is costly, requires logistical effort, and creates waste. The outdoor water filtration devices are highly efficient.

GROUPS PREFERENCES

Previously mentioned groups have different preferences when it comes to choosing what kind of water system they will use. According to one survey about the "Best Backpacking Water Filter and Treatment Systems" over 39% percent of the backpackers that were surveyed use a squeeze style filters. According to the information in this survey that's quite an amazing adoption rate since these products didn't exist until a few years ago. Chemical water purification was the next most popular treatment method used by 24% of the backpackers surveyed. Based on the information in this survey it's interesting to note that chemical purification methods are often carried as a backup method to a primary water treatment solution (55% of the time) such as squeeze-style filters, gravity filters, or ultraviolet treatments. The next most popular method was pump filters at 16.7%, which are preferred when hiking with a partner or a small group instead of solo since they filter water so quickly.



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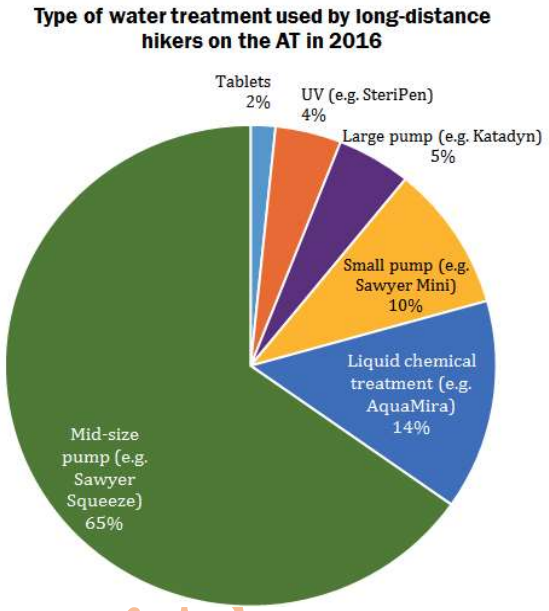
According to another survey about water treatment preferences by hikers Appalachian Trail, 2016 Thru-Hiker Survey most common types of water treatment used by hikers are pumps (small, mid-size, large), liquid chemical treatments, tablets and devices inserted into the water bottle or bag that use UV.

According to the data in the chart the most used system is a mid-size pump with 65%, the second most preferable is the liquid chemical treatment with 14%, and the third Small pumps with 10%.



COMPETITION OVERVIEW

When entering a new market, it is very important to understand who the key players in the market are and what they are offering. The competition is divided into the direct competition– companies that offer water purification systems based on iodine, tablets or drops, and indirect competition – companies that offer different kind of outdoor water purifiers that are often used by USA campers, hikers and backpackers like filters bottles, steripen, squeeze filters, filter bags and etc.

DIRECT COMPETITION

When researching for companies in that offer similar water purifier we found 6 direct competitors. Competitor's products are tablets or drops based on chlorine or iodine. This is one of the many types of portable water filtration systems available to the public. The companies listed in the direct competition were chosen according to few lists with the best rated iodine-based water purifiers like "11 Best Portable Water Purification Options (Tablets, Sachets, Drops)", and "Best Water Purification Tablets Review 2018". A detailed comparison is presented in the table below:

Aquamira builds practical solutions that serve people, protect health, and save lives from the threat of waterborne illnesses. Their goal is to help you stay safely hydrated through fun and adventurous times as well as during emergency situations. Aquamira complete line of water treatment products includes leading-edge purification and filtration technologies developed and tested in the lab and proven in the field.	
Company's Product range	Drops and Tablets
Product	Aquamira Technologies Water Purifier Tablets
Category	Tablets
Price	$9.99
Pros:	Ultralight, easy, affordable, kills viruses
Cons:	Wait time necessary. May have a strong smell and taste to some users, although this can be remedied with neutralizing tablets.
Katadyn is the Switzerland-based market leader for portable, personal water treatment systems and products for the outdoor and marine industries. The group provides products and solutions for the outdoor and marine industries as well as for industrial and municipal needsWith more than 50 percent market share, Katadyn is the clear market leader in this segment.	
Company's Product range	Water filters, SteriPEN, Micropur, Desalinators, Accessories
Product	Katadyn Micropur Purification Tablets
Category	Tablets
Price	$12.46
Pros	The only tablet or liquid proven effective against viruses, bacteria, Giardia, and Cryptosporidium in all water conditions. Works in 30 minutes in most water (four hours if the water is cold and dirty). The only purification tablet (or liquid) EPA registered as a microbiological water purifier. Each tablet is premeasured to treat one litre of water; no mixing or measuring required. Tablets are individually sealed in waterproof strips for a longer shelf life and to reduce weight.

