

# Software Piracy: A Global to Local Scenario

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**Abstract - Software piracy means either Illegal copying, selling, downloading, sharing, installing of copyrighted software. Most users are aware of duplication and unauthorized use of software. Making multiple copies of software and spreading it among friends it is illegal and consider as software piracy. The piracy is usually performed for many reasons like for selling it into different users, for personal use for business use etc. The Global Software Survey in 2017 by Business S/w Alliance (BSA) with International Data Corporation (IDC) concludes that 37% of installed s/w on computer over the globe was not properly licensed. Because of installation of unlicensed software \$46.3 billion loss occurs. The software piracy increased day by day with the rising use of computers. What is the opinion of computer users in Marathwada region of Maharashtra (India) about software piracy is the main aim of this study. The study has quantitative research methods and the data which was obtained through a survey. 54% of participants had rarely purchased software, 16% had mostly purchased software and 30% of them had occasionally purchased software. Preventive measures for software piracy which are commonly applicable in global and local scenario both are increasing public awareness and education, Understanding proper use of software and the law, Open Source Software, Adoption of OSS.**

**Keywords — software piracy, BSA, unlicensed software use, unlicensed software installation**

## I. INTRODUCTION

Software piracy is the main problem which is today facing every software company. From last few years in IT sector large growth and success seems, and because of this growth software companies also growing tremendously. Because software companies have spreading in large number software theft and fraud also increasing day by day. Today's fast and advance technology is the main reason of software piracy and because of this copyrighted software's spreads quickly to anyone in small amount of time. Development in technology makes our life easy but because of this software piracy increases day by day.

Software piracy means either Illegal copying, selling, downloading, sharing, installing of copyrighted software. Most users are aware of duplication and unauthorized use of software. Making multiple copies of software and spreading it among friends it is illegal and consider as software piracy. Today single user license, it can only limited for single user for single system or more than one system only. As per The Global Software Survey in 2017 by Business S/w Alliance (BSA) with International Data Corporation (IDC) concludes that 37% of installed s/w on computer over the globe was not properly licensed. Because of installation of unlicensed software \$46.3 billion loss occurs. [1]

## II. DIFFERENT WAYS OF SOFTWARE PIRACY

Software piracy is defines as unauthorized & illegal. Pirating copyrighted software is illegal then also many enterprises and computer users' uses such pirated software's. The piracy is usually performed for many reasons like for selling it into different users, for personal use for business use etc. The software piracy increased day by day with the rising use of computers. It affects loyal customers who purchase products in legal manner but also impacted on economy of Software Company. [2]

Software piracy occurs in different forms and the most common form of pirated software is considered to be "End User Piracy" which is defined by Microsoft. This usually occur when the single user or the company make multiple copies of program without using license and sells without understanding that it is illegal. Organization installs the S/W on more number of computers than the number of allowed licenses. Software and Information Industry Association (SIA) and BSA are non-profit trade associations developed to advance the goals of S/W industry & their hardware partners. They have listed some of the most common types of software piracy. [3]

1. Softlifting
2. Internet piracy
3. Hard-disk loading

4. Software counterfeiting
5. Unauthorized usage of academic software
6. Renting

### III. COMPARISON OF S/W PIRACY IN DIFFERENT REGIONS

Adobe Corporation acquire total revenue of \$4.4 billion in the government advocate year 2012.( corporation’s annual revenue report 2012). [4] It might be higher when there is control over illegal copying of products. So it seems that software companies have been achieving some profit.

Average Rate of Unlicensed Software Use

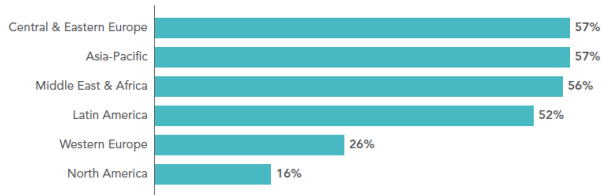


Figure 1. Average Rate of Unlicensed Software Use. Reprinted from BSA (2018)

