5. PART TWO: QUANTITATIVE ANALYSIS OF CISM-ACCEPTANCE AND EVALUATION

The acceptance study's presentation is determined by the course of its development. It stringently follows from the results of the qualtitative study, and neither its extent nor its ultimate implementation were planned at the beginning of the study. Along with the acquisition of collaborators, successive questionnaires and ways of carrying out the survey were planned and implemented. In this process, it was kept in mind that various studies in the context of business health management indicate that an emphasis on the process aspect of the TQM approaches (cf. Krainski, 2010, Zink, 2004, Pfaff, 2001, Simon, 2001) brings more appropriate results than concentrating on the quality of results of traditional provenance. In view of the collaborator's conditions, the criteria of "higher acceptance" and "employee-determined evaluation" became decisive (cf. Breucker, 2001). Thus a tool for questioning was developed that takes into consideration the interests of various stakeholders, that inititiates a process of evaluation with a view to participation, and that can be used economically. All participating developers were aware of the fact that in this process not only information specific to CISM was being gathered, but rather - especially through a high level of integration in the survey process - impulses were intentionally given within the total organization; thus e.g. areas such as social responsibility and managerial welfare are addressed (cf. Lipsey, 1993, as well as European Network Workplace Promotion (ENWHP), 2001, 3-4). So the theory was guided by the basic idea of a formative evaluation which "examines… the effectiveness of an intervention", (Bortz & Döhring, 1995: 107) in contrast to its summative evaluation, the goal of which would be more to examine hypotheses "(quasi-) experimentally" (cf. Pfaff, 2001). In the course of the study, a consistent survey process over several months and its following statistic evaluation came about.

5.1. Collaborators

In order to reach a sufficiently extensive totality for a survey, collaboration with some of the approximately 350 European airlines was discussed already early on. An acquisition phase of about six months could be concluded with an oral agreement as to the project's goals and ways of proceding. During its entire course there was close coordination, the task of which was to mediate the partly diverging interests in the triangle airline, scientific study, and third-party funders. Ultimately, the project could be concluded with the following documented result from a basic total of n=568.

5.2. Development of the Survey “Factors of CISM Questionnaire“ (FACIQ)

The questionnaire was constructed first of all together with representatives of the cooperating airline in a process lasting several weeks. Previously determined "directions for questioning" (cf. chapter 4.4.) were put together in a first draft in respective subtests, in order to analyze the quality of the individual questions according to the process of the classical test theory (cf. Lord, Nowick, & Birnbaum, 1968). The qualitative part of the study in chapter 3 is to be understood as the "theoretical groundwork and empirically oriented step in the development […]" (Kallus, 2010: 23). Its conclusions in Chapter 4 were the basis for constructing the questionnaire, and at the same time they specify the areas featured. For the question regarding the answer scales, it was decided to use the widely established seven-step Likert-Scales process (cf. Likert, 1932). In the shaping of a scale of agreement (cf. Porst, 2009), this offers a balanced middle way between a sufficient possibility of differentiation and manageability during the work process, a coordinating possibility between -3 ("I strongly disagree") and +3 ("I strongly agree"), with the option of zero ("neither – nor") for presenting ambiguities (rejection/agreement), as well as direct judgments and evaluations. According to the premise of almost even distribution, the items were randomly mixed (Bühner, 2011: 129f., Kallus, 2010: 80f.). A feedback from persons participating in the experiment was incorporated. Thus the questionnaire introduced in chapter 7.2. could finally be presented to the persons questioned in a version fixed by common accord. It contains 60 questions that can be handled entirely in about ten to fifteen minutes. Contrary to the original idea of multiple languages with at least three languages[380], it was finally decided to use only the English version for the sake of the contents’ clarity. The exclusively English text of the questionnaire suggested from this point on was given to be overworked by persons whose first language is English.

After an extensive introduction with the personal signatures of the responsible experts and an offer of contact for ongoing questions, the questionnaire contains an anonymized survey of personal items that can be classified as essential influencing factors in answering the actual questionnaire, and that at the same time maintain the anonymity of the persons responding: gender, age, nationality, seniority with the current employer, initial flying education (civil or military), current work and position (check-captain, captain, first officer, cabin personnel), time when and medium by which the person questioned last heard of CISM, and finally the question, whether the employee him- or herself has already made use of CISM, together with an assessment of the extent to which its use was experienced as appropriate.

[380] As a signal of accomodation for the people responding, English, French, and German were considered.

The wording of the various directions of questions were put together in the following four subtests. The numerical identification of the items already corresponds with their position in the concluding order fixed in the questionnaire.

