ECRONICON OPEN ACCESS

EC PSYCHOLOGY AND PSYCHIATRY
Review Article

Socio-Psychological Reasons for Concealing Information About Hazards and Aviation Events in Commercial Aviation

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Received: May 10, 2022; **Published:** May 31, 2022

Abstract

The article describes a socio-psychological problem, which consists in concealment of information about hazards in flights, and about aviation events occurring in commercial aviation. It was revealed that the facts of concealment are due to the obvious motivation of the management and personnel of some airlines to conceal information, which, on the one hand, reveals the degree of flights safety risk which are performed by a particular airline, and on the other hand, ensures the development of targeted measures to minimize risk in upcoming flights throughout the industry. The socio-psychological reasons for the concealment of information about hazards and aviation events have been identified. The results of the analysis of the effectiveness of the system of mandatory reports and the system of voluntary reports are presented. The scientific principles of the formation of an effective system of voluntary reporting are outlined. An example of a practical solution to the problem of information support in the flight safety management system of a group of companies is given.

Keywords: *Information; Reporting; Hazards; Aviation Events; Risk; Concealment; Socio-Psychological Reasons; Motivation; Voluntary Reporting System*

Introduction

The priority activity for all the aviation industry organizations must be to ensure safety. The evolution of approaches to safety in the world is reflected in the requirements of regularly updated Standards and Recommended Practices (SARPs) [1-3]. However, the purpose of all commercial enterprises, including airlines, is to make a profit. Therefore, according to the requirements of SARPs of the International Civil Aviation Organization (ICAO):

- On the one hand, in order to ensure safety, each airline operating or providing commercial air transportation must implement a perfect safety management system (SMS), the operation of which should be ***aimed at constantly increasing the level of safety***;
- On the other hand, ICAO in its Safety Management Manual (SMM), in order to support business, indicates the ***need to strike a balance between "profitability and safety"*** [3, art. 2.4.4].

Thus, the process of safety ensuring in commercial aviation has lost its obvious, traditional for Russian civil aviation, priority, and the safety management function turned out to be not a priority, but one of the main business functions.

The recognition of the "Safety vs. Cost" dilemma in the global aviation industry was facilitated by the transition of ICAO from the utopian concept of absolute safety, which existed before 1984, to the concept of "acceptable" safety risk, without determining the level of

acceptability, unfortunately for all. The level of risk acceptability, according to ICAO SARPs, is determined by the airline within its own SMS and agreed with the government regulator. The acceptance of an "acceptable" level of risk is legitimized by the definition:

Aircraft safety - the state of the aviation transport system (ATS) in which the risk of harm to persons or damage to property is reduced to an acceptable level and maintained at this level or lower, through a continuous process of identifying hazards and controlling risk factors [2,4].

Based on the requirement for airlines to manage flight safety at the corporate level, it is appropriate to refer to the basic postulate of management: "You can manage what is measurable" [5]. Measuring the level of safety, in turn, requires the appropriate information support of the SMS, which has traditionally been based on statistical data on aviation events and on the materials of the investigation. The investigation phase usually establishes the causes of the event and should identify all hazards, even those that did not affect the development of the aviation event. ICAO SARPs and Russian regulatory documents recommend the implementation of proactive safety management, which is possible if hazards are identified and the risks they cause are analyzed and managed before these hazards manifest themselves in the form of aviation events. A *hazard is any condition, phenomenon, action, event, or circumstance that can potentially cause harm.* [6].

It is obvious that a necessary condition for the real safety level management is a reliable assessment of the state of the operating ATS, which, in turn, requires the most complete and reliable information about the maximum number of hazards and about all aviation events, no matter where and with whom they are didn't happen. If the lack of statistical information on aviation accidents (accidents and catastrophes) is explained by the absence, fortunately, of the number of accidents and catastrophes sufficient for analysis, i.e., has an objective reason, then the concealment or "hushing up" of information about aviation incidents, which is typical for commercial aviation, has, as a rule, subjective, socio-psychological reasons [7,8].

