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The Impact of the internet on Seafarer's performance Onboard Ships

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المستخلص

لم يعد الاتصال بالإنترنت على متن السفن يمثل مشكلة بعد الآن لأن معظم السفن متصلة بالإنترنت، مما يتسبب في ضعف دعم حياة البحارة من قبل مجموعات الأقران، ويمكن أن يؤدي الإفراط في استخدام وسائل التواصل الاجتماعي إلى جعل البحارة أكثر وحدة وعزلة. وبالتالي، يتأثر أداء البحارة لأن الإفراط في استخدام الإنترنت يمكن أن يؤثر على ساعات راحة الطاقم ويسبب التعب، من بين آثار سلبية أخرى.

تهدف هذه الدراسة إلى تحديد كيفية تأثر أداء البحارة على متن السفن بالإفراط في استخدام الإنترنت ومعرفة ما إذا كان البحارة يدعمون فكرة الحد من استخدام الإنترنت على متن السفن من أجل تجنب العوامل التي تؤثر سلبًا على البحارة "الأداء الذي سيساعد البحث في تقديم توصيات لمزيد من البحث والتطبيق.

تم تصميم مسح من قبل الباحثين من أجل التحقيق في الآثار السلبية للبحارة "باستخدام الإنترنت على متن السفن على أدائهم، ممثلة في مختلف المتغيرات، أي ساعات راحة الطاقم، ومدة عقود البحارة، افتقار الطاقم إلى التركيز، وقدرة الطاقم على اكتشاف المخاطر، وسلامة الملاحة، العلاقات الاجتماعية بين أفراد الطاقم، والإلهاء، والحالة النفسية لأفراد الطاقم.

تم تحليل ردود المشاركين في الاستطلاع إحصائيًا باستخدام ("SPSS" الحزمة الإحصائية للعلوم الاجتماعية)، وهو برنامج برمجي يستخدمه الباحثون في مختلف التخصصات للتحليل الكمي للبيانات المعقدة.

أثبتت نتائج المسح أن الاستخدام المفرط للإنترنت له تأثير سلبي على جميع المتغيرات السابقة، وفقًا لردود ٢٠٣ بحارة من مختلف الفئات العمرية والخلفيات. وخلص إلى أنه ينبغي أن يكون هناك وقت محدود للبحارة لاستخدام الإنترنت على متن السفن من أجل التخفيف من هذه الآثار السلبية.

Abstract

Getting online onboard ships is not a problem anymore since most ships are connected to the internet, causing seafarers' lives to be poorly supported by peer groups, and overuse of social media can make seafarers even more lonely and isolated. Consequently, the performance of seafarers is affected as the overuse of the internet can affect the crew's resting hours and cause fatigue, among other negative impacts.

This study aims at determining how seafarers' performance onboard ships is affected by the overuse of the internet and finding out if seafarers support the idea of limiting the use of the

internet onboard ships in order to avoid the factors that negatively affect the seafarers' performance, which will help research offer recommendations for further research and application. A survey was designed by the researchers in order to investigate the negative effects of seafarers' using the internet onboard ships on their performance, represented in various variables, namely crew's resting hours, the duration of seafarers' contracts, crew's lack of focus, crew's ability to detect hazards, safety of navigation, social relations among crew members, distraction, and crew members' psychological state.

The responses of the survey respondents were statistically analyzed using SPSS (Statistical Package for the Social Sciences), a software program used by researchers in various disciplines for quantitative analysis of complex data.

The results of the survey proved that the use of internet has a negative effect on all the previous variables, according to the responses of 203 seafarers from different age groups and backgrounds. It was concluded that there should be a limited time for seafarers to use the internet onboard ships in order to mitigate these negative effects.

Keywords: using the internet, onboard ships, seafarers' performance, resting hours, lack of focus, duration of contract, distraction, social relationships, psychological state

1- Introduction

The phrase "The internet onboard is a good thing" has become one of the uncontested tenets of modern maritime transport. After all, social media, particularly on the internet, allows seafarers to stay in touch with their loved ones and the outside world.

All people have an intrinsic desire to connect with the people in their lives. Indeed, the internet has developed into a potent tool for linking individuals across distances and time zones. However, the capacity to quickly inform mariners thousands of miles away from home was a drawback. This is not to suggest that sailors should be left alone at sea. They ought to have access to social media and the internet. However, making use of these effective communication techniques ought to be a part of a larger training process that encourages seafarers to accept personal responsibility of rationalizing using the internet.