Cons	Water may look yellowish after treatment, but even if so, it is still safe to use. Since these tablets are stronger than some, they may take longer than other tablets to purify water.
Since 1980, Polar Pure have led the effort to provide clean pure water anywhere need it. The Polar Pure mission is to provide a water treatment product that is lightweight, effective and economical. Polar Pure has been developed by Chemist and expert backpacker Bob Wallace.	
Company's Product range	Water Tablets and Filter Straws
Product	Polar Pure Iodine Water Filter
Category	Tablets
Price	$19.99
Pros	EPA Certified, kills all bacteria and viruses before they mutate, most cost-effective, indefinite shelf life, easy to use, compact bottle.
Cons	Since this is made from iodine, it may stain skin or clothing if spilled.
Aquatsabs are produced by Medentech. Medentech is headquartered in Wexford, Ireland with distribution agents in over 100 countries worldwide. The Company began in 1984 with the development of a fast-acting and effective effervescent tablet. In March 2015, Medentech was acquired by German equity fund investor Paragon Partners, as part of their portfolio of Global infection control Companies.	
Company's Product range	Tablets
Product	Aquatabs Water Purification Tablets
Category	Tablets
Price	$9.95
Pros	No unpalatable taste and odour, iodine free, safe for use by pregnant women, safe for use by children, 5-year shelf life.
Cons	These tablets only have a shelf life of 5 years and will need to be checked before use. Included directions may be difficult to understand.

Portable Aqua tablets are produced by Wisconsin Pharmacal Company. Wisconsin Pharmacal Company is your source for outdoor health and safety solutions. Potable Aqua Water Purification Tablets, Sting-Eze Insect Bite Relief Products and Baitmate Fish Attractants are well-known company brands. The company is also the official licensee of Coleman Insect Repellents and Coleman First Aid, as well as contract manufacturer for a growing number of consumer products.

Company's Product range	Tablets
Product	Potable Aqua Water Purification Treatment
Category	Tablets
Price	$6.49 - $39.90
Pros	Purifier and neutralizer come packaged in separate lightweight bottles for easy transport. Two-pill system removes unwanted bad flavours from the water easily.
Cons	May not be able to purify as much water at a time as other brands. May cause throat irritation in some users who are sensitive to chemicals like chlorine.

Purinize is a company concerned about water quality for all living things. Purinize's mission is to develop water purification products that are safe for human and animal consumption and safe for the environment. Purinize continually tests their product for effectiveness against emerging contaminants that threaten our freshwater sources.

Company's Product range	Drops
Product	Purinize Water Purifier Drops
Category	Drops
Price	$19.97 - $49.97
Pros	100% non-toxic. Free of chemical disinfectants like chlorine, chlorine dioxide & iodine with no chemical aftertaste. Perfect for daily use or in Emergency situations. Safe for anyone to use on a daily basis including kids, pregnant women, and even pets for added essential minerals.

	Eliminates/reduces 200+ contaminants including pathogens, agricultural & industrial chemicals, heavy metals, pharmaceuticals, disinfectants, & disinfection by-products. Improves health, taste, odour & clarity of the water. Eco-friendly. No human, animal, or environmental hazards. Simple to use and made in the USA.
Cons	/

INDIRECT COMPETITION

In indirect competition, we listed companies that offer different kind of outdoor water purifiers that are used by campers, hikers and backpackers like filters, bottles, bags, squeeze filter and etc. The companies listed in the indirect competition were chosen according to few lists with the best-rated water purifiers like"The best water purifiers" and "6 Best Backpacking Water Filters of 2018". These water purifiers are also often used by campers, hikers and backpackers in the USA, so they represent competition. Some of the companies that offer this kind of water purifiers are:

- LifeStraw - LifeStraw Mission water purifier
- Ecovessel - Ecovessel filtration water bottle
- Platypus - Platypus gravity works
- MSR - MSR Trail Shot
- Sawyer - Sawyer Squeeze
- Grayl - Grayl Bottle

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SUMMARY

From the conducted research, it can be concluded that developing a new product is highly recommended, considering the many opportunities presented in the research. With water purifier market in the US projection to witness a moderate CAGR of around 6% during 2015-20 and more concrete point of use water treatment systems market, predicted to expand over USD 4.6 by 2025, the industry forecast is extremely positive. The rising consciousness of people about the importance of drinking pure water is the main factor for the rising demand for water purifiers. The rising market makes room for new players to satisfy the demand for this kind of systems.

The segmentation of the market showed that in the United States over the years, the faucet mounted filters have been prevalent in the market, the non-residential segment has the largest market share and RO water purifiers witnessed the highest demand in the United States. In portable water purifier market, North America market is the third largest market in the world.

The people that are the most interested in portable water purification systems are people camping, fishing, hiking, hunting, or backpacking in the mountains or in the wilderness and need to purify water from natural sources like lakes and rivers and also soldiers and “preppers” or “survivalists”. From the information provided, in the USA with the exception of the people that go hunting all the other groups are becoming larger in the recent years. This information shows that there will be new potential customers for water purifiers, which is also a good indicator for developing iodine-based water purifier. When it comes to the preferences of the groups the most used water purification systems are filters, and chemical purification methods are often carried as a backup method to a primary water treatment solution such as filters.

There are many methods of filtration and many competitors on the market especially with the advanced e-commerce technology where you can buy a product from anywhere in the world. However, the market’s absorption power allows enough market share for every company to succeed. Differentiation is the key to attract customers and gain customer loyalty, although there are many different water purifiers on the market.

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