Abstract. The present level of technological advancement in 4.0 business and industry revolution has required the professional secretaries to adapt their knowledge/skills/work style in line with these technological explosions in records creation/management/processing/storage as well as the record maintenance and retrieval. The objective of the study is to find out the industry requirements of the secretarial profession in order to align them with the curriculum and classroom training of the secretarial students. The 39 criteria of 4.0 industrial revolution characteristics of “knowledge, skills, and work-styles attitude” in form of a questionnaire was distributed to 38 samples of executives. Quantitative as well as qualitative methods and descriptive analysis were used to analyze the data. The result shows that the most important aspect of an office secretarial competency is attitude (M=4.50; SD=0.77), followed by skill (M=4.44; SD=0.83), knowledge (M=4.14; SD=0.90). The study recommends that the development of secretarial professional education must be based on correctly handle the relationship between theoretical classroom teaching, practical office training with the emphasizes on systematically incorporate the 4.0 professional attitude with the skills and knowledge as proposed by industries.

Abstrak. Tingkat kemajuan teknologi dalam revolusi bisnis dan industri 4.0 saat ini menuntut para sekretaris profesi untuk menyesuaikan pengetahuan/keterampilan/gaya kerja mereka sejalan dengan ledakan teknologi dalam penciptaan/pengelolaan/pemrosesan/penyimpanan arsip serta pemeliharaan arsip dan pengambilan. Tujuan dari penelitian ini adalah untuk mengetahui persyaratan industri dari profesi kesekretariatan agar sesuai dengan kurikulum dan pelatihan kelas mahasiswa kesekretariatan. 39 kriteria karakteristik revolusi industri 4.0 “pengetahuan, keterampilan, dan sikap gaya kerja” dalam bentuk kuesioner dibagikan kepada 38 sampel eksekutif. Metode kuantitatif serta kualitatif dan analisis deskriptif digunakan untuk menganalisis data. Hasil penelitian menunjukkan bahwa aspek kompetensi kesekretariatan yang paling penting adalah sikap (M=4,50; SD=0,77), diikuti keterampilan (M=4,44; SD=0,83), pengetahuan (M=4,14; SD=0,90). Kajian ini merekomendasikan bahwa pengembangan pendidikan profesi kesekretariatan harus didasarkan pada penanganan yang benar hubungan antara pengajaran di kelas teoritis, pelatihan kantor praktis dengan penekanan pada sistematis menggabungkan sikap profesional 4.0 dengan keterampilan dan pengetahuan seperti yang diusulkan oleh industri.
INTRODUCTION

In the present era of disruptive industrial revolution 4.0, the level of technological advancement and the scope of work of top-level executive have been continually changing in an accelerating pace. Consequently, adjustments are needed for the professional secretaries with their responsibility of assisting the executives in conducting of their roles and functions to be in line with the knowledge/skills/work styles attitude characterized by technological explosions in records creation, records management, records processing, record storage, record maintenance and retrieval (Xu, 2020).

The researchers take a look at the role of secretarial science lecturers – the trainers of the professional secretaries from the classroom point of view. The roles of office management lecturers were extensively emphasized in nurturing, injecting, polishing, mentoring and building necessary knowledge, skills and work styles attitude required for an executive secretary that would bridge the gap between the classrooms and industries.

ASMIK secretarial program is a course of study where the students are exposed to the acquisition of vocational/technical skills in office and management as well as work competencies emphasizes on the virtue of the SDA work and life values.

The current ASMIK curriculum as reviewed in 2014 by BAN-PT acting on behalf of Indonesian Department of Higher Education and the Adventist Accreditation Agency of the Seventh Day Adventist (SDA) Church, lays much emphasis on followings:
(a) Special area which includes secretarial studies, technique in office management and control (b) Information and communication technology application which includes computer application, podcast and YouTube broadcast, foreign languages and (c) General education relating to SDA philosophy and concept of work and life studies.

The objective of this research work is to find out the needed knowledge, skills and work styles attitude as perceived by the industry and square up ASMIK curriculum and classroom learning as well as the roles of ASMIK lecturers in nurturing, injecting, polishing, mentoring and building the students competencies to cope with the industry requirements.