One of the most common reasons is that seafarers were allowed to use their laptops and mobile devices for an indefinite period of time whenever they were not working a shift. When sleep time is factored in, this "non-work time" period on board comes to a large number of hours.

As can be seen, spending a lot of time on mobile devices has decreased the amount of "community" time spent on ships and also negatively impacted the crew's performance in several ways, as it affected resting hours, the crew's focus, hazard detection, safety of navigation, and the crew's psychological state.

It is because of these factors that operators and managers have to be proactive in terms of educating seafarers in how they use the internet – as well as setting rules and regulations to limit the time allowed for using the internet onboard ships.

Unrestricted internet access for sailors has, of course, been heavily promoted recently, and this is for business purposes. Such a step would benefit service providers who cater to seafarers. However, before this occurs, the more responsible owners and managers will sit down and give it some additional thought, for the reason that enhancing seafarers' quality of life on board may not be as simple as offering them limitless internet access.

In conclusion, the responses of the seafarers participating in the study show that using the internet without limits affects their performance; therefore, there should be a limit to that use. The study recommends further research to be conducted to confirm that conclusion.

2- Literature Review

Although there are several research studies that investigate the relationship between Internet access and other variables concerning the seafarers' wellbeing, such as stress, social relationships, and job satisfaction, among others, there is limited previous research that has results confirming the negative impact of using the internet onboard ships.

In their study that investigates the effect of work-family conflict on seafarer performance, An J. et al. (2020) found out that work–family conflict negatively affects seafarer self-reported performance as seafarers spend a long time away from their families, which leads to their feeling of isolation and stress.

A very recent and effective study was conducted by Raut R. and Saxena A. (2021) examined the relationship between achievement motivation and availability of internet on-board ships among seafarers. The findings concluded that the ability of seafarers to phone home whenever they want also implies that the seafarer will have less time to react to the numerous crises at home, which could prove to be a huge distraction. This could potentially result in bizarre incidents and provide a threat to the onboard security. The overexposure to every little detail in the daily operations of the household life may divert the seafarer from his professional aims in contrast to the period before the internet era in shipping when the seafarer was not in direct communication with his family and friends. This could increase stress and end up being one of the main causes of declining mental health on board. The research also suggested that limiting internet use during set hours and promoting more interpersonal interaction among the crew members on board are the solutions to this issue.

According to Sampson, 2003, working in the maritime industry is linked to unique psychosocial stressors, such as extended separation from family, loneliness, and isolation in multicultural crews.

This suggests that effective channels of contact with family and friends back home are crucial for lowering stress levels on board. In line with this, a negative relationship between social support at work and work-related stress has frequently been noted (Mett et al, 2018).

Slišković, & Penezić, (2016) in their study assured the significance of two particular psychosocial work factors in the explanation of satisfaction and self-rated health measures in seafarers, namely the employment contract and internet access. In general, shorter contracts and regular shifts were associated with better mental health. Only gastrointestinal symptoms were impacted by the contract parameters of the two physical health indicators. There were fewer gastrointestinal and cardiovascular problems in seafarers with free, unlimited onboard internet access.

Papachristou et al, (2015) found out that, according to the analyses of the data, respondents believed that the most significant problems preventing retention in the maritime industry are the separation from family and ineffective communication with friends and family while at sea. While seafarers appear to be happy with their decision to enter the industry, when asked what would cause them to leave, they cite poor communication with friends and relatives as the main reason. This demonstrates unequivocally how communication contributes to the profession of seafaring's increased retention rate.

In conclusion, as proved by previous studies, there is a positive correlation between using the internet onboard ships to communicate with family and friends and the psychological state of seafarers and even job satisfaction and job retention. These effects cannot be denied or ignored; however, controlled use of the internet is essential in order to avoid the negative effects on seafarers' performance, as shown through the results of this study.

3- Methods and tools

Quantitative research methods- which according to Payne and Payne (2004) seek regularities in human lives by dividing the social world into empirical components called variables that can be numerically represented as frequencies or rate, whose associations with each other can be explored by statistical techniques, and accessed through researcher-introduced stimuli and systematic measurements- were applied to collect data and test the relationships between variables. After academic discussions with experts in the field and searching the literature, a group of variables were selected as dependent variables. A five-point Likert scale was used as it is a simple to understand and use for both researchers and respondents. It takes less time and effort to complete than higher point scales.