Hazard identification in commercial aviation operations

The experience of investigating aviation events has shown that each aviation accident is caused by the influence of several hazards, most of which are latent (hidden) in nature [9]. Unfortunately, to the detriment of the effectiveness of an SMS, not only are such hazards not identified early, but they are often not given any importance even when identified. Flight experience has proven that the presence of any hidden non-compliance with the safety requirements in any of the components of the ATS is a hazard that causes a risk, therefore, it can transform into a cause that determines the development of an accident. Factor analysis of aviation events in Russian civil aviation shows that the proportion of the "human factor" ("HF") in aviation incidents is 20 - 30%, and in aviation accidents, i.e., in accidents and catastrophes it is 70 - 80% [10,11]. It has been empirically proven that the conditional probability of an accident developing from an incident for the group of causal factors "HF" is 3 - 4 times greater than for other causal factors ("equipment" and "environment"). Moreover, it is a well-known fact that some airlines conceal information about ongoing aviation incidents, and incidents in which the causative factors of the "HF" group are more often hidden. According to the results of an anonymous expert analysis carried out in 2018, some airlines conceal up to 50% of aviation incidents. Aviation events not classified as aviation incidents, or generally hidden, are not subject to investigation, as required in case of incidents by regulatory documents [12,13], therefore, their causes are not established and eliminated, hazards are not identified, the risks caused by them are not assessed and are not minimized, preventive measures to reduce the accident rate are not taken, resources for increasing the safety are not required, therefore, they are not allocated. At the same time, the official indicators of the level of safety do not decrease. Thus, in the process of flight operation there is an accumulation of hazards, which causes an uncontrolled increase in the risk for the safety, and the hazards of a temporary or periodic nature become the "habitual" ones, which, when the conditions become more complex, manifest themselves, sooner or later, but already through aviation events. Expert studies have established that "habitual" or potential hazards, to varying degrees, at an early stage of their existence, as a rule, are known to experienced aviation personnel performing or providing flights.

A reliable the level of safety assessment is possible only when solving the problem of appropriate information support, i.e., if there is a database of the past and current state of the operated ATS and its components. Therefore, for the effective functioning of corporate SMS, regulatory documents define mandatory procedures [3, 14]:

- Collection, analysis and storage of information on the level of safety (investigative aviation events materials, mandatory and voluntary reports of aviation personnel, results of audits and checks for compliance with the requirements of regulatory documents);
- Hazard identification and risk management;
- Control of the current level of safety;
- Promotion of safety in an airline company (development of the safety culture, safety advocacy, safety training, information support for all aviation personnel performing and providing flights).

In Russia, all aviation service providers, including airlines, are ***required to identify actual and potential hazards*** and provide information to the state regulatory body [6].

The hazards that cause risks for the safety are primarily faced by the air personnel of airlines directly performing or providing flights. Particular importance is attributed to such hazards as violations (inconsistencies) during the performance and support of flights. Obtaining information about such hazards is a necessary condition for the implementation of preventive management of the safety level.

SARPs instruct state regulatory authorities, in order to improve the information support of safety system management procedures, to create and develop:

- Systems for mandatory reporting on aviation events;
- Systems for voluntary reporting on actual and potential shortcomings in the provision of safety, which may not be provided under the mandatory reporting system [3, 15, 16].

Aircraft events mandatory reporting system

The procedure for the mandatory submission of information on aviation events in Russia is regulated by the Rules for the Investigation of Aviation Accidents and Incidents with Aircraft (RIAAI-98) [13]. The data submitted to state regulatory authorities must necessarily cover all information related to aviation events: catastrophes, accidents, aviation incidents, including serious ones, damage to aircraft. The database formed by mandatory reports should provide procedures for estimating the current level of safety, but in fact it allows estimating the average level of safety for some past period, since the operated exchange is a complex dynamic system. The state of the ATS, and hence the safety (by definition of the safety), is subject to changes in space and time under the influence of many factors, both internal and external.

Of the aviation events subject to mandatory investigation, aviation incidents occur most frequently. Some experts call them failed aviation accidents. That is why information about aviation incidents is of particular importance in the implementation of assessment procedures and ensuring an acceptable level of safety. The reliability of information about aviation events and the hazards that cause them largely depends on the quality of the investigation, the depth of the system and factor analysis of the causes. The investigation of aviation incidents in Russia is entrusted to state regulatory bodies.

SARPs prescribe the implementation of proactive and predictive control methods in the SMS, but, as practice shows, the quality of the investigation of aviation events with commercial aircraft does not provide the required SMS efficiency even at the level of "retroactive" control of the safety for a number of socio-psychological reasons.