LITERATURE REVIEWS

Knowledge, Skills and Attitude

A job as a Corporate Secretary fall under the broader career category of Executive Secretaries and Executive Administrative Assistants. Job Description for Executive Secretaries and Executive Administrative Assistants are formulated as follows:
(a) Performing routine administrative functions such as preparing correspondence, receiving visitors, arranging conference calls, and scheduling meetings.
(b) Handling information requests and preparing reports.
(c) Train and supervise lower-level clerical staff.
(d) Provide high-level administrative support by conducting research and
(e) Preparing statistical reports.
Furthermore, the following required knowledge, skills and attitude are formulated as the requirement for the secretarial profession in the 4.0 industrial revolution (Adebiyi, 2018; Dansieh, 2021; Mesquita, Oliveira & Sequeira, 2019; https://www.mymajors.com/career/corporate-secretary/skills):

**Knowledge**

Clerical - Knowledge of administrative and clerical procedures and systems such as word processing, managing files and records, stenography and transcription, designing forms, and other office procedures and terminology.

English Language - Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.

Customer and Personal Service - Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.

Computers and Electronics - Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.

Administration and Management - Knowledge of business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources.

Personnel and Human Resources - Knowledge of principles and procedures for personnel recruitment, selection, training, compensation and benefits, labor relations and negotiation, and personnel information systems.

Communications and Media - Knowledge of media production, communication, and dissemination techniques and methods. This includes alternative ways to inform and entertain via written, oral, and visual media.

Mathematics - Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.

**Skills**

Reading Comprehension - Understanding written sentences and paragraphs in work related documents.

Active Listening - Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
Speaking - Talking to others to convey information effectively.

Writing - Communicating effectively in writing as appropriate for the needs of the audience.

Service Orientation - Actively looking for ways to help people.

Coordination - Adjusting actions in relation to others' actions.

Critical Thinking - Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

Social Perceptiveness - Being aware of others' reactions and understanding why they react as they do.

Time Management - Managing one's own time and the time of others.

Monitoring - Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.

Active Learning - Understanding the implications of new information for both current and future problem-solving and decision-making.

Judgment and Decision Making - Considering the relative costs and benefits of potential actions to choose the most appropriate one.

Negotiation - Bringing others together and trying to reconcile differences.

Instructing - Teaching others how to do something.

Persuasion - Persuading others to change their minds or behavior.

Complex Problem Solving - Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.

Learning Strategies - Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.

Mathematics - Using mathematics to solve problems.

Systems Analysis - Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.

Systems Evaluation - Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.
Attitude

Attention to Detail - Job requires being careful about detail and thorough in completing work tasks.

Integrity - Job requires being honest and ethical.

Dependability - Job requires being reliable, responsible, and dependable, and fulfilling obligations.

Cooperation - Job requires being pleasant with others on the job and displaying a good-natured, cooperative attitude.

Adaptability/Flexibility - Job requires being open to change (positive or negative) and to considerable variety in the workplace.

Concern for Others - Job requires being sensitive to others' needs and feelings and being understanding and helpful on the job.

Self-Control - Job requires maintaining composure, keeping emotions in check, controlling anger, and avoiding aggressive behavior, even in very difficult situations.

Initiative - Job requires a willingness to take on responsibilities and challenges.

Independence - Job requires developing one's own ways of doing things, guiding oneself with little or no supervision, and depending on oneself to get things done.

Persistence - Job requires persistence in the face of obstacles.

Social Orientation - Job requires preferring to work with others rather than alone, and being personally connected with others on the job.

Stress Tolerance - Job requires accepting criticism and dealing calmly and effectively with high stress situations.

Achievement/Effort - Job requires establishing and maintaining personally challenging achievement goals and exerting effort toward mastering tasks.

Leadership - Job requires a willingness to lead, take charge, and offer opinions and direction.

Analytical Thinking - Job requires analyzing information and using logic to address work-related issues and problems.
Innovation - Job requires creativity and alternative thinking to develop new ideas for and answers to work-related problems.