A Google form was designed with nine questions and was sent to as many seafarers as possible. It can be claimed that the research sample is randomly chosen as it can be seen. Within the first three days, more than 150 responses were filled, and by the end of a week, the respondents reached 203. The responses were statistically analyzed using SPSS (Statistical Package for the Social Sciences),

a software program used by researchers in various disciplines for quantitative analysis of complex data, yielding frequency, percentage, Chi-Square and Consent Percent of the questions under consideration for the research sample. The following table presents the frequency and analysis of socio-demographic variables.

Table (1) Frequency and Percentage of Socio-demographic Variables of the Research Sample

Socio demographic data	Frequency (N=203)	Percent
Age between		
▪ 20 to 29	68	33.5%
▪ 30 to 39	89	43.8%
▪ 40 to 49	34	16.7%
▪ 50 to 59	6	3.0%
▪ 60 and more	6	3.0%
Gender		
▪ Male	189	93.1%
▪ Female	14	6.9%
Nationality		
▪ Egyptian	171	84.2%
▪ Syrian	9	4.4%
▪ Emirates	1	0.5%
▪ Netherlands	1	0.5%
▪ Jordanian	15	7.4%

▪ Indian	1	0.5%
▪ Saudi	1	0.5%
▪ Sudan	1	0.5%
▪ Nigerian	2	1.0%
▪ Polish	1	0.5%
Sea service duration by year		
▪ Less than 5 years	79	38.9%
▪ 5 to 9 years	37	18.2%
▪ 10 to 14 years	38	18.7%
▪ 15 to 20 years	29	14.3%
▪ more than 20 years	20	9.9%
Your Ship's type?		
▪ Bulk carrier	32	15.8%
▪ Container ship	59	29.1%
▪ General cargo ship	31	15.3%
▪ Passenger ship	4	2.0%
▪ Supply ship	32	15.8%
▪ Tanker	21	10.3%
▪ Other type	24	11.8%

Results

The respondents' opinions regarding the relationship between the independent variable, using the internet onboard ships, and eight dependent variables are presented in Table 1, followed by their responses for the suggestion that seafarers should have a limited time using the internet onboard ships.

Table (2) Frequency, percentage, Chi-Square and Consent Percent of the questions under consideration for the research sample

Questions	Answers	Frequency (N=203)	Percent	Chi-Square	Sig.	Consent Percent
Using the internet onboard ships decreases the crew's resting hours.	▪ Strongly Disagree	16	7.9%	28.946*	0.000	66.19%
	▪ Disagree	50	24.6%			
	▪ Neutral	36	17.7%			
	▪ Agree	62	30.5%			
	▪ Strongly Agree	39	19.2%			
Using the internet onboard ships reduces the duration of seafarers' contracts.	▪ Strongly Disagree	15	7.4%	72.739*	0.000	55.00%
	▪ Disagree	82	40.4%			
	▪ Neutral	39	19.2%			
	▪ Agree	49	24.1%			
	▪ Strongly Agree	18	8.9%			
Using the internet onboard ships leads to the crew's lack of focus.	▪ Strongly Disagree	18	8.9%	35.547*	0.000	64.29%
	▪ Disagree	48	23.6%			
	▪ Neutral	45	22.2%			
	▪ Agree	66	32.5%			
	▪ Strongly Agree	26	12.8%			
Using the internet onboard ships affects the crew's ability to detect hazards.	▪ Strongly Disagree	17	8.4%	55.251*	0.000	68.33%
	▪ Disagree	48	23.6%			
	▪ Neutral	28	13.8%			
	▪ Agree	78	38.4%			
	▪ Strongly Agree	32	15.8%			
Using the internet onboard ships affects safety of navigation.	▪ Strongly Disagree	17	8.4%	29.044*	0.000	62.38%
	▪ Disagree	62	30.5%			
	▪ Neutral	32	15.8%			
	▪ Agree	50	24.6%			
	▪ Strongly Agree	42	20.7%			