Socio-psychological aspects in the shortcomings of the aviation events investigation

The bulk of the shortcomings in the investigation of aviation accidents are accounted for by the investigation of incidents, which occur much more often than aviation accidents. Among the reasons (objective and subjective) that cause shortcomings, socio-psychological ones predominate.

1. The analysis of the causes and causal relations in the development of aviation events performed during the investigation is of a general (superficial) nature, the necessary studies are not always performed, the hazards are rarely identified (due to the lack of regulatory requirements for the identification of hazards during the investigation), their manifestations chronology is not established, the degree of their influence and / or mutual influence on the development of an aviation event is not assessed [9].

Causes

- Imperfection of the regulatory framework in the field of investigation of aviation events (incidents) (SARPs are changed or supplemented with a frequency of no more than 5 years, and the RIAAI-98 document has not actually been updated for more than 20 years);
- Imperfection of the methodological and scientific and technical support for the investigation of aviation events (incidents);
- Insufficient level of competence of personnel assigned to the investigative commission;
- A conflict of interest among members of the investigative commission is possible, since, according to RIAAI-98, a representative from the airline is included in the commission for the investigation of an aviation incident [7, 8].

2. The analysis of the causes of aviation events is carried out "following a pattern", when the use of the group of causal factors "human factor" is limited to the definition of "pilot error" and / or "making an erroneous decision by the aircraft commander". In investigation reports, the "crew factor" is prevailing, which is usually understood as the personal factor of a crew member. At the same time, it is not taken into account that as a result of the evolution of ideas in the field of safety, the priority of "Organizational factors" and "Total system factors" over "HF" has become generally accepted [3, p. 2.2)]. However, when determining the causes of aviation events in investigation reports, the terms "organizational" and "total system" are generally not used.

Causes

- "Psychological ignorance and administrative aggressiveness towards the human factor" [17];
- Low professional level of the personnel appointed to the investigative commission, superficial training of the commission members on issues of the "human factor", absence of aviation psychologists in the composition of the commissions prepared for participation in investigations.

3. The subjectivity of the classification of aviation events according to their severity (up to 50% of aviation incidents occurring in small airlines are not registered, and some of the registered aviation events are underestimated in severity: serious incidents are investigated as incidents, accidents are "underestimated" and are investigated as serious incidents, ...).

Causes

- Motivation of the management of aviation enterprises to conceal aviation events and to underestimate the real severity of ongoing aviation events in the interests of "maintaining" safety indicators at the level "not worse than others", i.e. at an "acceptable" level, maintaining the image of the airline, maintaining the regularity of commercial flights (in the event of an aviation incident, the aircraft, as a rule, is stopped, and the procedures required in the aviation event are carried out with the crew, i.e. the crew does not fly), declaring a high level of safety (when the level of safety decreases, the airline is subject to unscheduled inspections by state regulatory and supervisory authorities, including the transport prosecutor's office);

- Motivation of the aviation personnel involved in the aviation event to conceal the mistakes and violations made (by them and their colleagues – due to, allegedly, the "professional culture of the safety" reasons);

- Administrative liability provided for individuals, officials and legal entities for concealing information about aviation events is much softer than the "organizational measures" (reappointment of officials) applied to the perpetrators of aviation events, including those "perpetrators" who do not always correctly identified, and sometimes even "appointed".

4. The subjectivity of determining the causes of aviation events, sometimes consisting in the "appointment of the guilty", especially when violations, errors and inconsistencies in the work of airfield operators are identified. When investigating aviation events on the border of responsibility or jurisdiction of two or more airlines or services, there is a "tug-of-war" between the real, probable and actual "owners" of the causal factors of an aviation event.

Causes

- Motivation to avoid responsibility by any means - a natural defense against troubles, including from "organizational measures";

- Decentralized management of the activities of airlines and the industry (each airline has its own SMS, which, according to SARPs, must correspond to its level of development, the specifics of the activities performed by the airline, or the specifics of the services provided by the airline within the framework of the ATS);

- The lack of a unified (common) approach to the formation of an SMS for aviation enterprises (the absence of a typical SMS even for aircraft operators), different times for the development and implementation of an SMS by airlines (airfield operators implement an SMS on average 5 years later than aircraft operators), imperfection and periodic violation of interfaces in the state (industry) SMS, i.e. violation of the principle of consistency in the process of safety management.