**METHODS**

Quantitative as well as qualitative methods were used for the study. A questionnaire was formulated based on the above criteria for “Knowledge, Skills, and Work-styles attitude” which has been piloted and finalized before being distributed to 38 samples of executives. Descriptive analysis was used to analyzed the data and the results also were further discussed with experienced executives for final conclusions.

**FINDINGS**

The general objective of the study is to find out the required secretarial knowledge, skill and attitude as perceived by the managers and their secretaries, which then will be compared to the current practices of the ASMIK Secretarial education in order to develop and adjust the curriculum, classroom learning and teaching method. Erwart and Akasi (2021) explained that secretarial education involves the process of guiding and initiating the learners to acquire the necessary skills, facts, knowledge, habits and attitudes that will make them co-exist with others as useful and productive members of the society. Furthermore, noted that it is a program of instruction designed to equip its recipients with knowledge and skills for gainful employment.

Thirty-eight managers had participated in this study and the result as shown in table 1 shows that the most important aspect of an office secretarial competency is attitude (M=4.50; SD=0.77), followed by skill (M=4.44; SD=0.83), knowledge (M=4.14; SD=0.90).

<table>
<thead>
<tr>
<th>Table 1 The three general components of secretarial competency</th>
<th>Mean</th>
<th>Stdev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude</td>
<td>4.50</td>
<td>0.77</td>
</tr>
<tr>
<td>Skill</td>
<td>4.44</td>
<td>0.83</td>
</tr>
<tr>
<td>Knowledge</td>
<td>4.14</td>
<td>0.90</td>
</tr>
</tbody>
</table>

The Attitude

Table 2 is the fifteen components of attitude, which shows that eight of the fifteen attitude components have means above 4.5 with integrity (mean=4.87; SD=0.66) and dependability (mean=4.84; SD=0.68) as the most important aspect of the secretarial competency. The study also found that an office secretary should be trained to pay attention to detail, be a problem solver, cooperative, be able to adapt flexibly as well as being persistent and tolerable when facing stressful situation. Seven of the remaining attitude components were also considered important with means between 4.00-4.45, they are analytical thinking, concern for others, achievement/effort, innovation, social orientation, independence and leadership.
Table 2 The component of attitude

<table>
<thead>
<tr>
<th>Attitude</th>
<th>Mean</th>
<th>Stdev.</th>
<th>Mean</th>
<th>Stdev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td></td>
<td></td>
<td>Important</td>
<td></td>
</tr>
<tr>
<td>Integrity</td>
<td>4.87</td>
<td>0.66</td>
<td>Analytical Thinking</td>
<td>4.45</td>
</tr>
<tr>
<td>Dependability</td>
<td>4.84</td>
<td>0.68</td>
<td>Concern for Others</td>
<td>4.42</td>
</tr>
<tr>
<td>Attention to Detail</td>
<td>4.75</td>
<td>0.58</td>
<td>Achievement/Effort</td>
<td>4.43</td>
</tr>
<tr>
<td>Problem solver</td>
<td>4.71</td>
<td>0.65</td>
<td>Innovation</td>
<td>4.39</td>
</tr>
<tr>
<td>Cooperation</td>
<td>4.68</td>
<td>0.75</td>
<td>Social Orientation</td>
<td>4.21</td>
</tr>
<tr>
<td>Adaptability/Flexibility</td>
<td>4.61</td>
<td>0.74</td>
<td>Independence</td>
<td>4.08</td>
</tr>
<tr>
<td>Persistence</td>
<td>4.55</td>
<td>0.76</td>
<td>Leadership</td>
<td>4.00</td>
</tr>
<tr>
<td>Stress Tolerance</td>
<td>4.51</td>
<td>0.72</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Similar findings were also reported in a study by Yao (2017) which concludes that the Secretarial science is undergoing a trend of transformation towards openness, marketization, high-qualified and inter-disciplinary, where exploration into the theoretical discussion, learning from practical experience, and improve the combination of classroom training and professional trainings is mandatory, however the discipline will only be successfully innovated if the right attitude toward workplace changes is also cultivating.