Subtest 01: knowledge about CISM

01) I can explain what CISM is about.
19) My colleagues seem to know well what CISM is about.
41) Asking my colleagues most of them are informed about how CISM works.
47) I know in general what the purpose of CISM is.

Subtest 02: confidence in competence

14) I consider the CISM team competent.
20) The CISM team is up to the task of providing CISM support.
21) The CISM team is trustworthy.
28) I think that the CISM team is knowledgeable to provide CISM support in a professional manner.
34inv) I have doubts regarding the competence of CISM team.
44) The CISM team is trained to provide the support needed after a distressful event.

Subtest 03: reticence of information

13) All contacts with the CISM team will remain confidential.
29) Everything that I say to a CISM peer remains confidential.
37inv) If I ever request CISM support, somehow people will find out.
59inv) I am concerned that anything confidential I discuss with the CISM team may leak.

Subtest 04: recommendation to concerned persons

04) Talking to a colleague can be helpful dealing with distressing events.
12) I would recommend CISM to a colleague.
23) All good employers in the aviation industry should make CISM support available.
43inv) CISM is the invention of psychologists. There is actually no real need for it.
51) I can imagine examples in which I would recommend a colleague to request CISM support.
57) If I saw someone who had gone through an distressing situation, I would advise them to seek CISM support.

After evaluating the first subsample, further planned subtests proved to be untenable due to a lack of statistic correlations.

These further thematic areas could not be constructed as subtests because of only indirectly existing connections. Consequently, in order to favor a manageable length of questionnaire, reliable subtests had to be renounced in the following five thematic areas. In what follows, the thematic areas are called *threads* for the sake of scientific differentiation. Nevertheless, the corresponding different evaluations could be expected to contain enlightening information.

The goal of the first item formulations are the criteria *internal/external* (taking up contact after an incident, preferably with a person within one's own company, or preferably outside of it), *formal/informal* (taking up contact after an incident in a setting of formal work surroundings or rather outside of this), and finally, seeking such contact acccording to the expert qualification criterion (e.g. professional medical / psychosocial / flying), or because of a relationship (e.g. degree of acquaintance / personal closeness / friendship connection).[381] In order to avoid asking each time about the various aspects in an individual subtest, which would take a lot of time and be too detailed, the items were formulated as an alternative. The result of this way of proceding is, however, that no correlations can come about in the complex of questions: "The person who is most likely to decide in favor of one of the contact persons offered, will precisely not decide in favor of alternative offers."

Thread 05: Points of contact / Preferred contact persons with the emphases

- *Professional Qualification:*

32) I talk to my doctor about situations that I find distressing.

45) Talking to a psychologist would be my first choice if I had been in a distressing situation.

04) Talking to a colleague can be helpful dealing with distressing events.[382]

38) After a distressing situation I will contact the CISM team.

- *Hierarchy:*

26) After a situation that I find distressing I usually talk to my chief pilot.

40) After experiencing a distressing situation I prefer talking to a colleague of equal rank.

48) If I wished to discuss an upsetting situation, I would contact more experienced colleagues.

[381] I.e. "functional or personally related - e.g. medical/mental health- or flight professionals versus beloved or friends."
[382] Cf. also subtest 03.

- *Relationship:*

36) I usually talk to a family member about distressing situations.

54) After a distressing experience I usually talk to a friend.

- *Internal / External:*

02) If something upsets me, I would prefer talking to someone who has nothing to do with my company at all.

08) Colleagues of my own company are particularly suitable to deal with confidential conversations.

52) I would prefer to talk to a colleague from my current employer about a difficult situation that I experienced.

Further items thematize self-assessments in view of one's own experience of control and the evaluation of emotions in the work surroundings. In the qualitative study's work, the following factors were assumed to be just as essentially influential: questions as regards the gender role, nationality, experienced company, and educational culture (civil/military). The aspect of perceived support - independently of actually having recourse to it - came through a reference from expert circles and corresponding indications in literature (cf. Chaper 5.4.2.3.3.) in the canon "subjective feeling for resilience".

Thread 06: Sense of self-control, as well as relevance of emotions at work enviroment:

03) I believe that - generally speaking - "I make my own luck."

15) There are many things in my life which are out of my personal control.

22) Management should focus on company goals. Emotions shouldn't be part of that.

35) The relationship between me and my company is purely functional. Emotions should take no part in it.

Thread 07: Subjective feeling for resilience with the emphases:

- *National Identity:*

11) I consider that people of my nationality are more open-minded towards CISM than others.