5. Low efficiency in the investigation of aviation incidents. With a delay in the start of an investigation, which is one of the features of commercial transportation, some hidden hazards, or hazards that have a temporary or probabilistic nature of manifestation, are difficult to identify, i.e. "withdraw", as a rule, for a while. In addition, or as a result, there are delays in the development and implementation of risk mitigation measures, thus losing relevance of risk mitigation measures due to temporary or seasonal hazards.

Causes

- Limited quantitative and qualitative composition of aviation personnel involved in the investigation of aviation events;

- Lack of motivation for the air personnel to independently promptly provide reliable available information about the causal factors, conditions and circumstances of aviation events, including information confirming or excluding the "personal factor".

6. Formalism in the development of recommendations for preventing the recurrence of aviation events, for their prevention, for the required systemic risk management, which is caused by recurring hazards. As a result: low efficiency of measures developed and implemented within the SMS.

Causes

- low professional level of aviation personnel appointed to the investigation commission (lack of specialists in system analysis and system risk management);
- limited opportunities for the depth of systemic analytical studies necessary to unambiguously determine the causal factors of an aviation event in their relationship and in the chronology of development;
- lack of regulatory requirements for mandatory identification and assessment of the degree of influence of hazards in the investigation of aviation events (the form for presenting information on hazards is not defined);
- imperfection of the methodological support of a systematic approach to the investigation of aviation events (aircraft incidents), the lack of scientific and methodological support for the process of developing and implementing recommendations to reduce the risk for safety.

Voluntary reporting systems

The imperfection of the system of mandatory reporting of information related to aviation events is aggravated by the non-representativeness of data on aviation accidents and the concealment of a part of aviation incidents. Therefore, the role of the voluntary reporting system in the information support of the SMS is increasing. Such a system, according to the international security standard IOSA, should cover all areas of the airline's activities without coercion of respondents by any means and without the use of disciplinary measures [15, ORG 3.1.5)]. To do this, an airline's SMS should have a corporate voluntary reporting policy that defines how disciplinary action should be taken, including defining areas of unacceptable behavior and conditions under which disciplinary action is not taken [15, ORG 1.2.3].

The functioning of the system of mandatory reporting of incidents in Russian civil aviation is quite clearly regulated in RIAAI-98. And the creation of a system for the presentation of voluntary reports in both commercial and state aviation in Russia remains a problem that is at the stage of development, despite the 40-year history of the development, implementation and use of voluntary reports in solving particular problems, including in the SMS of airlines.

The development of voluntary reporting programs began in the United States, where in 1975 the idea of supplementing official information about aviation events with reports on a voluntary and confidential basis first arose. At the request of the Federal Aviation Administration (FAA), NASA has begun implementing safety-focused written reporting programs. In 1976, a security bulletin was introduced, which used the principle of material interest (the most active respondents were rewarded). This channel of information disclosed and analyzed the most complex aviation events. Considerable attention was paid to feedback from the aviation community, airlines, military aviation structures, air traffic controllers and even air passengers.

In Australia, in 1976, the "Confidential Voluntary Reporting System on Prerequisites to Flight Accidents" was introduced. Since 1988, this system, in terms of structure and real tasks, has been oriented towards international information integration in the field of safety [18].

Canada's Safety Committee has taken the path of developing "confidential questionnaires". With increasing necessity, questionnaires are developed on certain problematic issues of aircraft operation in order to establish the reason for the violation of the rules and require-

ments of the safety. According to the identified deficiencies, reports are compiled, which are based on reports of aviation accidents and incidents [20]. It is not the task of the Canadian Safety Committee to identify the true or concomitant causes of erroneous actions by the crew or to determine responsibility for aviation events. Only the dynamics of the emergence and development of the situation in flight or the manifestation of a specific hazard is described. Aviation information databases in Canada store only anonymized reports about aviation events. At the same time, the questionnaire (on information carriers) does not indicate identification features that would allow, directly or indirectly, to establish the identity of the author of the reports. No one has the right to use an anonymous profile against its author in court or in any other legal action.