Chen (2021) noted that secretarial program is a component of vocational education that provides not only knowledge and skills, but also the pleasant attitude for would-be confidential secretaries to perform efficiently and effectively in the world of work. While, Chahur and Adzer (2020) affirmed that Secretarial program is a specialized phase of vocational business education that prepares students to develop workstyles attitude for office occupations as office managers, secretaries, executive assistants, administrative assistants, and function in other similar titles describing jobs similar or overlapping those of the traditional secretary such as office coordinator, executive assistant, office manager and administrative professional.

The Skill

From professional setting and business market reality in the disruptive era 4.0 of the fourth industrial revolution, training secretarial science must be focused more on the perspective of office technology and management system where the secretary skill-based training is emphasized on dealing with internet/information technology, social media communication, big data and complex problem solving (Liu, 2018).

Table 3 The component of skill

<table>
<thead>
<tr>
<th>Skill</th>
<th>Mean</th>
<th>Stdev.</th>
<th>Mean</th>
<th>Stdev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td></td>
<td></td>
<td>Important</td>
<td></td>
</tr>
<tr>
<td>Speaking</td>
<td>4.71</td>
<td>0.77</td>
<td>Service Orientation</td>
<td>4.47</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Skill Component</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Listening</td>
<td>4.64</td>
<td>0.70</td>
</tr>
<tr>
<td>Time Management</td>
<td>4.63</td>
<td>0.67</td>
</tr>
<tr>
<td>Reading Comprehension</td>
<td>4.56</td>
<td>0.71</td>
</tr>
<tr>
<td>Social Perceptiveness</td>
<td>4.55</td>
<td>0.69</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>4.55</td>
<td>0.82</td>
</tr>
<tr>
<td>Writing</td>
<td>4.50</td>
<td>0.89</td>
</tr>
<tr>
<td>Monitoring</td>
<td>4.47</td>
<td>0.76</td>
</tr>
<tr>
<td>Judgment &amp; Decision</td>
<td>4.46</td>
<td>0.96</td>
</tr>
<tr>
<td>Active Learning</td>
<td>4.41</td>
<td>0.84</td>
</tr>
<tr>
<td>Instructing</td>
<td>4.39</td>
<td>0.92</td>
</tr>
<tr>
<td>Negotiation</td>
<td>4.33</td>
<td>0.87</td>
</tr>
<tr>
<td>Complex Problem Solving</td>
<td>4.13</td>
<td>0.96</td>
</tr>
<tr>
<td>Persuasion</td>
<td>4.13</td>
<td>0.93</td>
</tr>
<tr>
<td>Systems Analysis</td>
<td>4.04</td>
<td>1.00</td>
</tr>
</tbody>
</table>

In this study as shown in table 3, sixteen skill components are formulated as the skill-based form of secretarial training to meet the demand of 4.0 industrial revolution. The findings show that both managers and their secretaries perceived communication skill as the most important skill – speaking (M= 4.71; SD= 0.77), active listening (M= 4.64; SD= 0.70), reading comprehensive (M=4.56; SD= 0.71) and writing (M=4.50; SD= 0.89). Three other skills which are also considered very important are time management (M=4.63; SD= 0.67), social perpectiveness (M=4.55; SD= 0.69) and critical thinking (M=4.55; SD= 0.82).

The remaining eight skills are also considered important with means between 4.04- 4.47 are service orientation and monitoring (M=4.47; SD= 0.76), judgement and decision making (M=4.49; SD= 0.96), active learning (M=4.41; SD= 0.84), instructing (M=4.39; SD= 0.92), negotiation (M= 4.33; SD= 0.87), complex problem solving (M=4.13; SD= 0.96), persuasion (M=4.13; SD= 0.93) and system analysis (M=4.04; SD=1.00).

The Knowledge

The fact that the forth industrial revolution 4.0 has changed the roles and responsibilities of an office secretary from an administrative secretary to a commercial professional administrative assistant, the requirement for the content of practical teaching of secretarial major should be set closely around the goal of secretarial talent training and be carried out according to the core competence of secretarial profession to cultivate students' ability to use knowledge to solve problems and improve the vocational pertinence and applicability of IT concept of procedure/administration system, customer service, personal and media communication (Liao, 2019).