16) The availability of CISM support in my company is an important flight safety factor.

24) I think that people of my nationality are less susceptible to emotional stress.

- *Company Culture Enviroment:*

46) The atmosphere at my company makes it easy to request CISM support.

55) At my current employer, crews are a bit more robust when dealing with distressing events than people at other aviation companies.

- *Perceived Support:*

16) The availability of CISM support in my company is an important flight safety factor.

49) The availability of CISM support makes me feel supported at work.

- *Initial Training: Civil or Military:*

39) You are more resilient in distressing situations if you were in the military.

Thread 08: Gender:

25) Male colleagues in particular should learn how to deal with their feelings.

30) CISM is more appropriate for female colleagues.

Finally, the items that were in the cooperating airline's interest are summed up in a last thematic spectrum. To these belong aspects of attributing responsibility for the crews' ability to work and open questions regarding alternatives to the CISM setting and its appropriate strategy of offers, as well as feedback on the previous practice in training.

Thread 09: Special Interest Airline / Particular questions from the Collaborator with the emphases:

- *CISM-Offering active or passive:*

10) I would only ask for CISM support if no other help is available.

42) I would only make use of CISM support if it was actively offered to me by the company.

53) I would take the initiative to request CISM support, should I feel the need to talk after experiencing a distressing event.

- *Duty of care for well-being:*

18) I expect my company to support the CISM program.

33) It is the Captain's duty to care for the well-being of the team.

50) It is the duty of management to care for the well-being of the crew.

- *Alternate Settings:*

06) When I am upset, I prefer discussing it outside of work over a coffee or beer.

07) The operational debriefing is valuable after a distressful event.

17) After a distressing event, an operational debriefing is the first action to do.

- *CISM-Presentations comprehensible:*

31) The past presentations on CISM made the benefits of CISM clear to me.

5.3. Questioning

5.3.1. Organisation of Questioning and its Return

The essential criterion in determining the procedure was the dominant significance of confidentiality as regards all data. In chapter 5.3.2, this aspect will be specifically discussed, and it proves to be all the more important because of the collaborators' existing seminar format, already familiar to many employees, which could be used for situating and implementing the survey. Within the frame of the entire firm's ongoing formation on health and flight safety issues, participation in the FACIQuestionnaire was offered both in a way that motivated and that was optional. Processing the questionnaire took place during the seminar so that questions could be asked and answered immediately, and a well-founded decision regarding participation could be made directly. Under these conditions, 560 out of 568 employees addressed decided to take part, which corresponds with an extraordinarily high return of 98.59%. In the course of an entire year, a high percentage of all employees could thus be motivated to participate in the study. Twelve of the persons questioned made use of the explicitly offered specific mail address in order to be informed of the study results.

5.3.2. Ensuring Anonymization

From the beginning, the confidential handling of the data was of highest importance to the collaborators. The results of the qualitative study (cf. chapter 4.1.11 and 4.1.15) were important in confirming this assessment. In view of divulging personal data and individual assessments of the persons working with the questionnaire, it was urgently necessary to guarantee confidentiality and the anonymization connected with this in relation to employers' representatives. Not only the motivation to cooperate, but also the CISM offer's reputation, in fact all efforts on the part of the health management in the business would depend on the credible discrete handling of data. Reservations as to an uncontrolled decryption in online work on the questionnaire were countered by using a printed version of the questionnaire. Work on this took place in the course setting, and after filling them out, the anonymously handled questionnaires were put in an envelope in the sight of everyone; the envelope was sealed so as to be sent to the study's leadership through the conventional postal service. The digitalization of the results by hand through employees of the Graz University's psychology faculty broadened the separation between the concrete questionnaire and the individuals who had filled it out. In view of the possibilitiy of drawing conclusions from the unique combination of data, the strictly confidential dealing with the raw data also ensured discretion regarding personal specifications in the questionnaires.

5.3.3. Biographical Data in the Overall Sample

Of the 568 records, 560 could be used for the statistical analysis. They contain specifications of 85.8% male and 14.2% female employees. The average age of the men was 45.37 years (SD = 5.91), that of the women 40.12 years (SD = 5.11). From this follows for the overall sample an average age of 44.65 years (SD = 6.08).