In England, guarantees are provided that voluntary reports will not be used to identify the perpetrators [18]. In 1982 a confidential reporting system for flight crew members was introduced. Each report is analyzed by a group of experts. If the report does not require clarification, the fact of its receipt is confirmed by the return to the author of the part of the report form that contains information for identifying the person. If any aspects of the report require clarification or clarification, contact with the author by phone is provided. The information received from the reports is entered into the newsletter. The Civil Aviation Authority has agreed that in cases where a report of violation of directives and regulations is received from any third party, legal proceedings will not be initiated if:

- Violation does not contain corpus delicti;
- The person involved in the violation submitted a full confidential report within 10 days of the event;
- The violation is directly related to the reported event that occurred under the influence of the "human factor".

The English voluntary reporting system does not replace but complements the mandatory reporting system on aircraft events.

The world aviation community has registered state databases of confidential reporting systems for safety reports in the USA, Canada, England, Australia, New Zealand, Germany, and Belgium.

In domestic aviation, work on the creation of a system of voluntary reporting began in the mid-80s of the previous century. Practical activities for the collection and processing of confidential reports in civil aviation began at the State Scientific Research Institute of Civil Aviation (GosNII GA), in military aviation - at the Air Defense Aviation Training and Retraining Center and at the Central Inspectorate of Air Force Safety. However, the initiative has not pursued due to organizational reasons, due to the imperfection of the means of collecting information, the lack of rational options for questionnaires, and the loss of interest in the problem on the part of departmental leaders. The main reason for the failed attempt to introduce a system of voluntary reporting in domestic aviation in the 80s is the social unpreparedness of the aviation community and state aviation structures during the "perestroika" period. The idea of obtaining confidential voluntary information in order to increase the level of safety was periodically implemented in some regions and in certain airlines (airlines).

The organization of the collection and analysis of voluntary reports on safety in domestic aviation was put on a regular basis in 1991 by a joint decision of the Flight Safety Foundation and the State Scientific Research Testing Institute (SSRTI) of Aviation and Space Medicine of the Ministry of Defense of the Russian Federation. In 1992, on the basis of the SSRTI, the Center for Voluntary Reporting on safety was established [19, p.32]. Over the five years of activity, several hundred reports have been received, ten issues of the newsletter have been prepared, but it was not possible to solve the problem of bringing information to users due to lack of funding.

Nevertheless, world and Russian experience shows that voluntary confidential informing programs are important additional sources of knowledge about the true state of the operated ATS (about aviation events, the causes and patterns of their development, about the hazards that influenced the development and contributed to the development of aviation events) allow more promptly develop and more effectively implement measures to prevent accidents.

Recognizing the low efficiency of the system of voluntary reports in Russia, the most common explanation for the reasons for the practical absence of a state system of voluntary reports should be given - the features of the "Russian mentality" [20], which, allegedly, are not characteristic of:

- Personal confessions about hidden events (hazard factors);
- Any "denunciation" of employees or colleagues (but pity and sympathy for the perpetrators are characteristic).

An analysis of the experience gained in the global aviation industry and in domestic civil aviation makes it possible to form and systematize the main provisions of an effective corporate system of voluntary reporting (work is underway to create a state system of voluntary reporting, but its implementation is unlikely in the near future).

Objectives of the corporate system of voluntary reporting [5]:

- Facilitating the prompt collection and systematization of information on actual or potential shortcomings in the provision of safety in the airline, which are not always recorded within the framework of the mandatory data submission system;
- Identification of sources of danger and risk factors, identification, analysis and assessment of risks for safety, information about which is contained in voluntary reports on safety;
- Development of measures to influence the risks associated with the manifestation of sources of danger identified from voluntary reports;
- Promptly informing the airline's management about the identified sources of danger.

Principles for the formation of a corporate system of voluntary reporting

The achievement of the effectiveness of any system of voluntary reporting is facilitated by the implementation of the scientific principles of its formation [16,21].

The principle of confidentiality is the protection of information from the identification of the respondent, ensuring the non-punitive nature of the functioning of the voluntary reporting system as part of the SMS.

Confidentiality is achieved by depersonalizing reports, i.e., refusal to register any information identifying a specific event (specific flight), and according to it, the respondent. Confidential voluntary reporting helps uncover employee errors or misconduct without the threat of punishment or embarrassment and provides an opportunity for all aviation personnel to learn from previous personal misconduct or misconduct.