From Figure 1, it can said that average rate of unlicensed software use in different regions was much higher in Asia-pacific of 57% as compare to the Western Europe and North America which had 26 % & 16 %t respectively. China and India considered being the biggest markets in the region had the piracy rate of 66 % & 56 %. It was 60% in Asia-pacific in 2011 and grown by 2% in 2013. As the demand for software was being fulfilled by piracy in economically emerging countries, specifically China and India, The rate was higher in Asia-pacific. In BSA report, piracy rate in china was 82% in 2007, which gradually decrease in a later survey. Australia and Japan had the lowest piracy rate which is near about 18% and 16 % respectively. The decrease of piracy rate in China was the outcome of enforcement efforts, legalization programs by vendors & legal requirement for computer manufacturers to ship legal O.S with new computer [5]

In the past few decades the worldwide computer market grew at faster rate & parallel global piracy rate also increased due to illegal use and distribution of software. According to BSA and IDC in global software piracy it seems that, the global piracy rate increased from 38% to 43% from 2017 to 2013.

Table 1. Unlicensed software installation rates [1, 9-10]

Regions	2017	2015	2013	2011	2009	2007
Middle East and Africa	56%	57%	59%	58%	59%	60%
North America	16%	17%	19%	19%	21%	21%
Western Europe	26%	28%	29%	32%	34%	33%
Asia Pacific	57%	61%	62%	60%	59%	59%
Central and Eastern Europe	57%	58%	61%	62%	64%	68%
Latin America	52%	55%	59%	61%	63%	65%

In Table 1 it compares the unlicensed software installation rates from 2007 to 2017 in six different regions. Piracy rate is slowly decreasing in Central & Eastern Europe, Latin America and North America on other hand in other regions, the rate fluctuates by 1% to 3 % and seems to remain same. [1]

Middle East and Africa’s piracy rate were constant over the last 5 years which is 59 % in 2013. South Africa’s piracy rate is lower as compare to other countries and which is 34%. It had a 50% piracy rate on an average whereas Zimbabwe had the highest piracy rate of 91 percent. Nigeria, Algeria, Cameroon and Libya these African countries had a piracy rate above 80% individually. Countries which are economically poor has the high piracy rate such as South Africa, Qatar and Saudi Arabia. Whereas Turkey had a piracy rate of 60% & decreasing slowly from the previous 65% of piracy rate in 2007. [6]

Brazil, the only country has the biggest Pc market having lowest rate of 50 %.( Report BSA) Usage of unlicensed software in Argentina, Mexico and Uruguay was 69 %, 54% & 68 % respectively. In 2013, Latin America had 59% piracy rate it seems that it is 6% lower than in 2007. According to the study, 66% users from total population in Argentina use the Internet. Highly pirated content are easily available through internet, lack of enforcement and effective laws to restrain internet piracy. These factors affect Argentina which has a high piracy rate [7]. Colombia had the second-lowest piracy rate which is 52%.

According to this study in 2017, Asia pacific has the highest rate of unlicensed S/W installations which is then followed by Central and Eastern Europe. In Ukraine, the rate was 83% in 2013 which is only 1% lower as compare to 2011. From 2011 it seems that Russia & Ukraine considered as the biggest markets of PC showed 1% decrease. Russia has 62% of PC software was installed without proper licensing in 2013, was only one point down from 63% in 2011. Central & Eastern Europe has highest piracy rate. [8]

Most of computer users are aware of software piracy. Whereas strong laws and legal enforcement plays an important role for reducing software piracy. In 2013, North America’s piracy rate was 19%. Whereas the United States and Canada which are highly developed countries had 19% and 25% of piracy rate respectively. In 2013, in Western Europe piracy rate was 29%. Earlier, It was 33% in 2007. In countries of Western Europe piracy rate is less than 25% on an average. Whereas, Greece had 62% piracy rate and which is considered as highest piracy rate. Sweden, United Kingdom, Switzerland, Belgium, Finland, Denmark, and Germany had the lowest piracy rate around 23% to 24%. According to the BSA study Portugal, Cyprus, Spain, Italy, Malta and France these all countries had different piracy rates from 26 % to 47%. [9][10]

#### IV. OBJECTIVE AND METHOD

What is the opinion of computer users about software piracy is the main aim of this study. The study has a quantitative research methods and the data which was obtained through a survey and this data this obtained data arranged in the form of charts and tables. Very few people took part in the survey and these findings help what computer users think about software piracy and other related issues.