Using the internet onboard ships affects social relations among crew members.	▪ Strongly Disagree	12	5.9%	52.887*	0.000	69.52%
	▪ Disagree	48	23.6%			
	▪ Neutral	26	12.8%			
	▪ Agree	73	36.0%			
	▪ Strongly Agree	44	21.7%			
Using the internet onboard ships communicates bad news with family, which leads to distraction.	▪ Strongly Disagree	12	5.9%	39.094*	0.000	68.10%
	▪ Disagree	44	21.7%			
	▪ Neutral	38	18.7%			
	▪ Agree	68	33.5%			
	▪ Strongly Agree	41	20.2%			
Using the internet onboard ships negatively affects the crew members' psychological state.	▪ Strongly Disagree	36	17.7%	20.030*	0.000	56.43%
	▪ Disagree	61	30.0%			
	▪ Neutral	31	15.3%			
	▪ Agree	49	24.1%			
	▪ Strongly Agree	26	12.8%			
The seafarers should have limited time to access the internet onboard ships.	▪ Strongly Disagree	23	11.3%	56.877*	0.000	70.24%
	▪ Disagree	34	16.7%			
	▪ Neutral	15	7.4%			
	▪ Agree	71	35.0%			
	▪ Strongly Agree	60	29.6%			

* p value <0.05

It is clear from Table (2) of Frequency, percentage, Chi-Square and Consent Percent of the questions under consideration for the research sample. The value of Chi-Square ranged (20.030: 72.739)>0.05, The Consent Percent ranged (55.00 %:70.24%).

As for the first question, almost half the respondents believe that using the internet onboard ships reduces the crew's resting hours, with a consent percentage of 66.19%. The responses to the second question reveal that about one third of respondents either agree and strongly agree that using the internet onboard ships reduces the duration of seafarers' contracts, with a consent percent of 55%.

The third question was about whether the use of internet onboard ships leads to the crew's lack of focus, and the responses show that more than half the respondents believe it does, with a consent percent of 64.29%. Responses to the fourth question show that 54% of respondents agree and strongly agree that using the internet onboard ships affects the crew's ability to detect hazards, with a consent percent of 68.33%.

The fifth question investigated whether using the internet onboard ships affects safety of navigation, and responses demonstrate that about 45% of respondents agreed and strongly agreed that it does, with consent percent of 62.38%. In response to the sixth question, 58% of respondents agreed and strongly agreed that using the internet onboard ships affects social relations among crew members, with a consent percentage of 69.52%.

In response to the seventh question, 54% of respondents agreed and strongly agreed that using the internet onboard ships communicates bad news with family, which leads to distraction, with a consent percentage of 68.10. As for the eighth question, 37% of respondents agreed and strongly agreed that using the internet onboard ships negatively affects the crew members' psychological state, with a consent percentage of 56.43%.

Regarding the respondents' opinion whether the seafarers should have limited time to access the internet onboard ships, about 67% agreed and strongly agreed that the use of internet onboard ships should have a limited time.

4- Discussion and recommendations

Based on the above results, it can be concluded that using the internet onboard ships negatively affects the seafarers' performance as it reduces their resting hours, reduces the duration of their contracts as they feel they need to be among families and feel homesick, leads to their lack of focus, affects their ability to detect hazards, and impacts the safety of navigation. In addition, it can affect the social relationships among crew members and communicate bad news with families, which leads to seafarers' distraction, in turn affecting their psychological state.

The results of this study answers the call of other studies, such as Raut, R. and Saxena, A. (2021), that the effect of using the internet by seafarers onboard ships should be researched in diverse population, for example, considering sailors from various classes, positions, and ships as well as from various regions, cultures, and educational backgrounds. Another topic that can be investigated for research is mental health and wellness, given the unpredictable atmosphere on ships.

This study recommends further research to confirm the negative effects of the limitless use of the internet by seafarers onboard ships on the overall performance of seafarers and the psychological effect as well. In addition, future research should investigate the best solutions to these negative effects rather than limiting the use of the internet for seafarers onboard ships.

Therefore, as companies are very concerned about the safety of their ships and their transported goods, it is highly recommended that the use of internet onboard ships should be limited to a certain time daily. The limitations of using the internet onboard ships could be imposed by either the captain of the ship or set as company regulations that must be properly adhered to by all employees. Agreed-upon penalties should be applied in case of not complying with regulations in order to guarantee the safety of all stakeholders.

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