The sample as a whole shows a high variance in nationality. Here are represented 8.6% of employees from Scandinavia (4.5% Danish, 0.7% Finnish, 0.2% Norwegian, 3.2% Swedish); 26.8% of employees from the British Isles (25.3% British, 1.5% Irish); 50.2% from Central Europe (0.9% Austrian, 5.0% Belgian, 8.8% French, 13.6% German, 17.1% Netherlands, 4.8% Swiss); 9.3% of employees from the Iberian Peninsula (5.8% Portuguese, 3.5% Spanish); and 3.4% Southern Europeans (0.2% Greek, 3.0% Italian, 0.2% Maltese); as well as 0.6% of persons from former Eastern European countries (0.4% Czech, 0.2% Hungarian); and 1.7% of employees from overseas.

5.3.4. Work related Data in the Overall Sample

The employees' average time of service working for the current employer ("For how long have you been employed by your current employer?") was 9.49 years (SD = 6.1).

For 71.7% of the persons questioned, the initial training in flying took place in a school for civil flying, and for 28.3% in a military context.

The persons questioned were exclusively flying personnel. At the time of answering the questionnaire, 7.0% of the employees were in the cockpit as instructors, 47.5% as captains, and 33.5% as first officers; 12.0% of the persons belonged to the cabin crew.

5.3.5. CISM related Data in the Overall Sample

Looking at personal experiences of CISM, 90.6% of the persons questioned said that they last had contact with the topic through firm-internal CISM seminars, 5.5% of those questioned had last heard of it through colleagues, and 3.9% through other media. Only a few of the records gave insight into the previous use of CISM ("Have you ever requested CISM support?"): 0.2%: Yes, before joining my actual company; 1.4%: Yes, in this company; 98.4%: Never. In cases where CISM had already been experienced, finally, when asked for a general assessment (*"If yes, CISM was a suitable support for me."*), no answer was given.

The compilation of data, comparing between the overall sample, part of the sample, and cross validation shows no significant divergences between them; they can thus be seen as comparable.

All specifications in %	**Overall Sample**	**First part of sample**	**Cross-validation of sample**
Gender			
male	14,2	15,1	14,0
female	85,8	84,9	86,0
Alter	**42,75**	**42,32**	**42,92**
Age *male*	45,37 (*SD=5,91*)	45,18 (*SD=5,77*)	45,42 (*SD=5,79*)
Age *female*	40,12 (*SD=5,11*)	39,45 (*SD=4,59*)	40,42 (*SD=4,45*)
Nationality			
Skandinavian	**8,6**	**9,3**	**9,9**
Danish	*4,5*	*4,5*	*4,8*
Finnish	*0,7*	*0,7*	*0,7*
Norwegian	*0,2*	*0,4*	*0,4*
Swedish	*3,2*	*3,7*	*4,0*
British Isles	**26,8**	**26,0**	**29,8**
British	*25,3*	*24,9*	*28,3*
Irish	*1,5*	*1,1*	*1,5*
Central Europe	**50,2**	**50,9**	**43,8**
Austrian	*0,9*	*1,1*	*1,5*
Belgian	*5,0*	*3,7*	*4,8*
Dutch	*17,1*	*16,4*	*18,4*
French	*8,8*	*10,8*	*3,3*
German	*13,6*	*12,6*	*12,5*
Swiss	*4,8*	*6,3*	*3,3*
Iberian Peninsula	**9,3**	**9,6**	**8,1**
Portugese	*5,8*	*7,4*	*5,5*
Spanish	*3,5*	*2,2*	*2,6*
Southern Europe	**3,4**	**3,4**	**2,6**
Greek	*0,2*	*0,4*	*0,0*
Italian	*3,0*	*2,6*	*2,2*
Maltese	*0,2*	*0,4*	*0,4*
Former Eastern Europe	**0,6**	**0,8**	**0,7**
Czech	*0,2*	*0,4*	*0,7*
Hungarian	*0,4*	*0,4*	*0,0*
Overseas	**1,7**	**0,0**	**0,0**
Seniority	9,49 (*SD=2,49*)	9,52 (*SD=2,57*)	9,71 (*SD=2,39*)
initial flight training: civil	*71,7*	*71,8*	*70,6*
init. flight train.: military	*28,3*	*28,2*	*29,4*
Position			
Instructor	*7,0*	*7,5*	*8,2*
Captain	*47,4*	*45,9*	*48,0*
First officer	*33,6*	*33,0*	*31,3*
Cabin crew	*12,0*	*13,6*	*12,5*
Learned about CISM	90,9	90,4	90,4
in CISM Seminar	*5,5*	*6,4*	*6,1*
from colleagues	*1,5*	*1,4*	*1,4*
(other) meida	*2,1*	*1,8*	*2,1*

Table 16: Nationality Overall Sample