The report may be *anonymous*, which is not identical to confidential. The successful functioning of the system of voluntary reporting is facilitated by the possibility of a " call back" in order to obtain confirmation (clarification) of some details or circumstances. Anonymous submission of information makes it impossible to "call back" to ensure that the completeness of the information provided is understood. In addition, there is a risk that anonymous reports may be used for purposes other than safety.

The principle of trust - respondents must have a guarantee that any information will not be used, even indirectly, against them.

In practice, aviation specialists are the first to discover hazards in the course of their professional activities. Therefore, the timeliness of the identification of hazards, the promptness of the development and implementation of measures to minimize the risk to safety de-

pends on the aviation personnel. In addition, the personnel is the bearer of information about the mistakes or violations made (first of all, their own), as well as about officially unregistered aviation events (including those not subject to registration in the system of mandatory reports) or about hidden events. Bringing information directly to management allows you to determine the causes of errors or violations and develop effective preventive measures. It is clear that an aviation specialist who is exposed to a climate of fear of punishment for a mistake or violation, including one provoked in some way [20], will not report any hazard factors. Therefore, a necessary condition for the successful operation of the voluntary reporting system is the existence of a positive safety culture in the organization, which generates the confidence of all aviation personnel in the voluntary reporting system. Safety culture**,** as the totality of values, beliefs, and behavioral habits inherent in personnel and reflecting the airline's security policy [3, 5] must be tolerant and fair to the mistakes of air personnel. The problem of safety culture and its development deserves separate consideration.

In accordance with the signs of a positive organizational culture of the safety, in the interests of the effective functioning of the voluntary reporting system, a fair working environment should be introduced in each airline, as a working atmosphere in which personnel are ready to report errors (their own and colleagues) and about the experience of correcting them. At the same time, the staff must be absolutely sure that undeserved punishment will not follow under any circumstances. The successful implementation of such an environment in an airline depends on the commitment of the manager [21].

Unlike the "non-punitive climate" that ICAO declared until 2018, a fair working environment is not synonymous with permissiveness and irresponsibility or a complete rejection of punishment. It only guarantees their reasonable and fair application. *When an erroneous action is performed, the employee is not punished. Punitive practices apply only to employees who deliberately commit violations, but not to the ones who make mistakes for one reason or another* (usually due to under-education).

Each employee must understand that the violation committed by him will not receive support from colleagues and managers, but, on the contrary, will be subjected to condemnation and a fair assessment, followed by the application of administrative measures.

The principle of simplicity

The reporting form should be easily accessible, simple to fill out, have a sufficient field for describing the hazards.

The reporting process should be well-documented, containing detailed information on what, where, when and how it is possible to report identified inconsistencies in the provision of safety. The form of the report should include the opportunity to suggest corrective actions and list other factors that merit the analyst's attention.

The feedback principle provides for the systematic provision of information and analysis to the aviation community on the identified hazards and on the adoption of measures to eliminate or minimize their impact.

Confirmation principle is implemented when the respondent indicates his return address in the form of a confirmation returned to him about the receipt of information and an expression of appreciation for valuable information, since the informing person expects a response information about the actions taken in connection with the information provided by him.

The principle of stimulating and maintaining the authority of the voluntary reporting system

It should be taken into account that a reward for voluntary reporting may change the motive for reporting from concern about safety to an interest in receiving a "fee". Then the significance of the reports is lost, and in some cases the reliability of the information is also reduced. The experience of expert analysis of the level of safety in airlines has shown that the most active authors of voluntary reports, being selected to the group of experts for predicting the level of safety, ensured the greatest convergence of individual forecasts with actual indicators of the level of safety [22].

World and domestic experience in the development, implementation and improvement of SMS indicates that voluntary information systems of any level (both state and corporate) are important additional sources of knowledge about the causes and patterns of aviation events, they allow you to develop more effective and early preventive measures as part of the SMS of aviation enterprises.