Table 4 summarizes the eight components of knowledge which perceived to be important for the secretarial training, which classified under three categories: first- Procedure, administration, system and clerical knowledge are considered very important (M=4.61; SD=0.72), second, the knowledge component which are considered important- customer and personal service (M=4.47; SD=0.81), English (M=4.43; SD=0.79), computer application (m= 4.36; SD= 0.84), and media communication (M=4.16; SD=0.87), finally knowledge components which are considered less important- business administration (M=3.87; SD= 1.02), human resource management (M=3.80; SD=1.01) and mathematics (M=3.42; SD=1.09).
Table 4 The component of knowledge

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Very important</th>
<th>Important</th>
<th>Less important</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean Stdev</td>
<td>Mean Stdev</td>
<td>Mean Stdev</td>
</tr>
<tr>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
</tr>
<tr>
<td>Procedure, administration, system</td>
<td>4.61 0.72</td>
<td>4.47 0.81</td>
<td>3.87 1.02</td>
</tr>
<tr>
<td>&amp; clerical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer &amp; personal service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>4.36 0.84</td>
<td>4.43 0.79</td>
<td>3.80 1.01</td>
</tr>
<tr>
<td>Computer application</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Media communication</td>
<td>4.16 0.87</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DISCUSSIONS

Limitations and Implications

The study was conducted among managers and executives worked in banking industries, private companies and SDA church leaders in North Sulawesi, which their scope of business and management are limited within local settings, and most of their secretaries are ASMIK graduates. Their opinions, suggestions and evaluation are strongly related to the needs of the local and church business, therefore any improvement and development of ASMIK curriculum and education process based on this study would greatly affect the need of the local business and market. The researcher suggested that further study may be conducted to the national and international business corporation in other area of Indonesia where national and multinational corporations operate.

Conclusions and Recommendations

The challenges faced by a professional secretary as a result of the advent of new technology in the era of industrial revolution 4.0 and the gradual shift towards new technologies in the office had threatened the secretarial job. The sophisticated program and software have made the modern laptop a movable office that does not require the executives to know keyboarding, they can talk to or write on the screen and everything would be typed. He can even employ internet teleconferencing facilities for meetings. However, all of these notwithstanding the secretarial professionals remain relevant in the areas where the new technology cannot rule such as the right attitude toward new work environment and the skills as well as the knowledge of document.
preparation, office administration, human relations and executive assistance, thus the profession of a secretary is indispensable (Olayanju, 2016; Siregar, 2018). The same conclusion was also noted by Liu (2018) whose study found that it is particularly urgent and important to continuously promote the reform and exploration of the creative ability of secretarial professionals to be aligned on the postmodern IT office management and administration requirement.

The study concluded that the following competencies are considered very important for a post-modern secretary profession: the attitude of integrity, dependability, attention to detail, problem solver, cooperation, adaptability/flexibility, persistence, stress tolerance; the skill of speaking, active listening, time management, reading comprehension, social perceptiveness, critical thinking, writing as well as the knowledge of procedure, administration, system and clerical. While the attitude of analytical thinking, concern for others, achievement/effort, innovation, social orientation, independence, leadership, the skills of service orientation, monitoring, judgment & decision making, active learning, instructing, negotiation, complex problem solving, persuasion, systems analysis and the knowledge of customer & personal service, English, computer application, media communication are considered important.

The three components of knowledge which are considered less important are business administration, human resource management and mathematic. The study recommends that the development of secretarial professional education must not only be determined by the requirements of BAN-PT law of Indonesian Department of Higher Education and the policy of Adventist Accreditation Agency of the Seventh Day Adventist (SDA) Church, but also must be based on correctly handle the relationship between theoretical classroom teaching, practical office training with the emphasizes on systematically incorporate the 4.0 professional attitude with the skills and knowledge as proposed by industries.

REFERENCES


[https://www.mymajors.com/career/corporate-secretary/skills/](https://www.mymajors.com/career/corporate-secretary/skills/)