For collecting the computer users perception about software piracy many online survey were collected between computer users in 8 different district such as Aurangabad, Nanded, parbhani, Osmanabad, Hingoli, Beed, Latur, Jalna of marathwada region. A set of questions was created with the help of Google form which includes almost 22 questions and statements as can be seen in appendix 1. This questionnaire was given among the participants with the help of email, facebook or hardcopy format. There were almost 576 computer users were participated in the survey from different districts of Marathawada region. For obtaining the information from participants for drawing the graph and piechart MS-Excel was used.

#### V. RESULTS AND DISCUSSION

Computer User those who belongs from Marathwada region were invited to take part in the survey.

##### Regional distribution of participants

The computers users belong to computer background were participated in this survey. Table 2 shows the distribution of the participants by regions.

Table 2. Distribution of participants by regions

Sr.No	Regions	Number	Percentage (%)
1	Parbhani	62	10.76
2	Aurangabad	100	17.36
3	Jalna	66	11.46
4	Latur	73	12.67
5	Nanded	90	15.63
6	Osmanabad	58	10.07
7	Beed	75	13.02
8	Hingoli	52	9.03
Total		576	100

##### USING OPEN SOURCE SOFTWARE

According to the participants who involved in the survey that they very rarely uses open source software. Each responses separate analysis was done. According to the Figure 2 it shows the respondents point of view towards using open source software.

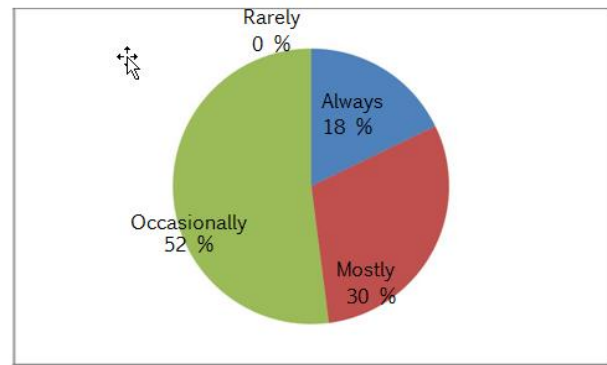


Figure 2. Respondent's behavior towards using open source software

Most of the participants from IT discipline were uses open source software as compare to participants form other study disciplines. In the survey there never asked about why they uses open source software to the participants.

##### PURCHASING SOFTWARE

In the figure 3 shows that 54% of participants had rarely purchased software, 16% had mostly purchased software and 30% of them had occasionally purchased software. It was asked to participants that mention their behavior of purchasing software. Among these all participant none of them said that they had always purchased software.

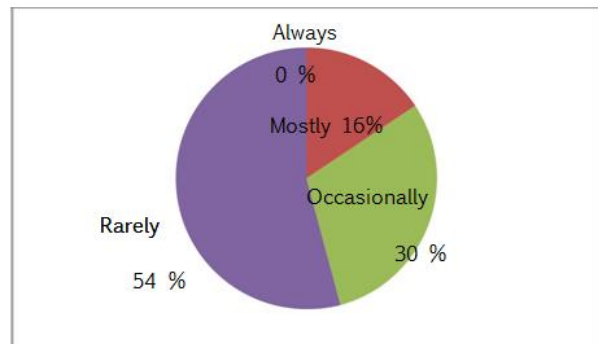


Figure 3. Respondents' behavior towards software purchasing

Participants who were involved in the survey asked to list the software programs which they purchased. Most of them replied that they only purchased games, some purchased MS Office Adobe Photoshop, Anti-viruses, Windows and Mac OS, Mobile Applications, IDM, Adobe Dreamweaver, and Adobe Illustrator..

#### VI. CONCLUSION

It is found that Most of the participants from IT discipline uses open source software as compare to participants form other study disciplines. Also it can be concluded that most of the user only purchased games, some purchased MS Office Adobe Photoshop, Anti-viruses, Windows and Mac OS, Mobile Applications, IDM, Adobe Dreamweaver, and Adobe Illustrator.

Following are preventive measures for software piracy which are commonly applicable in global and local scenario both.

1. Increasing public awareness and education
2. Understanding proper use of software and the law
  - i. Copyright protection of computer software
  - ii. Software licensing
3. Open Source Software
4. Adoption of OSS

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