Reasons for concealing information about hazards and aviation events and ways to overcome them

General socio-psychological reasons for concealing (not providing) information about hazards and aviation events occurring at airlines

1. The socio-cultural crisis of aviation enterprises as a result of the spontaneous transition of civil aviation from state regulation to market relations.
2. Low level of organizational and professional culture of flight safety in the aviation industry and at individual airlines.
3. Imperfection of the legal and scientific and methodological support of the process of investigating aviation incidents in commercial aviation.
4. Lack of organizational and psychological support for the procedures for systemic management of the level of safety.
5. Motivation of personnel of airlines involved in aviation events to conceal information about these events and about identified hazards.
6. Preservation or formation of the "ostrich effect" among some managers, when the airline management prefers to "ignore" problems that it cannot solve, or does not want to solve in order to save the required resources. "Ostrich Effect" is common among senior managers and owners of small and medium-sized airlines with low profitability, it is exacerbated when airlines operate in crisis and pre-crisis conditions.
7. Superficial training of heads of aviation enterprises and aviation personnel in the field of the human factor and systemic management of the level of flight safety.
8. Insufficient professional level of personnel involved in the investigation of aviation events, the analysis of their causes, the identification of hazards, the assessment and regulation of the risk to flight safety in civil aviation.

The practice of organizational, psychological and pedagogical regulation of the information support of the SMS on the example of the UTair Group:

1. In the context of limited powers to improve the state regulatory and legal framework, airlines design and develop corporate regulatory and methodological support for SMS that complies with SARPs and IOSA safety standards.
2. The process of investigation (participation in investigations conducted by state regulatory bodies) and additional investigation of aviation events in the airline is developed, documented, methodically provided and implemented. At the same time, as part of the SMS, airlines are putting into practice:
    - Actions of the airline personnel in case of suspicion of an aviation event;
    - Registration of a dissenting opinion of a member of the commission appointed from the airline (if there are disagreements on the causes of the aviation event and on the hazards that influenced its development);

- In case of a superficial analysis of an aviation event, an additional (internal) investigation is appointed in the official investigation report in order to analyze the event and the dynamics of its development in more depth, identify hazards, and identify the "weak" (most unsafe) component in the operating ATS;
- Factor analysis, operational development and implementation of managerial and technical actions aimed at reducing risk in the "weak" components of the ATS;
- Anticipation and/or addition of recommendations contained in official reports on the investigation of aviation events;
- Increase in the number of events under investigation in excess of the list of aviation events subject to mandatory investigation in accordance with regulatory documents.

3. Appointment of non-staff experts and investigators (researchers) from among the most competent and experienced specialists in the areas of the airline's activities. If the data on aviation events is not representative, an expert analysis of the dynamics of the safety level is organized, hazards are identified, and the risks caused by them are subjected to group expert assessment and regulation before the onset of aviation events.

4. Maintaining the corporate information system of the SMS of the group of companies, which was created to collect, process and store information about all investigated and investigated events, including the results of an additional analysis.

5. Organization of internal, differentiated by categories of personnel, training in the field of SMS according to the program, including the topics: "Investigation of aviation events", "Voluntary reporting system", "Risk management", "Flight safety culture", etc. [21].

6. Special in-house training on SMS and airline safety culture is conducted with senior management.

Conclusion

World and domestic experience show that effective systems of mandatory and voluntary reports, both at the state and corporate levels, are important sources of knowledge about the causes and patterns of development of aviation accidents, about the operating conditions of ATS, about hazards and factors for preventing aviation events. The establishment of a system of voluntary reports and the formation of a group of experts in the field of safety management contribute to the implementation of the most progressive predictive safety level management method, ensuring the early development and implementation of effective preventive measures within the SMS of aviation enterprises.

The effective functioning of the voluntary reporting system is ensured at the corporate level, bearing in mind that aviation personnel are not usually motivated to report any hazards. This is especially true in cases where the report contains information about their own mistakes or violations. An important aspect to overcome the reluctance to report data and provide a working environment for reporting data on safety is the application of the above scientific principles.

In addition to information about the hazards, causes and prerequisites for the development of aviation events, the voluntary reporting system provides an opportunity to obtain extremely important information about the facts of the positive impact of the human factor on safety, first of all, about the successful experience of overcoming difficult, emergency and even catastrophic situations. The updated database of accident prevention factors brings closer the practical implementation of the accident prevention methodology through preventive risk management in upcoming flights.

Thus, despite the fact that the problem of information support for the flight safety management process in Russia really exists, this problem can be solved at the level of airlines and groups of companies, as the experience of developing, implementing and improving the SMS of a number of Russian IATA member airlines shows. However, the problem remains at the level of other aviation service providers, especially airfield operators. The most acceptable way to solve the problem is the element-by-element integration of the SMS of service providers with the previously developed SMS of the leading Russian airlines. And the first step should be the integration of the information support of the SMS.

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